

ENVIRONMENTAL MANAGEMENT PLAN (EMP) REPORT

For

MYANMAR ASIA OPTICAL INTERNATIONAL COMPANY LIMITED

(FACTORY-1 & FACTORY-2)

Part-III

**Plot No. (A2, A3, C1, C2), Mingaladon Industrial Park,
Mingaladon Township, Yangon Region, Myanmar**



PROPONENT



Myanmar Asia Optical International Company Limited

Plot No. (A2, A3, C1, C2), Mingaladon Industrial Park,

Mingaladon Township, Yangon Region, Myanmar

Tel: +959-517 3541

Email: mao80@asiaoptical.com.mm, maoiimexp2@gmail.com

PREPARED BY



Green Myanmar Environmental Services Co., Ltd.

No. (115), Kanaung Min Thar Gyi Road, Industrial Zone (1),

Hlaing Thar Yar Industrial City, Yangon Region, Myanmar

Tel: +95-9- 897 978 296

Email: gmescompany@gmail.com, info@gmes-mm.com

Website: www.gmes-mm.com

Facebook: [Green Myanmar Environmental Services Co., Ltd.](https://www.facebook.com/GreenMyanmarEnvironmentalServicesCo.,Ltd.)

May 2022

ENVIRONMENTAL MANAGEMENT PLAN (EMP) REPORT



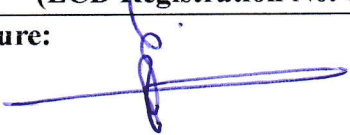
For

**MYANMAR ASIA OPTICAL INTERNATIONAL COMPANY LIMITED
(FACTORY-1 and FACTORY-2)**

Part-III

Report Review Form

Report Title: Environmental Management Plan (EMP) Report for Manufacturing of all kinds of Lens, Lens Units, Optical Apparatuses, Electronic Apparatuses, Self-focus Lens Array (SLA), Plastic Parts for Electronic Apparatuses and other Apparatuses on CMP Basis (Factory-1 and Factory-2)	
Report Version: 00 Version	
Proponent: Myanmar Asia Optical International Company Limited Plot No. (A2, A3, C1, C2), Mingaladon Industrial Park, Mingaladon Township, Yangon Region, Myanmar. Tel: +959-517 3541 Email: mao80@asiaoptical.com.mm , maoiimexp2@gmail.com	Prepared by: Green Myanmar Environmental Services Company Limited No. 115, Kanaung Min Thar Gyi Road, Hlaing Thar Yar Industrial City, Industrial Zone (1), Hlaing Thar Yar Township, Yangon Region, Myanmar. Tel: +959-897 978 296 Email: info@gmes-mm.com , gmescompany@gmail.com


Prepared by: Daw Hnin Htet Htet Hlaing Submitted Date: 21/03/2022	Position: Environmental Specialist Signature: 
Checked by: Daw Kyaw Kyaw Win Checked Date: 29/04/2022	Position: Consultant Signature: 
Approved by: U Kyaw Soe Win Date: 12 / 5 / 2022	Position: Managing Director (ECD Registration No. 0019) Signature: 
Summary: EMP Report This document presents the environmental management plan (EMP) report as required for Manufacturing of all kinds of Lens, Lens Units, Optical Apparatuses, Electronic Apparatuses, Self-focus Lens Array (SLA), Plastic Parts for Electronic Apparatuses and other Apparatuses on CMP Basis (Factory-1 and Factory-2).	

DOCUMENT CERTIFICATION AND DECLARATION

Green Myanmar Environmental Services Company Limited has prepared this Environmental Management Plan (EMP) report for Manufacturing of all kinds of Lens, Lens Units, Optical Apparatuses, Electronic Apparatuses, Self-focus Lens Array (SLA), Plastic Parts for Electronic Apparatuses and other Apparatuses on CMP Basis (Factory-1 and Factory-2) project.

I, the undersigned, (Director of Myanmar Asia Optical International Company Limited) as proponent of this project, certify that the particulars in this report are correct, true to the best of my knowledge and do hereby solemnly affirm to:

- Ensure the legal and other obligations are incorporated in designs, procedures and project controls,
- Communicate legal and other requirements to personnel and contractors accountable for compliance,
- Ensure all relevant legal and other requirements and associated documentation (e.g., licenses, permits, approval applications) are readily available on site to company personnel and consultants,
- Comply with all Myanmar laws, rules and regulations, including Clauses 14 and 15 of the Environmental Conservation Law (2012),
- Conduct a compliance audit at least annually and ensure there is a process in place to monitor on-going compliance with all legal and other requirements,
- Follow according to the Environmental Management Plan (EMP) and Environmental Monitoring Plan (EMoP),
- Submit the monitoring report prescribed in the schedule of the Environmental Management Plan to the Ministry every (6) month,
- Follow company's OHS policies,
- Implement CSR,
- Commit to minimize the impact of its activities on the environment during operation phase and decommissioning phase,
- Commit that the project will always comply fully with the commitments, mitigation measures, and plans in this EMP report.

Signature : 
Name : Mr. Chen Han-Jung
Designation : Director

Myanmar Asia Optical International Company Limited
Plot No. (A2, A3, C1, C2), Mingaladon Industrial Park,
Mingaladon Township, Yangon Region, Myanmar.
Tel: +959-519 5601
Email: wolfgang_chen@asiaoptical.com.mm

Date: May 12 - 2022

COMMITMENT AND ACKNOWLEDGEMENT

An Environmental Management Plan (EMP) describes the environmental condition of a project, including potential impact, formulation of mitigation measures, and preparation of institutional requirements and environmental monitoring. This EMP report was prepared using information from the following sources:

- Review of selected literature, reports, and advisors,
- Meetings with several interested parties,
- The experience of the Environmental Team, and
- Other information solicited from baseline data and stakeholders.

We strongly commit

- the accuracy and completeness of the EMP; and
- that the EMP has been prepared in strict compliance with the applicable laws including this Procedure.

The EMP team is grateful to the project proponent – **Myanmar Asia Optical International Company Limited** - for commissioning us to conduct this Environmental Management Plan (EMP) Report in respect of the proposed project.

We further acknowledge the support, either direct or indirect, from the various parties who assisted the EMP team towards the successful completion of this report.

Signature : _____

Name : _____
U Kyaw Soe Win

Designation : _____
Managing Director



Green Myanmar Environmental Services Co., Ltd.

No. 115, Kanaung Min Thar Gyi Road,
Hlaing Thar Yar Industrial City, Industrial Zone (1),
Hlaing Thar Yar Township, Yangon Region, Myanmar.
Tel: +959-897 978 296


Email: gmescompany@gmail.com, info@gmes-mm.com

Date: 12/5/2022

List of Appendices

Appendix 1 ECD's Instruction Letter to make EMP	1
Appendix 2 Certificate for Transitional Consultant Registration of Organization	6
Appendix 3 Certificate for Transitional Consultant Registration of Personal	8
Appendix 4 Certificate of Incorporation	22
Appendix 5 MIC Permit	23
Appendix 6 MIC Permit for SLA	25
Appendix 7 Certificate of Exporter/Importer Registration	28
Appendix 8 Industrial Chemical License (Form 7)	29
Appendix 9 Chemical License	35
Appendix 10 Safety Data Sheets	38
Appendix 11 Controlled Precursor Chemical Permit (Form 21)	155
Appendix 12 Controlled Precursor Chemical Permit (Form 28)	161
Appendix 13 L-License for Petroleum Storage	175
Appendix 14 EI Permit	177
Appendix 15 Generator Permit	189
Appendix 16 Generator License	190
Appendix 17 Certificate of Nurse	200
Appendix 18 Social Security	201
Appendix 19 Working Permit for Overtime	203
Appendix 20 Assignment Agreement	207
Appendix 21 Sub-Lease Agreement	210
Appendix 22 Addendum to Sub-Lease Agreement	223
Appendix 23 Water Quality Result (ALARM Ecological Laboratory) for Factory-1	231
Appendix 24 Water Quality Result (ALARM Ecological Laboratory) for Factory-2	240
Appendix 25 Water Quality Result (GMES Laboratory) for Factory-1	245
Appendix 26 Water Quality Result (GMES Laboratory) for Factory-2	254
Appendix 27 Soil Quality Result (GMES Laboratory) for Factory-1	259
Appendix 28 Soil Quality Result (GMES Laboratory) for Factory-2	260
Appendix 29 Attendance List from Employee Discussion Program	261
Appendix 30 Suggestion Letters from Employee Discussion Program	267
Appendix 31 Attendance List from Public Consultation Meeting	326
Appendix 32 Suggestion Letters from Public Consultation Meeting	327
Appendix 33 Project Proponent's Commitment on Suggestion Form	329

Appendix 1 ECD's Instruction Letter to make EMP

	<p>တိုင်းဒေသကြီးညွှန်ကြားရေးမှူးရုံး ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန ရန်ကုန်တိုင်းဒေသကြီး ရန်ကုန်မြို့ စာအမှတ်၊ ရက-၁/၃/၄(အီးအိုင်အေ)(၁၃၃၂/၂၀၁၉) ရက်စွဲ၊ ၂၀၁၉ ခုနှစ်၊ ဇူလိုင်လ ၂၄ ရက်</p>
<p>သို့ ✓ ဒါရိုက်တာ</p>	
<p>Myanmar Asia Optical International Co., Ltd. အမှတ် - A2,A3,C1 & C2 ၊ မင်္ဂလာဒုံစက်မှုဇုန်ဝင်း မင်္ဂလာဒုံမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး</p>	
<p>အကြောင်းအရာ။</p>	<p>Myanmar Asia Optical International Co., Ltd. ၏ မှန်ဘီလူးအမျိုးမျိုး ထုတ်လုပ်ခြင်းလုပ်ငန်းနှင့်ပတ်သက်၍ ပတ်ဝန်းကျင်ဆိုင်ရာ သဘောထားမှတ်ချက်ပြန်ကြားခြင်း</p>
<p>ရည်ညွှန်းချက်။</p>	<p>Myanmar Asia Optical International Co., Ltd. ၏ ၃-၇-၂၀၁၉ ရက်စွဲပါ စာအမှတ်၊ MAOI-၁/၂၀၁၉</p>
<p>၁။ အကြောင်းအရာပါကိစ္စနှင့်ပတ်သက်၍ Myanmar Asia Optical International Company Limited မှ ရန်ကုန်တိုင်းဒေသကြီး၊ မင်္ဂလာဒုံမြို့နယ်၊ မင်္ဂလာဒုံစက်မှုဇုန်ဝင်း၊ အမှတ် - A2, A3, C1 & C2 တွင် ရာခိုင်နှုန်းပြည့်နိုင်ငံခြားသားရင်းနှီးမြှုပ်နှံမှုဖြင့် အကောင်အထည်ဖော် ဆောင်ရွက်လျက် ရှိသည့် မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်းလုပ်ငန်းများအား CMP စနစ်ဖြင့် လုပ်ကိုင်နေသည့် လုပ်ငန်းနှင့်ပတ်သက်၍ ပတ်ဝန်းကျင်ဆိုင်ရာ သဘောထားမှတ်ချက် ပြန်ကြားပေးနိုင်ပါရန် ရည်ညွှန်း ပါစာဖြင့် ရန်ကုန်တိုင်းဒေသကြီး၊ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာနသို့ တင်ပြတောင်းခံလာပါသည်။</p>	
<p>၂။ အဆိုပြုပေးပို့လာသော စီမံကိန်းအဆိုပြုလွှာအား စိစစ်ရာတွင် အောက်ပါအချက်များကို စိစစ် တွေ့ရှိရပါသည်-</p>	
<p>(က) အဆိုပြုလုပ်ငန်းသည် မြန်မာနိုင်ငံသားရင်းနှီးမြှုပ်နှံမှုဖြင့် ၂၀၀၃ ခုနှစ်တွင် စတင် တည်ထောင်လုပ်ကိုင်ဆောင်ရွက်သည့် လုပ်ငန်းဖြစ်ကြောင်း၊</p> <p>(ခ) အဆိုပြုလုပ်ငန်းသည် ရင်းနှီးမြှုပ်နှံမှုနှင့်ကုမ္ပဏီများညွှန်ကြားမှုဦးစီးဌာနမှ ၂၆-၉-၂၀၁၃ ရက်နေ့တွင် ကုမ္ပဏီမှတ်ပုံတင်လက်မှတ်အမှတ် - ၁၁၇၁၂၅၄၆၇ ဖြင့်ရရှိထားပြီး ဖြစ်ကြောင်း၊</p> <p>(ဂ) အဆိုပြုလုပ်ငန်းသည် မြေဧရိယာ အကျယ်အဝန်း ၂၉၀၃၉.၅ စတုရန်း မီတာပေါ်တွင် မှန်ဘီလူးထုတ်လုပ်သည့် စက်ရုံတည်ရှိပြီး သိုလှောင်ရုံအနေဖြင့် အဆောက်အအုံ</p>	

အကျယ်အဝန်း ၂၆၄ စတုရန်းမီတာ၌ အသုံးပြုမည့်ကုန်ကြမ်း Chemical (၅၆) မျိုးအား သိုလှောင်ထားပါကြောင်း၊ ဓာတုပစ္စည်းများ၏ Material Safety Data Sheets တို့ကို ဖော်ပြထားကြောင်း၊

- (ဃ) အဆိုပြုလုပ်ငန်းသည် လုပ်ငန်းအရွယ်အစားအနေဖြင့် အကြီးစားစက်မှုလုပ်ငန်း ဖြစ်ကြောင်း၊
- (င) အဆိုပြုလုပ်ငန်းသည် ဝန်ထမ်းအင်အား (၄၅၈၉) ဦးရှိ၍ စက်ပစ္စည်းကိရိယာများနှင့် လုပ်သားအင်အား နှစ်မျိုးလုံးအသုံးပြု၍ လုပ်ငန်းလည်ပတ်လျက်ရှိကြောင်း၊
- (စ) အဆိုပြုလုပ်ငန်း၏ စီမံကိန်းအဆိုပြုလွှာတွင် Myanmar Asia Optical International Company Limited လုပ်ငန်းအမည်ဖြင့် ရန်ကုန်မြို့တော်စည်ပင်သာယာရေးကော်မတီမှ လုပ်ငန်းလိုင်စင်၊ ရန်ကုန်မြို့တော်စည်ပင်သာယာရေးကော်မတီ၊ ကျန်းမာရေးဌာနမှ ကျန်းမာရေးနှင့်ဘေးအန္တရာယ်ကင်းရှင်းကြောင်း ထောက်ခံချက်လက်မှတ်၊ ရင်းနှီးမြှုပ်နှံမှုနှင့်ကုမ္ပဏီများညွှန်ကြားမှုဦးစီးဌာနမှ ကုမ္ပဏီမှတ်ပုံတင်လက်မှတ်၊ မြန်မာနိုင်ငံ ရင်းနှီးမြှုပ်နှံမှုကော်မရှင်၏ ခွင့်ပြုမိန့်တို့ကို ဖော်ပြထားကြောင်း၊
- (ဆ) အဆိုပါ အဆိုပြုစီမံကိန်းသို့ ရန်ကုန်တိုင်းဒေသကြီး၊ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန၊ ဓာတုပစ္စည်းနှင့်ဆက်စပ်ပစ္စည်းဆိုင်ရာ စစ်ဆေးရေးဌာနစိတ်မှ ၁၁-၇-၂၀၁၉ ရက်နေ့တွင် ကွင်းဆင်းစစ်ဆေးခြင်း ဆောင်ရွက်ထားသည်ကို စိစစ်တွေ့ရှိရပြီး အဆိုပါကွင်းဆင်းစစ်ဆေးချက်ပုံစံတွင် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် ရေးဆွဲထားရှိမှုနှင့် တင်ပြထားရှိမှုအခြေအနေတို့နှင့်ပတ်သက်၍ ဆောင်ရွက်ထားခြင်း မရှိဟု ဖော်ပြထားသည်ကို စိစစ်တွေ့ရှိရပါကြောင်း။

၃။ Myanmar Asia Optical International Company Limited ၏ မှန်ဘီလူးအမျိုးမျိုး ထုတ်လုပ်ခြင်းလုပ်ငန်းနှင့်ပတ်သက်၍ အောက်ဖော်ပြပါ ပတ်ဝန်းကျင်ဆိုင်ရာထိခိုက်မှုများ ဖြစ်ပေါ်လာနိုင်ကြောင်း သုံးသပ်တွေ့ရှိရပါသည်-

- (က) မှန်ဘီလူးအမျိုးမျိုး ထုတ်လုပ်ခြင်းလုပ်ငန်းအဆင့်ဆင့်မှ ထွက်ရှိလာမည့် ဖြတ်စွန့်ပစ်ပစ္စည်းများ၊ အမှုန်အမွှားများနှင့်အရည်များအား စနစ်တကျသန့်စင်ခြင်း၊ စွန့်ပစ်ခြင်း မရှိပါက ပတ်ဝန်းကျင်ရှိ လေ၊ ရေ၊ မြေ အား ညစ်ညမ်းစေနိုင်ခြင်း၊
- (ခ) လုပ်ငန်းလည်ပတ်စဉ်တွင် ယာဉ်ယန္တရားများသွားလာမှုနှင့် ဓာတုပစ္စည်းများ သိုလှောင်ထားရှိမှုမှ ထွက်ပေါ်လာသော အနံ့များကြောင့် လေထုညစ်ညမ်းမှု ဖြစ်ပေါ်စေနိုင်ခြင်း၊
- (ဂ) ဓာတုပစ္စည်းများ သိုလှောင်ခြင်းနှင့် ထုတ်ပိုးခြင်းများ ဆောင်ရွက်လျက်ရှိသော အဆောက်အဦမှာ လေဝင်လေထွက်ကောင်းစွာ မရရှိပါက မတော်တဆပေါက်ကွဲမှု

၃

များ ဖြစ်ပေါ်လာနိုင်ခြင်းနှင့် လုပ်သားဝန်ထမ်းများအတွက် ကျန်းမာရေးထိခိုက်မှုများ ဖြစ်ပေါ်စေနိုင်ခြင်း၊

- (ဃ) သိုလှောင်ထားရှိသော ဓာတုပစ္စည်းများမှမီးလောင်လွယ်သော ပစ္စည်းများဖြစ်သည့် အတွက် မီးဘေးကာကွယ်ရေးပစ္စည်းများ စနစ်တကျတပ်ဆင်ထားခြင်း မရှိပါက မီးဘေးအန္တရာယ်များဖြစ်စေနိုင်ခြင်း၊
- (င) ဓာတုပစ္စည်းများ ကိုင်တွယ်အသုံးပြုရာတွင် လုပ်သားဝန်ထမ်းများအား တိုက်ရိုက်ထိခိုက်မှု အန္တရာယ်ရှိနိုင်သောကြောင့် Personal Protective Equipment (PPE) များ တပ်ဆင်အသုံးပြုခြင်းမရှိပါက လုပ်သားဝန်ထမ်းများ၏ ကျန်းမာရေးထိခိုက်မှုများ ဖြစ်စေနိုင်ခြင်း၊
- (စ) အသုံးပြုပြီးသော ဓာတုပစ္စည်းပီပီခွဲများ၊ သက်တမ်းကုန်ဆုံးသွားသော ဓာတုပစ္စည်းအကြွင်းအကျန်များသည် ဘေးအန္တရာယ်ရှိသော စွန့်ပစ်ပစ္စည်းများဖြစ်သောကြောင့် ၎င်းတို့ကို စွန့်ပစ်ရာတွင် စနစ်တကျစွန့်ပစ်ခြင်းမရှိပါက ပတ်ဝန်းကျင်ကို ညစ်ညမ်းစေနိုင်ခြင်း၊
- (ဆ) ထုတ်လုပ်ခြင်းလုပ်ငန်းတွင် အသုံးပြုသော ကုန်ကြမ်းပစ္စည်းများတွင် ပါဝင်ဖွဲ့စည်းထားသော ဓာတ်ပစ္စည်းများသည် ဖျက်ဆီးရန်မလွယ်ကူခြင်း၊ ပလတ်စတစ်အခြေခံပစ္စည်းများဖြစ်ခြင်းကြောင့် မီးလောင်ကျွမ်းပါက Dioxin နှင့် အခြားသော ဘေးထွက်ဓာတ်ဓာတ်ငွေ့များ ထွက်ရှိခြင်း၊
- (ဇ) လုပ်ငန်းလည်ပတ်ခြင်းမှ ထွက်ရှိလာသည့် ဆူညံသံများကြောင့် အသံညစ်ညမ်းမှုများ ဖြစ်ပေါ်နိုင်ပြီး စိမ့်ကိန်းစက်ရုံဧရိယာအနီးတဝိုက်ရှိ ပြည်သူများ၏ကျန်းမာရေးဆိုင်ရာ ထိခိုက်မှုဖြစ်စေနိုင်ခြင်း။

၄။ Myanmar Asia Optical International Company Limited ၏ မှန်ဘီလူးအမျိုးမျိုး ထုတ်လုပ်ခြင်းလုပ်ငန်းများ လုပ်ကိုင်ဆောင်ရွက်ခြင်းနှင့်စပ်လျဉ်း၍ အောက်ပါအတိုင်း သဘောထားမှတ်ချက် ပြန်ကြားအပ်ပါသည်-

- (က) စက်ရုံပတ်ဝန်းကျင် သန့်ရှင်းကောင်းမွန်ရေးအတွက် သင့်တော်မည့် ရေစီးရေလာစနစ်များ၊ စွန့်ပစ်ပစ္စည်း အစီအမံများ၊ စက်ရုံပတ်ဝန်းကျင် စိမ်းလန်းစိုပြည်ရေးအတွက် သစ်ပင်များ စိုက်ပျိုးထားရှိရန်၊ လုပ်ငန်းခွင် လေကောင်းလေသန့်ရရှိစေရေး စီမံဆောင်ရွက်ရန်နှင့် စွန့်ပစ်ပစ္စည်းစီမံခန့်ခွဲမှုစနစ်များ ထားရှိရန်၊
- (ခ) လုပ်ငန်းကြောင့် ဖြစ်ပေါ်လာနိုင်သည့် ပတ်ဝန်းကျင်၊ လူမှုရေးနှင့် ကျန်းမာရေးထိခိုက်ပျက်စီးမှုများကို လျော့နည်းစေရန်အတွက် လုပ်ငန်းဆိုင်ရာ အချက်အလက်များကို ပြည့်စုံစွာဖော်ပြပြီး လုပ်ငန်းဆောင်ရွက်ရာတွင် ပတ်ဝန်းကျင်ထိခိုက်မှု

အနည်းဆုံးဖြစ်စေသည့် နည်းစနစ်များကို အသုံးပြုဆောင်ရွက်ရန်နှင့် အဆိုပြုလွှာတွင် ဖော်ပြထားသည့် လူမှုရေးဆိုင်ရာ တာဝန်ခံ ဆောင်ရွက်မှု (Corporate Social Responsibility - CSR) အတွက် နှစ်စဉ် အသားတင်အမြတ်ငွေ၏ ၂ ရာခိုင်နှုန်းကို အသုံးပြုခြင်းအပါအဝင် ဆောင်ရွက်သွားမည့် ကတိကဝတ်များကို တိတိကျကျ လိုက်နာအကောင်အထည်ဖော်ဆောင်ရွက်ရန်၊

- (ဂ) စီမံကိန်းဆောင်ရွက်မှုကြောင့် ပတ်ဝန်းကျင်၊ လူမှုရေးထိခိုက်မှု မဖြစ်ပေါ်စေရေး (သို့မဟုတ်) ထိခိုက်မှု အနည်းဆုံးဖြစ်စေမည့် လုပ်ငန်းဆောင်ရွက်မည့် အစီအစဉ်၊ စွန့်ပစ်ပစ္စည်းစီမံခန့်ခွဲမှုအစီအစဉ်၊ စောင့်ကြည့်လေ့လာမည့်အစီအစဉ်၊ ပတ်ဝန်းကျင် ထိခိုက်မှုလျော့ပါးရေး ဆောင်ရွက်မည့် လုပ်ငန်းများအတွက် သုံးစွဲမှုရန်ပုံငွေစသည့် တို့ပါဝင်သည့် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan - EMP) ကို ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်းပါ အပိုဒ် ၆၃ (ဇ) နှင့်အညီ ရေးဆွဲတင်ပြရန်နှင့် စီမံချက်ပါအတိုင်း အကောင်အထည်ဖော် ဆောင်ရွက်ရန်၊
- (ဃ) စီမံကိန်းဆောင်ရွက်မည့် လုပ်ငန်းရှင်အနေဖြင့် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (EMP) အစီရင်ခံစာ ရေးသားပြုစုရာတွင် ပြဌာန်းထုတ်ပြန်ထားပြီးဖြစ်သော ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဥပဒေ၊ နည်းဥပဒေများ၊ ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်းနှင့် အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များတွင် ဖော်ပြပါရှိသည့် လိုက်နာဆောင်ရွက်ရမည့် အချက်များ၊ လုပ်ထုံးလုပ်နည်းများ၊ လမ်းညွှန်ချက်များနှင့်အညီ လိုက်နာဆောင်ရွက်ရန်၊
- (င) လုပ်ငန်းအဆင့်တိုင်းမှ ထွက်ရှိလာမည့် စွန့်ပစ်ရေဆိုးများကို စွန့်ပစ်ရေဆိုးသန့်စင်သည့် စနစ်တည်ထောင်၍ အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များတွင် သတ်မှတ်ထားသည့် စံချိန်စံညွှန်းနှင့်အညီ စနစ်တကျ သန့်စင်စွန့်ပစ်သွားရန်၊
- (စ) ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (EMP) တင်ပြရာတွင် တင်ပြရမည့် အစီအစဉ်အလိုက် လိုအပ်သည့်ပုံစံများ ဖြည့်စွက်၍ ပူးတွဲတင်ပြရန်၊
- (ဆ) ရန်ကုန်တိုင်းဒေသကြီးအစိုးရအဖွဲ့၏ ကြီးကြပ်ကွပ်ကဲမှုဖြင့် လုပ်ငန်းဆောင်ရွက်မည့်နေရာဒေသတွင် နေထိုင်သော ဒေသခံပြည်သူများ၏ ဆန္ဒနှင့်သဘောထားများကို ရယူဆောင်ရွက်ရန်။

၅။ သို့ဖြစ်ပါ၍ စီမံကိန်းအဆိုပြုသူ Myanmar Asia Optical International Company Limited ၏ မှန်ဘီလူးအမျိုးမျိုး ထုတ်လုပ်ခြင်းလုပ်ငန်းများနှင့်ပတ်သက်၍ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု

၅

အစီအစဉ် (Environmental Management Plan - EMP) အစီရင်ခံစာ ရေးဆွဲသွားရန်နှင့် အဆိုပါ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan - EMP) အစီရင်ခံစာအား ရန်ကုန်တိုင်းဒေသကြီး၊ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာနသို့ အစီရင်ခံတင်ပြသွားရန် အကြောင်း ကြားပါသည်။

ခင်ခင်စာတင်
၂၀၂၁.၁၂.၂၀

(ခင်သီတာတင်)

ညွှန်ကြားရေးမှူး

ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန

ရန်ကုန်တိုင်းဒေသကြီး

၄ ၁၈ ၁၉

မိတ္တူကို

တိုင်းဒေသကြီးဦးစီးဌာနမှူး၊ စက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန၊ ရန်ကုန်တိုင်း ဒေသကြီး

ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာနမှူး၊ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန၊ ရန်ကုန်တိုင်း ဒေသကြီး

ရုံးလက်ခံ၊ မျှောစာတွဲ

Appendix 2 Certificate for Transitional Consultant Registration of Organization

REPUBLIC OF THE UNION OF MYANMAR	
Ministry of Natural Resources and Environmental Conservation	
CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION	
(ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)	
No. 0006	Date 01 JUL 2017
<p>The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the organization under Environmental Impact Assessment Procedure, Notification No. 616/2015.</p> <p>(ပတ်ဝန်းကျင် ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၆၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို အဖွဲ့အစည်းအား ထုတ်ပေးလိုက်သည်။)</p>	
(a) Name of Organization (အဖွဲ့အစည်းအမည်)	Green Myanmar Environmental Services Co., Ltd.
(b) Name of the representative in the organization (အဖွဲ့အစည်းကိုယ်စားလှယ်၏ အမည်)	Engr. U Sein Thaug Oo
(c) Citizenship of the representative in the organization (အဖွဲ့အစည်းကိုယ်စားလှယ်၏ နိုင်ငံသား)	Myanmar
(d) Identity Card /Passport Number of the representative person in the organization (အဖွဲ့အစည်းကိုယ်စားလှယ်၏ မှတ်ပုံတင်/နိုင်ငံကူးလက်မှတ် အမှတ်)	12/ Ma Ya Ka (N) 082871
(e) Address of organization (ဆက်သွယ်ရန်လိပ်စာ)	115, Kanaung Min Thargyi Road, Hlaing Thar Yar Industrial City, Zone (1), Hlaing Thar Yar Township, Yangon. gmescompany@gmail.com , 09 5122448
(f) Type of Consultancy (အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား)	Organization
(g) Duration of validity (သက်တမ်းကုန်ဆုံးရက်)	31 March 2018

EXTENSION
သက်တမ်းတိုးချက်

The VALIDITY of this certificate is extended for one year from (1.4.2018) to (31.3.2019)
ဤလက်မှတ်အား (၁-၄-၂၀၁၈) ရက်နေ့မှ (၃၁.၃.၂၀၁၉) ရက်နေ့အထိ တစ်နှစ်သက်တမ်း တိုးမြှင့်သည်

[Signature]
For Director General
(Soc Naing, Director)
Environmental Conservation Department

Director General
Environmental Conservation Department
Ministry of Natural Resources and Environmental Conservation

Areas of Expertise Permitted
(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

1. Air Pollution Control
2. Facilitation of meeting
3. Meteorology, Modeling for Air Quality
4. Risk Assessment and Hazard Management
5. Socio-Economy
6. Water Pollution Control
7. Waste Management
8. Chemical Engineering Plant Design
9. Chemical Engineering Process Design
10. Chemical Engineering, Laboratory Analysis for water and waste water
11. Environmental Management
12. Industrial Management

EXTENSION (သက်တမ်းတိုးမြှင့်ခြင်း)
The VALIDITY of this certificate is extended for one year from (1.1.2022) to (31.12.2022)
ဤလက်မှတ်အား (၁-၁-၂၀၂၂) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၂) ရက်နေ့အထိ တစ်နှစ် သက်တမ်းတိုးမြှင့်သည်။
Soe Naing
For Director General
(Soe Naing, Director)
Environmental Conservation Department



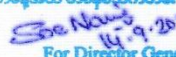

EXTENSION (သက်တမ်းတိုးမြှင့်ခြင်း)
The VALIDITY of this certificate is extended for six month from (1.1.2021) to (30.6.2021)
ဤလက်မှတ်အား (၁-၁-၂၀၂၁) ရက်နေ့မှ (၃၀-၆-၂၀၂၁) ရက်နေ့အထိ (၆) လ သက်တမ်းတိုးမြှင့်သည်။
Soe Naing
For Director General
(Soe Naing, Director)
Environmental Conservation Department

EXTENSION (သက်တမ်းတိုးမြှင့်ခြင်း)
The VALIDITY of this certificate is extended for nine months from (1.4.2019) to (31.12.2019)
ဤလက်မှတ်အား (၁-၄-၂၀၁၉) ရက်နေ့မှ (၃၁-၁၂-၂၀၁၉) ရက်နေ့အထိ (၉) လ သက်တမ်းတိုးမြှင့်သည်။
Soe Naing
For Director General
(Soe Naing, Director)
Environmental Conservation Department

EXTENSION (သက်တမ်းတိုးမြှင့်ခြင်း)
The VALIDITY of this certificate is extended for six months from (1.7.2021) to (31.12.2021)
ဤလက်မှတ်အား (၁-၇-၂၀၂၁) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၁) ရက်နေ့အထိ (၆) လ သက်တမ်းတိုးမြှင့်သည်။
Soe Naing
For Director General
(Soe Naing, Director)
Environmental Conservation Department

EXTENSION (သက်တမ်းတိုးမြှင့်ခြင်း)
The VALIDITY of this certificate is extended for one year from (1.1.2020) to (31.12.2020)
ဤလက်မှတ်အား (၁-၁-၂၀၂၀) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၀) ရက်နေ့အထိ တစ်နှစ် သက်တမ်းတိုးမြှင့်သည်။
Soe Naing
For Director General
(Soe Naing, Director)
Environmental Conservation Department

Appendix 3 Certificate for Transitional Consultant Registration of Personal

	<p>REPUBLIC OF THE UNION OF MYANMAR Ministry of Natural Resources and Environmental Conservation CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION (ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)</p>	
No.	0019	Date 17/11/2017
<p>The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the person under Environmental Impact Assessment Procedure, Notification No. 616/2015.</p> <p>(ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၆၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို လူပုဂ္ဂိုလ်အားထုတ်ပေးလိုက်သည်။)</p>		
(a) Name of Consultant (အကြံပေးပုဂ္ဂိုလ်အမည်)	Engr. U Kyaw Soe Win	
(b) Citizenship (နိုင်ငံသား)	Myanmar	
(c) Identity Card / Passport Number (မှတ်ပုံတင်/နိုင်ငံကူးလက်မှတ် အမှတ်)	12/ Ou Ka Ta (Naing) 038453	
(d) Address (ဆက်သွယ်ရန်လိပ်စာ)	No. 155, Kanaung Min Thargyi Road, Hlaing Thar Yar Industrial City, Zone(1), Hlaing Thar Yar Township, Yangon gmescompany@gmail.com ksw1963@gmail.com , 09 5081451	
(e) Organization (အဖွဲ့အစည်း)	Green Myanmar Environmental Services Company Limited	
(f) Type of Consultancy (အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား)	Person	
(g) Duration of validity (သက်တမ်းကုန်ဆုံးရက်)	31 March 2018	
<div><div><p>EXTENSION သက်တမ်းတိုးမြှင့်ခြင်း The VALIDITY of this certificate is extended for one year from (1.4.2018) to (31.3.2019) ဤလက်မှတ်အား (၁-၄-၂၀၁၈) ရက်နေ့မှ (၃၁-၃-၂၀၁၉) ရက်နေ့အထိ တစ်နှစ်သက်တမ်း တိုးမြှင့်သည်။  For Director General (Soe Naing, Director) Environmental Conservation Department</p></div><div> Director General Environmental Conservation Department Ministry of Natural Resources and Environmental Conservation</div></div>		

Areas of Expertise Permitted
(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

1. Facilitation of meeting

2. Industrial Management


EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended for six month from (1.1.2021) to (0.6.2021)
ဤလက်မှတ်အား (၁-၁-၂၀၂၁) ရက်နေ့မှ (၁-၆-၂၀၂၁) ရက်နေ့အထိ (၆)လ သက်တမ်းတိုးမြှင့်သည်။
Soe Naing
For Director General
(Soe Naing, Director)
Environmental Conservation Department

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended for nine months from (1.4.2019) to (31.12.2019)
ဤလက်မှတ်အား (၁-၄-၂၀၁၉) ရက်နေ့မှ (၃၁.၁၂.၂၀၁၉) ရက်နေ့အထိ (၉)လ သက်တမ်း တိုးမြှင့်သည်။
Soe Naing 12.6.2019
For Director General
(Soe Naing, Director)
Environmental Conservation Department


EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended for six months from (1.7.2021) to (31.12.2021)
ဤလက်မှတ်အား (၁-၇-၂၀၂၁) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၁) ရက်နေ့အထိ (၆)လ သက်တမ်းတိုးမြှင့်သည်။
Soe Naing
For Director General
(Soe Naing, Director)
Environmental Conservation Department

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended for one year from (1.1.2020) to (31.12.2020)
ဤလက်မှတ်အား (၁-၁-၂၀၂၀) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၀) ရက်နေ့အထိ တစ်နှစ် သက်တမ်း တိုးမြှင့်သည်။
Soe Naing 1.1.2021
For Director General
(Soe Naing, Director)
Environmental Conservation Department

EXTENSION (သက်တမ်းတိုးမြှင့်ခြင်း)
The VALIDITY of this certificate is extended for one year from (1.1.2022) to (31.12.2022)
ဤလက်မှတ်အား (၁-၁-၂၀၂၂) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၂) ရက်နေ့အထိ တစ်နှစ် သက်တမ်းတိုးမြှင့်သည်။
Soe Naing 25.3.2022
For Director General
(Soe Naing, Director)
Environmental Conservation Department



REPUBLIC OF THE UNION OF MYANMAR
Ministry of Natural Resources and Environmental Conservation
CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION
(ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)



No. 0023 Date 14.03.2018

The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the person under Environmental Impact Assessment Procedure, Notification No. 616/2015.

(ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၆၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို လူပုဂ္ဂိုလ်အားထုတ်ပေးလိုက်သည်။)

(a) Name of Consultant (အကြံပေးပုဂ္ဂိုလ်အမည်)	Engr. U Sein Thaung Oo
(b) Citizenship (နိုင်ငံသား)	Myanmar
(c) Identity Card / Passport Number (မှတ်ပုံတင်/နိုင်ငံကူးလက်မှတ်အမှတ်)	12/ Ma Ya Ka (N) 082871
(d) Address (ဆက်သွယ်ရန်လိပ်စာ)	No. 17/D, Aung Theikdi Yeik Thar, Mayangone Township, Yangon. gmescompany@gmail.com , seinthaungoo@gmail.com 09 5122448
(e) Organization (အဖွဲ့အစည်း)	Green Myanmar Environmental Services Co.,Ltd.
(f) Type of Consultancy (အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား)	Person
(g) Duration of validity (သက်တမ်းကုန်ဆုံးရက်)	31 March 2018

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း

The VALIDITY of this certificate is extended for one year from (1.4.2018) to (31.3.2019)
ဤလက်မှတ်အား (၁-၄-၂၀၁၈) ရက်နေ့မှ (၃၁-၃-၂၀၁၉) ရက်နေ့အထိ တစ်နှစ်သက်တမ်း တိုးမြှင့်သည်။

See No. 14.3.2018
For Director General
(Soe Naing, Director)
Environmental Conservation Department

Director General
Environmental Conservation Department
Ministry of Natural Resources and Environmental Conservation

Areas of Expertise Permitted
 (စွန့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

1. Air Pollution Control

2. Chemical Engineering Process Design, Industrial Management



EXTENSION
 သက်တမ်းတိုးမြှင့်ခြင်း
 The VALIDITY of this certificate is extended for six month from (1.1.2021) to (30.6.2021)
 ဤလက်မှတ်အား (၁-၁-၂၀၂၁) ရက်နေ့မှ (၃၀-၆-၂၀၂၁) ရက်နေ့အထိ (၆)လသက်တမ်းတိုးမြှင့်သည်။
 For Director General
 (Soe Naing, Director)
 Environmental Conservation Department

EXTENSION
 သက်တမ်းတိုးမြှင့်ခြင်း
 The VALIDITY of this certificate is extended for nine months from (1.4.2019) to (31.12.2019)
 ဤလက်မှတ်အား (၁-၄-၂၀၁၉) ရက်နေ့မှ (၃၁-၁၂-၂၀၁၉) ရက်နေ့အထိ (၉)လသက်တမ်း တိုးမြှင့်သည်။
 For Director General
 (Soe Naing, Director)
 Environmental Conservation Department

EXTENSION
 သက်တမ်းတိုးမြှင့်ခြင်း
 The VALIDITY of this certificate is extended for six months from (1.7.2021) to (31.12.2021)
 ဤလက်မှတ်အား (၁-၇-၂၀၂၁) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၁) ရက်နေ့အထိ (၆)လသက်တမ်းတိုးမြှင့်သည်။
 For Director General
 (Soe Naing, Director)
 Environmental Conservation Department

EXTENSION
 သက်တမ်းတိုးမြှင့်ခြင်း
 The VALIDITY of this certificate is extended for one year from (1.1.2020) to (31.12.2020)
 ဤလက်မှတ်အား (၁-၁-၂၀၂၀) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၀) ရက်နေ့အထိ တစ်နှစ်သက်တမ်းတိုးမြှင့်သည်။
 For Director General
 (Soe Naing, Director)
 Environmental Conservation Department

EXTENSION (သက်တမ်းတိုးမြှင့်ခြင်း)
 The VALIDITY of this certificate is extended for one year from (1.1.2022) to (31.12.2022)
 ဤလက်မှတ်အား (၁-၁-၂၀၂၂) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၂) ရက်နေ့အထိ တစ်နှစ်သက်တမ်းတိုးမြှင့်သည်။
 For Director General
 (Soe Naing, Director)
 Environmental Conservation Department

	<p>REPUBLIC OF THE UNION OF MYANMAR Ministry of Natural Resources and Environmental Conservation CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION (ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)</p>	
No. 10021	Date 14.03.2018	
<p>The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the person under Environmental Impact Assessment Procedure, Notification No. 616/2015.</p> <p>(ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၆၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို လူပုဂ္ဂိုလ်အားထုတ်ပေးလိုက်သည်။)</p>		
(a) Name of Consultant (အကြံပေးပုဂ္ဂိုလ်အမည်)	Engr. Daw Khin Swe Aye	
(b) Citizenship (နိုင်ငံသား)	Myanmar	
(c) Identity Card / Passport Number (မှတ်ပုံတင်/နိုင်ငံကူးလက်မှတ် အမှတ်)	12/Sa Kha Na (N) 017708	
(d) Address (ဆက်သွယ်ရန်လိပ်စာ)	14 B, Wai Lu Wun Main Street, Sanchaung, Yangon. khinsweaye.daw@gmail.com , 09 5015475	
(e) Organization (အဖွဲ့အစည်း)	Green Myanmar Environmental Services Co.,Ltd.	
(f) Type of Consultancy (အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား)	Person	
(g) Duration of validity (သက်တမ်းကုန်ဆုံးရက်)	31 March 2018	
<div><div><p>EXTENSION သက်တမ်းတိုးမြှင့်ခြင်း</p><p>The VALIDITY of this certificate is extended for one year from (1.4.2018) to (31.3.2019) ဤလက်မှတ်အား (၁-၄-၂၀၁၈) ရက်နေ့မှ (၃၁-၃-၂၀၁၉) ရက်နေ့အထိ တစ်နှစ်သက်တမ်း တိုးမြှင့်သည်။</p><p><i>Soe Naing</i> 14.3.2018 For Director General (Soe Naing, Director) Environmental Conservation Department</p></div><div><p><i>Soe Naing</i> 14.3.2018 Director General Environmental Conservation Department Ministry of Natural Resources and Environmental Conservation</p></div></div>		

Areas of Expertise Permitted
 (ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

1. Air Pollution Control

2. Waste Management





EXTENSION
 သက်တမ်းတိုးမြှင့်ခြင်း
 The VALIDITY of this certificate is extended
 for six month from (1.1.2021) to (30.6.2021)
 ဤလက်မှတ်အား (၁-၁-၂၀၂၁) ရက်နေ့မှ (၃၀-၆-၂၀၂၁)
 ရက်နေ့အထိ (၆)လ သက်တမ်းတိုးမြှင့်သည်။
See Naing
 For Director General
 (Soe Naing, Director)
 Environmental Conservation Department

EXTENSION
 သက်တမ်းတိုးမြှင့်ခြင်း
 The VALIDITY of this certificate is extended
 for nine months from (1.4.2019) to (31.12.2019)
 ဤလက်မှတ်အား (၁-၄-၂၀၁၉) ရက်နေ့မှ (၃၁-၁၂-၂၀၁၉)
 ရက်နေ့အထိ (၉)လ သက်တမ်းတိုးမြှင့်သည်။
See Naing 12.6.2019
 For Director General
 (Soe Naing, Director)
 Environmental Conservation Department

EXTENSION
 သက်တမ်းတိုးမြှင့်ခြင်း
 The VALIDITY of this certificate is extended
 for six months from (1.7.2021) to (31.12.2021)
 ဤလက်မှတ်အား (၁-၇-၂၀၂၁) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၁)
 ရက်နေ့အထိ (၆)လ သက်တမ်းတိုးမြှင့်သည်။
See Naing
 For Director General
 (Soe Naing, Director)
 Environmental Conservation Department

EXTENSION
 သက်တမ်းတိုးမြှင့်ခြင်း
 The VALIDITY of this certificate is extended
 for one year from (1.1.2020) to (31.12.2020)
 ဤလက်မှတ်အား (၁-၁-၂၀၂၀) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၀)
 ရက်နေ့အထိ တစ်နှစ် သက်တမ်းတိုးမြှင့်သည်။
See Naing 16.1.2020
 For Director General
 (Soe Naing, Director)
 Environmental Conservation Department

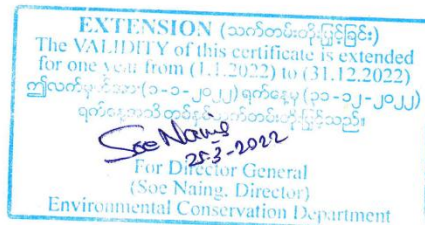
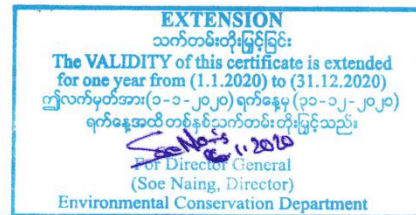
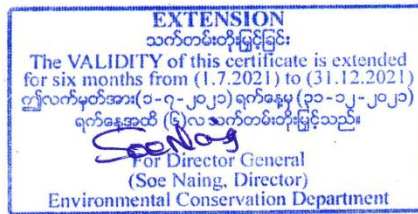
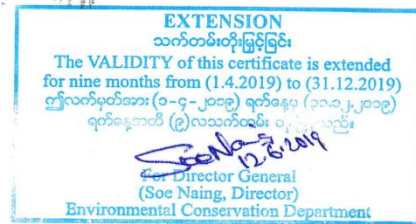
EXTENSION (သက်တမ်းတိုးမြှင့်ခြင်း)
 The VALIDITY of this certificate is extended
 for one year from (1.1.2022) to (31.12.2022)
 ဤလက်မှတ်အား (၁-၁-၂၀၂၂) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၂)
 ရက်နေ့အထိ တစ်နှစ် သက်တမ်းတိုးမြှင့်သည်။
See Naing 27.3.2022
 For Director General
 (Soe Naing, Director)
 Environmental Conservation Department

	<p>REPUBLIC OF THE UNION OF MYANMAR Ministry of Natural Resources and Environmental Conservation CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION (ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)</p>	
No. 10028	Date 11 JUL 2017	
<p>The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the person under Environmental Impact Assessment Procedure, Notification No. 616/2015.</p> <p>(ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၆၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို လူပုဂ္ဂိုလ်အားထုတ်ပေးလိုက်သည်။)</p>		
(a) Name of Consultant (အကြံပေးပုဂ္ဂိုလ်အမည်)	Prof. Engr. Daw Tin May Soe	
(b) Citizenship (နိုင်ငံသား)	Myanmar	
(c) Identity Card / Passport Number (မှတ်ပုံတင်/နိုင်ငံကူးလက်မှတ် အမှတ်)	12/ Ka Ma Ya (N) 016072	
(d) Address (ဆက်သွယ်ရန်လိပ်စာ)	115, Kanaung Min Thargyi Road, Hlaing Thar Yar Industrial City, Zone (1), Hlaing Thar Yar Township, Yangon. tinmaysoe949@gmail.com , 09 5077081	
(e) Organization (အဖွဲ့အစည်း)	Green Myanmar Environmental Services Co., Ltd.	
(f) Type of Consultancy (အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား)	Person	
(g) Duration of validity (သက်တမ်းကုန်ဆုံးရက်)	31 March 2018	
<div><div><p>EXTENSION သက်တမ်းတိုးမြှင့်ခြင်း The VALIDITY of this certificate is extended for one year from (1.4.2018) to (31.3.2019) ဤလက်မှတ်အား (၁-၄-၂၀၁၈) ရက်နေ့မှ (၃၁-၃-၂၀၁၉) ရက်နေ့အထိ တစ်နှစ်သက်တမ်း တိုးမြှင့်သည်။  For Director General (Soe Naing, Director) Environmental Conservation Department</p></div><div> Director General Environmental Conservation Department Ministry of Natural Resources and Environmental Conservation</div></div>		

Areas of Expertise Permitted
(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

1. Water Pollution Control

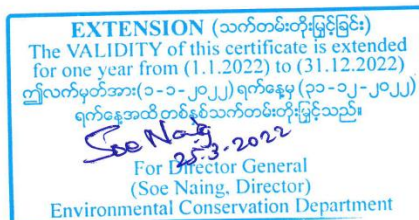
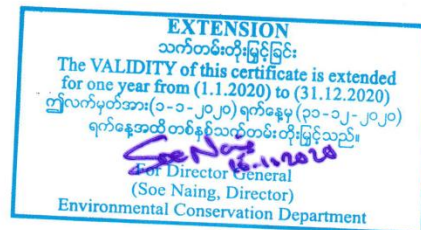
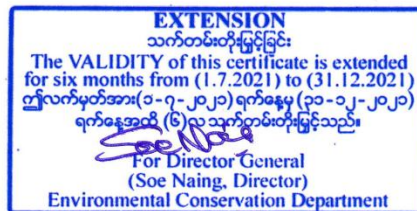
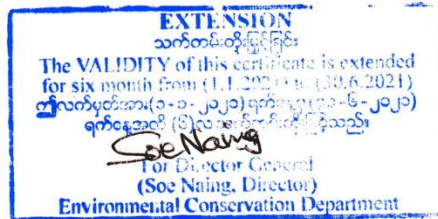
2. Chemical Engineering Process Design






	<p>REPUBLIC OF THE UNION OF MYANMAR Ministry of Natural Resources and Environmental Conservation CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION (ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)</p>	
No. 10026	Date 01 Jul 2017	
<p>The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the person under Environmental Impact Assessment Procedure, Notification No. 616/2015.</p> <p>(ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၆၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို လူပုဂ္ဂိုလ်အားထုတ်ပေးလိုက်သည်။)</p>		
(a) Name of Consultant (အကြံပေးပုဂ္ဂိုလ်အမည်)	U Myo Myint	
(b) Citizenship (နိုင်ငံသား)	Myanmar	
(c) Identity Card / Passport Number (မှတ်ပုံတင်/နိုင်ငံကူးလက်မှတ်အမှတ်)	12/ Pa Ba Ta (N) 015315	
(d) Address (ဆက်သွယ်ရန်လိပ်စာ)	115, Kanaung Min Thargyi Road, Hlaing Thar Yar Industrial City, Zone (1), Hlaing Thar Yar Township, Yangon. gmescompany@gmail.com , 09 2012723	
(e) Organization (အဖွဲ့အစည်း)	Green Myanmar Environmental Services Co.,Ltd.	
(f) Type of Consultancy (အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား)	Person	
(g) Duration of validity (သက်တမ်းကုန်ဆုံးရက်)	31 March 2018	
<div><div><p>EXTENSION သက်တမ်းတိုးမြှင့်ခြင်း The VALIDITY of this certificate is extended for one year from (1.4.2018) to (31.3.2019) ဤလက်မှတ်အား (၁-၄-၂၀၁၈) မှတ်လေ့မှ (၃၁-၃-၂၀၁၉) ရက်နေ့အထိ တစ်နှစ်သက်တမ်း တိုးမြှင့်သည်။  For Director General (Soe Naing, Director) Environmental Conservation Department</p></div><div> Director General Environmental Conservation Department Ministry of Natural Resources and Environmental Conservation</div></div>		


Areas of Expertise Permitted
(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

1. Chemical Engineering, Laboratory Analysis for Water and Wastewater



	<p>REPUBLIC OF THE UNION OF MYANMAR Ministry of Natural Resources and Environmental Conservation CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION (ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)</p>	
No. 10022	Date 11.11.2018	
<p>The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the person under Environmental Impact Assessment Procedure, Notification No. 616/2015.</p> <p>(ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၆၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို လူပုဂ္ဂိုလ်အားထုတ်ပေးလိုက်သည်။)</p>		
(a) Name of Consultant (အကြံပေးပုဂ္ဂိုလ်အမည်)	Daw Khin Shwe Htay	
(b) Citizenship (နိုင်ငံသား)	Myanmar	
(c) Identity Card / Passport Number (မှတ်ပုံတင်/နိုင်ငံကူးလက်မှတ် အမှတ်)	12/ Tha Ga Ka (N) 008808	
(d) Address (ဆက်သွယ်ရန်လိပ်စာ)	No. 115, Kanaung Min Thargyi Road, Hlaing Thar Yar Industrial City, Zone (1), Hlaing Thar Yar Township, Yangon shwehtay.khin@gmail.com , 09 5032910	
(e) Organization (အဖွဲ့အစည်း)	Green Myanmar Environmental Services Co.,Ltd.	
(f) Type of Consultancy (အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား)	Person	
(g) Duration of validity (သက်တမ်းကုန်ဆုံးရက်)	31 March 2018	

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended
for one year from (1.4.2018) to (31.3.2019)
ဤလက်မှတ်အား (၁-၄-၂၀၁၈) ရက်နေ့မှ (၃၁-၃-၂၀၁၉)
ရက်နေ့အထိ တစ်နှစ်သက်တမ်း တိုးမြှင့်သည်။

For Director General
(Soe Naing, Director)
Environmental Conservation Department

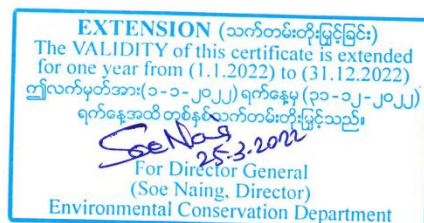
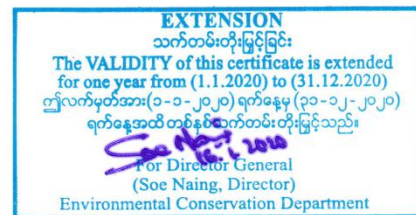
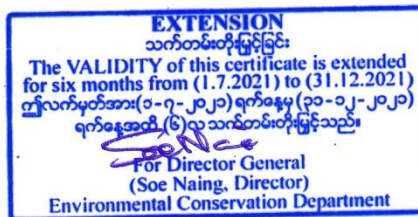
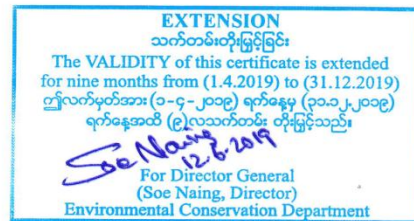
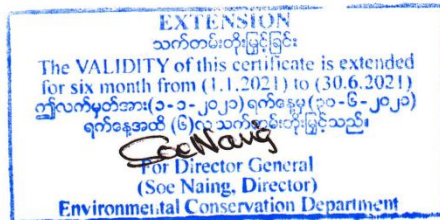




Director General
Environmental Conservation Department
Ministry of Natural Resources and Environmental Conservation

Areas of Expertise Permitted
(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

1. Water Pollution Control

2. Waste Management



	<p>REPUBLIC OF THE UNION OF MYANMAR Ministry of Natural Resources and Environmental Conservation CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION (ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)</p>	
No.	0025	Date
<p>The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the person under Environmental Impact Assessment Procedure, Notification No. 616/2015.</p> <p>(ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၆၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို လူပုဂ္ဂိုလ်အားထုတ်ပေးလိုက်သည်။)</p>		
(a) Name of Consultant (အကြံပေးပုဂ္ဂိုလ်အမည်)	U Khin Aung	
(b) Citizenship (နိုင်ငံသား)	Myanmar	
(c) Identity Card / Passport Number (မှတ်ပုံတင်/နိုင်ငံကူးလက်မှတ်အမှတ်)	12/ Ma Ya Ka (N) 047032	
(d) Address (ဆက်သွယ်ရန်လိပ်စာ)	115, Kanaung Min Thargyi Road, Hlaing Thar Yar Industrial City, Zone (1), Hlaing Thar Yar Township, Yangon. khinaung1@gmail.com , 09 43066741	
(e) Organization (အဖွဲ့အစည်း)	Green Myanmar Environmental Services Co.,Ltd.	
(f) Type of Consultancy (အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား)	Person	
(g) Duration of validity (သက်တမ်းကုန်ဆုံးရက်)	31 March 2018	

EXTENSION
သက်တမ်းတိုးကြိုခြင်း
The VALIDITY of this certificate is extended
for one year from (1.4.2018) to (31.3.2019)
ဤလက်မှတ်အား (၁-၄-၂၀၁၈) ရက်နေ့မှ (၃၁-၃-၂၀၁၉)
ရက်နေ့အထိ တစ်နှစ်သက်တမ်း တိုးချဲ့သည်။
Soe Naing
14.9.2018
For Director General
(Soe Naing, Director)
Environmental Conservation Department

[Signature]

Director General
Environmental Conservation Department
Ministry of Natural Resources and Environmental Conservation

Areas of Expertise Permitted
 (ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

1. Socio-Economy

EXTENSION
 သက်တမ်းတိုးမြှင့်ခြင်း
 The VALIDITY of this certificate is extended for six month from (1.1.2021) to (30.6.2021)
 ဤလက်မှတ်အား (၁-၁-၂၀၂၁) ရက်နေ့မှ (၃၀-၆-၂၀၂၁) ရက်နေ့အထိ (၆)လ သက်တမ်းတိုးမြှင့်သည်။
 Soe Naing
 For Director General
 (Soe Naing, Director)
 Environmental Conservation Department

EXTENSION
 သက်တမ်းတိုးမြှင့်ခြင်း
 The VALIDITY of this certificate is extended for nine months from (1.4.2019) to (31.12.2019)
 ဤလက်မှတ်အား (၁-၄-၂၀၁၉) ရက်နေ့မှ (၃၁-၁၂-၂၀၁၉) ရက်နေ့အထိ (၉)လသက်တမ်း တိုးမြှင့်သည်။
 Soe Naing
 For Director General
 (Soe Naing, Director)
 Environmental Conservation Department

EXTENSION
 သက်တမ်းတိုးမြှင့်ခြင်း
 The VALIDITY of this certificate is extended for six months from (1.7.2021) to (31.12.2021)
 ဤလက်မှတ်အား (၁-၇-၂၀၂၁) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၁) ရက်နေ့အထိ (၆)လ သက်တမ်းတိုးမြှင့်သည်။
 Soe Naing
 For Director General
 (Soe Naing, Director)
 Environmental Conservation Department

EXTENSION
 သက်တမ်းတိုးမြှင့်ခြင်း
 The VALIDITY of this certificate is extended for one year from (1.1.2020) to (31.12.2020)
 ဤလက်မှတ်အား (၁-၁-၂၀၂၀) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၀) ရက်နေ့အထိ တစ်နှစ်သက်တမ်းတိုးမြှင့်သည်။
 Soe Naing
 For Director General
 (Soe Naing, Director)
 Environmental Conservation Department

EXTENSION (သက်တမ်းတိုးမြှင့်ခြင်း)
 The VALIDITY of this certificate is extended for one year from (1.1.2022) to (31.12.2022)
 ဤလက်မှတ်အား (၁-၁-၂၀၂၂) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၂) ရက်နေ့အထိ တစ်နှစ်သက်တမ်းတိုးမြှင့်သည်။
 Soe Naing
 For Director General
 (Soe Naing, Director)
 Environmental Conservation Department

Appendix 4 Certificate of Incorporation



ကုမ္ပဏီမှတ်ပုံတင်လက်မှတ်
Certificate of Incorporation

မြန်မာအေးရှားအော့(ပ်)တစ်ကယ်အင်တာနက်ရှင်နယ်ကုမ္ပဏီလီမိတက်
MYANMAR ASIA OPTICAL INTERNATIONAL COMPANY LIMITED
Company Registration No. 147842228

မြန်မာနိုင်ငံကုမ္ပဏီများအက်ဥပဒေ ၁၉၁၄ ခုနှစ် အရ
မြန်မာအေးရှားအော့(ပ်)တစ်ကယ်အင်တာနက်ရှင်နယ်ကုမ္ပဏီလီမိတက်
အား ၂၀၀၃ ခုနှစ် မတ်လ ၂၆ ရက်နေ့တွင်
အစုရှယ်ယာအားဖြင့် တာဝန်ကန့်သတ်ထား သည့် အများနှင့်မသက်ဆိုင်သောကုမ္ပဏီ
အဖြစ် ဖွဲ့စည်းမှတ်ပုံတင်ခွင့် ပြုလိုက်သည်။

This is to certify that
MYANMAR ASIA OPTICAL INTERNATIONAL COMPANY LIMITED
was incorporated under the Myanmar Companies Act 1914 on 26 March
2003 as a Private Company Limited by Shares.







ကုမ္ပဏီမှတ်ပုံတင်အရာရှိ
Registrar of Companies
ရင်းနှီးမြှုပ်နှံမှုနှင့်ကုမ္ပဏီများညွှန်ကြားမှုဦးစီးဌာန
Directorate of Investment and Company Administration

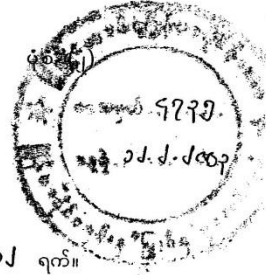
Former Registration No. 9FC/2002-2003

Appendix 5 MIC Permit

	<p>The Myanmar Investment Commission</p> <p>PERMIT</p> <p>Permit No. <u>377/2003</u>.....</p>	<p>Form (2) <u>4735</u></p> <p>Date <u>12.2.2003</u></p>
<p>The Myanmar Investment Commission issues this Permit under Section 10 of the Union of Myanmar Foreign Investment Law -</p>		
<p>(a) Name of Promoter <u>MR. WISEMAN HSU</u></p>		
<p>(b) Citizenship <u>CHINESE</u></p>		
<p>(c) Address <u>605/99, CITY VILLAGE, BANGPOO INDUSTRY ZONE, SAMUTPRAKARN, THAILAND</u></p>		
<p>(d) Name and address of principal organization <u>GREAT CHINA INVESTMENT ENTERPRISE HOLDINGS LIMITED, ROOM 1505, 15 FLOOR, METRO CENTRE, BLOCK 2, NO. 21 LAM HING STREET, KOWLOON BAY, HONG KONG</u></p>		
<p>(e) Place of incorporation <u>HONG KONG</u></p>		
<p>(f) Type of business in which investment is to be made <u>MANUFACTURING OF ALL KINDS OF LENS, LENS UNITS, OPTICAL APPARATUSES, ELECTRONIC APPARATUSES AND OTHER APPARATUSES ON C.M.P BASIS</u></p>		
<p>(g) Place (s) at which investment is permitted <u>PLOT NO. A-2 & A-3 MINGALADON INDUSTRIAL PARK, MINGALADON TOWNSHIP YANGON</u></p>		
<p>(h) Amount of foreign capital <u>US\$ 12.88 MILLION (EQUITY US\$ 12.88 MILLION)</u></p>		
<p>(i) Period for bringing in foreign capital <u>WITHIN 6 YEARS FROM APPROVAL OF MYANMAR INVESTMENT COMMISSION</u></p>		
<p>(j) Total amount of capital (Kyat) <u>EQUIVALENT IN KYAT OF US \$ (12.88) MILLION</u></p>		
<p>(k) Permitted duration of investment <u>45 YEARS</u></p>		
<p>(l) Name of the economic organization to be formed in Myanmar <u>MYANMAR ASIA OPTICAL INTERNATIONAL COMPANY LIMITED</u></p>		
<p> Chairman The Myanmar Investment Commission</p>		

မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်

ခွင့်ပြု မိန့်



ခွင့်ပြုမိန့်အမှတ် ၃၇၇/၂၀၀၃ ၂၀၀၃ ခုနှစ်၊ ဖေဖော်ဝါရီလ ၁၂ ရက်။

ပြည်ထောင်စုမြန်မာနိုင်ငံတော် နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု ဥပဒေပုဒ်မ ၁၀ အရ ဤခွင့်ပြုမိန့်ကို
 မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှု ကော်မရှင်က ထုတ်ပေးလိုက်သည် -



- (က) ကမကထပြုသူ၏အမည် MR. WISEMAN HSU
- (ခ) မည်သည့်နိုင်ငံသား CHINESE
- (ဂ) နေရပ်လိပ်စာ 605/99, CITY VILLAGE, BANGPOO INDUSTRY ZONE, SAMUTPRAKARN, THAILAND
- (ဃ) ပင်မအဖွဲ့အစည်းအမည်နှင့်လိပ်စာ GREAT CHINA INVESTMENT ENTERPRISE HOLDINGS LIMITED, ROOM 1505, 15 FLOOR, METRO CENTRE, BLOCK 2, No. 2 LAM HING STREET, KOWLOON BAY, HONG KONG
- (င) ဖွဲ့စည်းရာအရပ် HONG KONG
- (စ) ရင်းနှီးမြှုပ်နှံမှုပြုလုပ်မည့်လုပ်ငန်းအမျိုးအစား GMP စနစ်ဖြင့် မှန်တီလူးအမျိုးမျိုး ထုတ်လုပ်ခြင်း လုပ်ငန်း
- (ဆ) ရင်းနှီးမြှုပ်နှံမှုပြုလုပ်ခွင့်ပြုသည့်အရပ်ဒေသ(များ) မြေထုတ်အမှတ် (အ-၂) နှင့် (အ-၃) မင်္ဂလာဒုံ စက်မှုဇုန်၊ မင်္ဂလာဒုံမြို့နယ်၊ ရန်ကုန်တိုင်း
- (ဇ) နိုင်ငံခြားမတည်ငွေရင်း အမေရိကန် ဒေါ်လာ ၁ (၁၂,၀၀) သန်း (ကိုယ်ပိုင် မတည်ငွေရင်း အမေရိကန် ဒေါ်လာ ၁၁၂,၀၀၀ သန်း)
- (ဈ) နိုင်ငံခြားမတည်ငွေရင်းယူဆောင်လာရမည့်ကာလ ကော်မရှင်မှ ခွင့်ပြုမိန့်ရပြီး (၆) နှစ်အတွင်း
- (ည) စုစုပေါင်း မတည်ငွေရင်း ပမာဏ(ကျပ်) အမေရိကန် ဒေါ်လာ ၁ (၁၂,၀၀) သန်း နှင့် ညီမျှသော မြန်မာကျပ်ငွေ
- (ဋ) ရင်းနှီးမြှုပ်နှံခွင့်ပြုသည့်သက်တမ်း ၄၅ နှစ်
- (ဌ) မြန်မာနိုင်ငံတွင် ဖွဲ့စည်းမည့် စီးပွားရေးအဖွဲ့အစည်းအမည် MYANMAR ASIA OPTICAL INTERNATIONAL COMPANY LIMITED

(Handwritten signature)

ဥက္ကဋ္ဌ

မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်

Appendix 6 MIC Permit for SLA

	<p>ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော် မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင် ရုံးအမှတ်(၃၂)၊ နေပြည်တော်</p>
ဖက်(စ်) ၉၅-၆၇-၄၀၆၂၀၈ တယ်လီဖုန်း-၀၆၇-၄၀၆၁၇၄	စာအမှတ်၊ ရက-၇(ခ)/န- ၃၂၄/၂၀၁၃(၂၇၅၅၄-၃) ရက်စွဲ၊ ၂၀၁၃ ခုနှစ် အောက်တိုဘာလ ၂ ရက်
အကြောင်းအရာ။	Myanmar Asia Optical International Co., Ltd. မှ ထုတ်ကုန် ပစ္စည်း အသစ်အား ထပ်မံထုတ်လုပ်ခွင့်ပြုရန်ကိစ္စ
ရည်ညွှန်းချက် ။	Myanmar Asia Optical International Co., Ltd. ၏ ၁၂-၉-၂၀၁၃ ရက်စွဲပါစာ
<p>Myanmar Asia Optical International Co., Ltd. မှ ထုတ်ကုန်ပစ္စည်းအသစ် ထပ်မံ ထုတ်လုပ်ခွင့်ပြုပါရန် ရည်ညွှန်းပါစာဖြင့် တင်ပြလာသည့်ကိစ္စ နှင့် စပ်လျဉ်း၍ Self-Foc Lens Array(SLA)(Glass Tube) အမည်ရှိသော ထုတ်ကုန်ပစ္စည်းအသစ်အား ထပ်မံထုတ်လုပ်ခွင့်ပြု ကြောင်း အကြောင်းကြားပါသည်။</p>	
မန်နေဂျင်းဒါရိုက်တာ Myanmar Asia Optical International Co., Ltd.	<p> ဥက္ကဋ္ဌ(ကိုယ်စား) (အောင်နိုင်ဦး၊ ညွှန်ကြားရေးမှူးချုပ်)</p>
မိတ္တူကို ရုံးလက်ခံ/မျှောစာတွဲ။	



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
 မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်
 အမှတ်(၁)၊ သစ္စာလမ်း၊ ရန်ကင်းမြို့နယ်၊ ရန်ကုန်မြို့

စာအမှတ်၊ ရက-၉ / ၁ / ၂၀၁၅ (၀၂၂၄၆)
 ရက်စွဲ၊ ၂၀၁၅ ခုနှစ် ဖေဖော်ဝါရီလ ၆ ရက်

အကြောင်းအရာ။ Myanmar Asia Optical International Company Limited မှ
 မူလတိုးမြှင့်ပြင်ဆင်ခွင့်ပြုထားသည့် ရင်းနှီးမြှုပ်နှံမှုပမာဏအား အမှန်
 တကယ်ထည့်ဝင်သည့် တန်ဖိုးသို့ လျှော့ချ၍ ထုတ်ကုန်အသစ်ထုတ်လုပ်ရန်
 ရင်းနှီးမြှုပ်နှံမှုပမာဏ တိုးမြှင့်ခွင့်တင်ပြလာခြင်းကိစ္စ

ရည်ညွှန်းချက်။ Myanmar Asia Optical International Company Limited ၏
 ၂၀၁၄ ခုနှစ် ဒီဇင်ဘာလ ၃၁ ရက်စွဲပါစာ

၁။ Myanmar Asia Optical International Company Limited မှ ရည်ညွှန်းပါစာဖြင့်
 တင်ပြလာသည့်ကိစ္စနှင့် စပ်လျဉ်း၍ ၂၀၁၅ ခုနှစ် ဇန်နဝါရီလ ၃၁ ရက်နေ့တွင်ကျင်းပသော မြန်မာ
 နိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်၏ ၂ / ၂၀၁၅ ကြိမ်မြောက်အစည်းအဝေးမှ အောက်ပါအတိုင်း
 ဆုံးဖြတ်ခဲ့ပါသည်-

(က) ရင်းနှီးမြှုပ်နှံမှုနှစ်အလိုက်ပြင်ဆင်ချက် စုစုပေါင်းအမေရိကန်ဒေါ်လာ ၂၇.၈၁
 သန်းအနက်မှ လက်ကျန်တန်ဖိုး အမေရိကန်ဒေါ်လာ ၁၆.၇၁ သန်းအား
 တင်သွင်းခြင်းမပြုတော့ဘဲ မတည်ငွေရင်းပမာဏအား အမေရိကန်ဒေါ်လာ
 ၁၁.၁၁ သန်းအဖြစ် လျှော့ချပြီး ထုတ်ကုန်ပစ္စည်းအသစ် Self-Foc Lens Array
 (SLA) (Glass Tube) ထုတ်လုပ်ရန်စက်ပစ္စည်းတန်ဖိုး အမေရိကန်ဒေါ်လာ
 ၁.၈၁ သန်း တိုးမြှင့်၍ စုစုပေါင်း အမေရိကန်ဒေါ်လာ ၁၂.၉၂ သန်းသို့
 တိုးမြှင့်ခွင့်ပြုရန်။

(ခ) အဆိုပါတိုးမြှင့်ရင်းနှီးမြှုပ်နှံမှုမှ Air Duct with Accessories (Complete Set)
 အပါအဝင် စက်ပစ္စည်း ၄၃ မျိုး တန်ဖိုး အမေရိကန်ဒေါ်လာ ၁၈၁၇၃၃၀.၀၅ အား
 အခွန်အကောက်ကင်းလွတ်ခွင့်ဖြင့် တင်သွင်းခွင့်ပြုရန်။

၂။ အဆိုပါကိစ္စနှင့်စပ်လျဉ်း၍ ခွင့်ပြုမိန့် (Permit) မူရင်းတွင်ပြင်ဆင်ရန်အတွက် ဝန်ဆောင်
 စရိတ်အဖြစ် ကျပ် ၂၅၀,၀၀၀ (ကျပ် နှစ်သိန်းငါးသောင်းတိတိ) အား ရင်းနှီးမြှုပ်နှံမှု နှင့် ကုမ္ပဏီများ

E:\Share AC\Project\MIC\2 MIC 2015 Book\Appendix 1

ညွှန်ကြားမှုဦးစီးဌာနသို့ ပေးသွင်းပြီးကြောင်း ချလံမူရင်း နှင့် ခွင့်ပြုမိန့် (Permit) မူရင်းကို
ကော်မရှင်သို့ ပေးပို့ပါရန် အကြောင်းကြားပါသည်။

ဥက္ကဋ္ဌ(ကိုယ်စား)

(ချို့ချိုဝင်း ၊ ဒုတိယညွှန်ကြားရေးမှူးချုပ်)

မန်နေဂျင်းဒါရိုက်တာ

Myanmar Asia Optical International Company Limited

မိတ္ထီကို

ညွှန်ကြားရေးမှူးချုပ်၊ ကူးသန်းရောင်းဝယ်ရေးနှင့် စားသုံးသူရေးရာဦးစီးဌာန


ညွှန်ကြားရေးမှူးချုပ်၊ အကောက်ခွန်ဦးစီးဌာန

ညွှန်ကြားရေးမှူးချုပ်၊ ပြည်တွင်းအခွန်များဦးစီးဌာန

ရုံးလက်ခံ၊ မျှောစာတွဲ

Appendix 7 Certificate of Exporter/Importer Registration

1/15/2021



The Government of The Republic of the Union of Myanmar
Ministry of Commerce
Department of Trade

CERTIFICATE OF EXPORTER/IMPORTER REGISTRATION

1. Enterprise Name: MYANMAR ASIA OPTICAL INTERNATIONAL COMPANY LIMITED. 2. Registration No: 147842228(01/04/2003)

3. Registration Term: Five Year

4. Start Date: 21/03/2021

5. End Date: 20/03/2026

6. Address: Plot No. A-2/A3/C1 & C2 No. 3 High Way Main Road Mingaladon Industrial Park, Mingaladon
Yangon Region, MYANMAR 11021

7. Business Registration No : 147842228(26/03/2003)


8. Type of Business : Industry/Production/Manufacturing (Foreign Company)

9. Type of Service : Extension

10. Contact No :
+95-1-639072, +95-1-706972 +95-1-639034 mao80@asiaoptical.com.mm
Telephone No. Fax No. E-mail

11. Remarks : MIC PERMIT No., 337/2003 (12-2-2003)

12. Terms and Conditions :
I hereby register the above mentioned enterprise as Exporter/Importer subject to the following terms and conditions:
(a) Line of goods permitted - all items except prohibited and restricted items.
(b) The enterprise must abide by the Export/Import rules and Regulations prescribed for the registered Exporters/Importers.



Thaung Naing
(Director)

OEPTK-00434-2020


1/15/2021


လုပ်ငန်းရည်ရွယ်ချက်များမှာ

(1) စီအမ်ပီစနစ်ဖြင့်မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်းလုပ်ငန်း

(2) စီအမ်ပီစနစ်ဖြင့် အချောကိုင်ထုတ်လုပ်ခြင်းလုပ်ငန်း

Appendix 8 Industrial Chemical License (Form 7)


	ဓာတုပစ္စည်းနှင့်ဆက်စပ်ပစ္စည်းများအန္တရာယ်မှ တားဆီးကာကွယ်ရေး ဗဟိုကြီးကြပ်ရေးအဖွဲ့	ပုံစံ	၈
		ဓာတုပစ္စည်း အရေအတွက်	၆၉ (မျိုး)
		သက်တမ်း	၂ နှစ်



ဓာတုပစ္စည်းနှင့်ဆက်စပ်ပစ္စည်းများ မှတ်ပုံတင်လက်မှတ်

မှတ်ပုံတင်လက်မှတ်အမှတ်စဉ် ၀၀၀၂၁၀

(နည်းဥပဒေ ၂၇)



ရက်စွဲ၊ ၂၀၁၉ ခုနှစ်၊ အောက်တိုဘာလ ၂၂ ရက်

၁။ ၂၃ - ၈ - ၂၀၁၉ ရက်စွဲပါ လျှောက်လွှာအမှတ် ၀၀၀၂၀၆ ဖြင့်

မှတ်ပုံတင်ခွင့်ပြုရန် လျှောက်ထားသော ဓာတုပစ္စည်းနှင့် ဆက်စပ်ပစ္စည်းများအား မြန်မာနိုင်ငံ အတွင်း

အသုံးပြုရန် မှတ်ပုံတင်ပြီးဖြစ်သည်။

၂။ တာဝန်ခံလျှောက်ထားသူ၏အမည်

၃။ နိုင်ငံသားစိစစ်ရေးကတ်ပြားအမှတ်

သို့မဟုတ် နိုင်ငံခြားသားမှတ်ပုံတင်အမှတ်

၄။ အမြဲတမ်းနေရပ်လိပ်စာ

၅။ ဆက်သွယ်ရန်ဖုန်းနံပါတ် သို့မဟုတ်

ဖက်စ်(Fax)နံပါတ် သို့မဟုတ် e-mail လိပ်စာ

၆။ လုပ်ငန်းလိပ်စာ

၇။ ဆက်သွယ်ရန်လုပ်ငန်းဖုန်းနံပါတ် သို့မဟုတ်

ဖက်စ်(Fax)နံပါတ် သို့မဟုတ် e-mail လိပ်စာ

၈။ မှတ်ပုံတင်ခွင့်ပြုသောဓာတုပစ္စည်းနှင့်

ဆက်စပ်ပစ္စည်းများ

(နောက်ဆက်တွဲစာရင်းအရ)

၉။ သက်တမ်းကုန်သွယ်မှုနှင့် နေ့ရက်

Mr.Yuzo Asano

TZ 1187753

Plot No.(A-2,3), Mingaladon Industrial Park,

Mingaladon T/S, Yangon Region.

၀၉-၄၂၀၀၉၂၂စာ, ၀၉-၉၇၄၄၅၃စာ

mao80@asiaoptical.com.mm

Plot No.(A-2,3), Mingaladon Industrial Park,


Mingaladon T/S, Yangon Region.

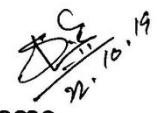
၀၉-၄၂၀၀၉၂၂စာ, ၀၉-၉၇၄၄၅၃စာ

mao80@asiaoptical.com.mm

နောက်ဆက်တွဲပါအတိုင်းဖြစ်ပါသည်။

၂၂ - ၁၀ - ၂၀၂၁





ဥက္ကဋ္ဌ

ဗဟိုကြီးကြပ်ရေးအဖွဲ့



ဓာတုပစ္စည်းနှင့်ဆက်စပ်ပစ္စည်းများအန္တရာယ်မှ
တားဆီးကာကွယ်ရေး
ဗဟိုကြီးကြပ်ရေးအဖွဲ့

ကုမ္ပဏီ/လုပ်ငန်းအမည်

Myanmar Asia Optical International Co.,Ltd.

မှတ်တိုင်ခွင့်ပြုသည့် ဓာတုပစ္စည်းနှင့် ဆက်စပ်ပစ္စည်းများအမည်စာရင်း

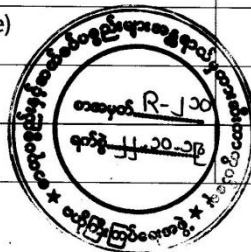
စဉ်	ဓာတုပစ္စည်းနှင့်ဆက်စပ်ပစ္စည်းအမျိုးအမည်	တစ်နှစ်အသုံးပြုရန် ခန့်မှန်းပမာဏ (ကီလိုဂရမ် သို့မဟုတ် လီတာ)
1.	Adhesive Hardloc OP- 1030 Z	10,000 Kg
2.	Adhesive Hardloc OP- 1903 R	500 Kg
3.	Adhesive World Rock No. 5515	2,000 Kg
4.	Adhesive World Rock No. 5518	2,000 Kg
5.	Norland Optical Adhesive 61	50 Kg
6.	Adhesive Hardloc OP- 1030 K	50 Kg
7.	Adhesive Hardloc OP- 1030 M	50 Kg
8.	Adhesive Hardloc OP- 1055 H	50 Kg
9.	Aluminium Oxide AL ₂ O ₃	1,500 Kg
10.	Anti- Corrosion and Scaling Agents (HC- 200)	500 Kg
11.	Cleaning Agent(FQG- 118)	15,000 Kg
12.	Cleaning Agent(QCJG- 105)	120,000 Kg
13.	Cleanser FX- 315 (Methylene Chloride)	160,000 Kg
14.	Cutting Fluid (CK- 01)	100,000 Kg
15.	Cutting Liquid (Green Cut)	4,000 Kg
16.	Cutting Oil SL- 508	70,000 Kg
17.	Detergent (SAT- 680)	500 Kg



စဉ်	ဓာတုပစ္စည်းနှင့်ဆက်စပ်ပစ္စည်းအမျိုးအမည်	တစ်နှစ်အသုံးပြုရန် ခန့်မှန်းပမာဏ (ကီလိုဂရမ် သို့မဟုတ် လီတာ)
18.	EPOLLA #2000, Black A Liquid	1,000 Kg
19.	EPOLLA #2000, SM B Liquid	500 Kg
20.	Ethanol (Denatured Ethanol)	150,000 Kg
21.	Film- Stripping Agent (FC- 71)	100,000 Kg
22.	Glue Removing Agent (TG- 05)	100,000 Kg
23.	GT-7(II) B (Hardener)	1,000 Kg
24.	Isopropyl Alcohol (IPA)	300,000 Kg
25.	Magnesium Fluoride	3,000 Kg
26.	GT- 7(II) A (Paint)	1,500 Kg
27.	Fastite- No140 (N)TL 1 Black (Paint)	500 Kg
28.	Photo Bond # 150	500 Kg
29.	Photo Bond # 300/ 300 K	500 Kg
30.	Polishing Liquid ZOX- N	4,000 Kg
31.	RP 133 Rare Earth Polishing Powder (Red)	10,000 Kg
32.	S-204 Rare Earth Polishing Powder	20,000 Kg
33.	Polyacrylamide (PAM)	6,000 Kg
34.	Polyaluminium Chloride (PAC)	12,000 Kg
35.	Amberjet 1000 NA Resin	1,000 Kg
36.	Amberjet 4200 CI Resin	1,000 Kg
37.	Serutex S- 11	1,000 Kg
38.	Shin- Etsu Silicone- X- 31- 1598- 2	500 Kg
39.	NT Silane Coupling Agent KBM- 403 (3- Glycidoxyp Trimethoxysilane)	500 Kg



စဉ်	ဓာတုပစ္စည်းနှင့်ဆက်စပ်ပစ္စည်းအမျိုးအမည်	တစ်နှစ်အသုံးပြုရန် ခန့်မှန်းပမာဏ (ကီလိုဂရမ် သို့မဟုတ် လီတာ)
40.	Silica Scale Cleaning Agent (HC- 300 C)	500 Kg
41.	Cenoflex 2621	500 Kg
42.	TCIC (HS- 070) (Trichloroisocyanuric Acid)	500 Kg
43.	Thinner No. 2350	500 Kg
44.	Zirconium Dioxide	20,000 Kg
45.	Zirconium Titanium Oxide	20,000 Kg
46.	Cleanser RSB -716 (Deinking Agent)	10,000 Kg
47.	Cleaner P 3	10,000 Kg
48.	Lotion LCS 855	5,000 Kg
49.	Thinner GT- II	5,000 Kg
50.	Bromochloro-5,5-Dimethylimidazolidine2,4dione (BCDMH)	5,000 Kg
51.	Cutting Liquid / Oil SS- 612	5,000 Kg
52.	Cleanser TP- 2 (Cleaning Agent)	6,000 Kg
53.	Clear Agent KYQ 1106	4,000 Kg
54.	Calcium Carbonate	2,000 Kg
55.	Potassium Hydroxide	4,000 Kg
56.	Silicone Fluid (HIVAC- G)	5,000 Kg
57.	Cutting Oil S- 100	5,000 Kg
58.	Adhesive / UV Curable Acrylic Resin 8807 L (World Rock No.8807 L)	1,250 Kg
59.	RP-121 Rare Earth Polishing Powder (White)	200,000 Kg
60.	Epolla # 2000 Thinner	5,000 Kg
61.	Adhesive OP- 1080 L	100 Kg



စဉ်	ဓာတုပစ္စည်းနှင့်ဆက်စပ်ပစ္စည်းအမျိုးအမည်	တစ်နှစ်အသုံးပြုရန် ခန့်မှန်းပမာဏ (ကီလိုဂရမ် သို့မဟုတ် လီတာ)
62.	Grease FS2 (Green)	3,500 Kg
63.	Grease MY 2 (Yellow)	3,500 Kg
64.	Lubricating Grease	5,000 Kg
65.	SX- Lubricant For Glass Glazing (HY071)	5,000 Kg
66.	Lotion WS- 355	56,000 Kg
67.	Cleaner WS- 755	56,000 Kg
68.	Tomocool # 530	10,000 Kg
69.	G 17 Glue	850 kg

မှတ်ချက်။ လုပ်ငန်းလိုအပ်ချက်အရ တစ်နှစ်အသုံးပြုရန် ခန့်မှန်းပမာဏမှာပြောင်းလဲမှုရှိနိုင်ပါသည်။




စည်းကမ်းချက်များ



မှတ်ပုံတင်လက်မှတ်ရရှိသူသည် အောက်ဖော်ပြပါ စည်းကမ်းချက်များကို လိုက်နာဆောင်ရွက်ရမည်-

- ၁။ ဓာတုပစ္စည်းနှင့်ဆက်စပ်ပစ္စည်းများအန္တရာယ်မှ တားဆီးကာကွယ်ရေးဥပဒေအရ ထုတ်ပြန်သော နည်းဥပဒေ၊ အမိန့်ကြော်ငြာစာ၊ အမိန့်၊ ညွှန်ကြားချက်နှင့် လုပ်ထုံးလုပ်နည်းများပါ စည်းကမ်းချက်များကို လိုက်နာခြင်း၊
- ၂။ မှတ်ပုံတင်ထားသည့်စာရင်းတွင် ပါရှိသော်လည်း အသုံးမပြုလိုသော ပစ္စည်းများရှိပါက ဗဟိုကြီးကြပ်ရေးအဖွဲ့သို့ အသိပေးတင်ပြခြင်း၊
- ၃။ မှတ်ပုံတင်ထားသည့်စာရင်းတွင် မပါရှိသည့်ပစ္စည်းများ အသုံးပြုခြင်း၊ မှတ်ပုံတင်ထားသည့် ပစ္စည်းများ၏ ကုန်အမှတ်တံဆိပ် သို့မဟုတ် အမျိုးအမည် ပြောင်းလဲခြင်း၊ ပါဝင်မှုမာဏ ပြောင်းလဲခြင်း၊ အရည်အသွေးအာမခံချက်နှင့် စံချိန်စံညွှန်းပြောင်းလဲခြင်းနှင့် အမျိုးသားအဆင့် ဓာတုပစ္စည်းနှင့် ဆက်စပ်ပစ္စည်းများစာရင်းတွင် မပါရှိသည့်ပစ္စည်းသစ်များ အသုံးပြုရန်ရှိပါက မှတ်ပုံတင်လက်မှတ် ထပ်မံလျှောက်ထားခြင်း၊
- ၄။ လုပ်ငန်းနှင့်စပ်လျဉ်းသည့် အန္တရာယ်များကို တင်ပြခြင်း၊
- ၅။ လုပ်ငန်းလုပ်ကိုင်ရာတွင် အန္တရာယ်ကင်းရှင်းစေရန် ဆောင်ရွက်ထားရှိခြင်း၊
- ၆။ ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိစေရန် စွန့်ပစ်ပစ္စည်းများကို စနစ်တကျသန့်စင်ပြီးမှ စွန့်ပစ်ခြင်း သို့မဟုတ် စနစ်တကျ စုပုံထားခြင်း။

Appendix 9 Chemical License

	ဓာတုပစ္စည်းနှင့်ဆက်စပ်ပစ္စည်းများအန္တရာယ်မှ တားဆီးကာကွယ်ရေး ဗဟိုကြီးကြပ်ရေးအဖွဲ့	ပုံစံ	J
		လုပ်ငန်း	၆
		အရေအတွက် (မျိုး)	(မျိုး)
		သက်တမ်း	၂ နှစ်

ဓာတုပစ္စည်းနှင့်ဆက်စပ်ပစ္စည်းများဆိုင်ရာ လုပ်ငန်းလိုင်စင်
လိုင်စင်အမှတ် ၀၀၀၃၀၃
(နည်းဥပဒေ ၁၈)


ရက်စွဲ၊ ၂၀၁၉ ခုနှစ်၊ ဩဂုတ် လ ၇ ရက်

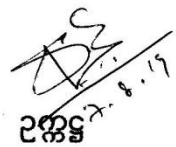
၁။ ၁၈-၁၀-၂၀၁၈ ရက်စွဲပါ လျှောက်လွှာအမှတ် J၄၁ ဖြင့် လုပ်ငန်းလိုင်စင် လျှောက်ထားသော Myanmar Asia Optical International Co.,Ltd ကုမ္ပဏီ/ဗဟိုဌာနမှ ဦး/ဒေါ် Mr.Yuzo Asano (ဘ) Mr. Asano Takeo နိုင်ငံအားလုံးစစ်ရေး ကာကွယ်ရေးအမှတ်/ နိုင်ငံခြားသားမှတ်ပုံတင်အမှတ် TZ 1187753 အား ဤ လုပ်ငန်းလိုင်စင်ကို ထုတ်ပေးလိုက်သည်။

၂။ ခွင့်ပြုသည့်လုပ်ငန်းအမျိုးအစား
သိုလှောင်ခြင်း၊ သုံးစွဲခြင်း၊ တင်သွင်းခြင်း၊ သယ်ယူပို့ဆောင်ခြင်း၊ လက်ဝယ်ထားရှိခြင်း၊ ဝယ်ယူခြင်း။

၃။ လုပ်ငန်းလုပ်ကိုင်ခွင့်ပြုသည့် ဓာတုပစ္စည်းနှင့် ဆက်စပ်ပစ္စည်းများ၏ အမျိုးအမည်များ
ထားရှိမည့်နေရာ
(ပြည့်စုံစွာဖော်ပြရန်)
Plot No.(A -2, 3)၊ Mingaladon Industrial Park, Mingaladon Tsp, Yangon Region.

၄။ လုပ်ငန်းလိုင်စင်သက်တမ်းကုန်ဆုံးမည့်နေ့ရက်
၇. ၈. ၂၀၂၁




ဦးယုဆု
ဗဟိုကြီးကြပ်ရေးအဖွဲ့

စည်းကမ်းချက်များ

လိုင်စင်ရရှိသူသည် အောက်ဖော်ပြပါ စည်းကမ်းချက်များကို လိုက်နာဆောင်ရွက်ရမည်-

- ၁။ ဓာတုပစ္စည်းနှင့်ဆက်စပ်ပစ္စည်းများအန္တရာယ်မှ တားဆီးကာကွယ်ရေးဥပဒေအရ ထုတ်ပြန်သော နည်းဥပဒေ၊ အမိန့်ကြော်ငြာစာ၊ အမိန့်၊ ညွှန်ကြားချက်နှင့် လုပ်ထုံးလုပ်နည်းများပါ စည်းကမ်းချက်များကို လိုက်နာဆောင်ရွက်ခြင်း၊
- ၂။ လိုင်စင်ကို လုပ်ငန်းခွင်၏ မြင်သာသည့်နေရာ၌ ချိတ်ဆွဲထားခြင်း၊
- ၃။ လုပ်ငန်းနှင့်သက်ဆိုင်သည့် သင်တန်းများ တက်ရောက်ပြီးကြောင်း အထောက်အထားများကို မြင်သာသည့်နေရာ၌ ချိတ်ဆွဲထားခြင်း၊
- ၄။ အန္တရာယ်ရှိသည့်အကြောင်းအရာများ ဖော်ပြထားသော စာတန်း သို့မဟုတ် ရုပ်ပုံအမှတ်အသား တံဆိပ်များ ချိတ်ဆွဲထားခြင်း၊
- ၅။ လုံခြုံရေးကိရိယာ၊ ကိုယ်ခန္ဓာကာကွယ်ရေးကိရိယာနှင့် ဝတ်စုံများ လုံလောက်စွာထားရှိခြင်း၊
- ၆။ မတော်တဆဖြစ်ပွားမှု လျော့နည်းစေရန်နှင့် ကင်းရှင်းစေရန် ဆောင်ရွက်ထားခြင်း၊
- ၇။ ထိခိုက်ဆုံးရှုံးမှုအတွက် လျော်ကြေးပေးနိုင်ရန် အာမခံထားခြင်း၊
- ၈။ အန္တရာယ်ကင်းရှင်းစေရေး ညွှန်ကြားချက်များ လိုက်နာခြင်း၊
- ၉။ အလုပ်လုပ်ကိုင်သူများ၏ ကျန်းမာရေးစစ်ဆေးချက်မှတ်တမ်းများ ထိန်းသိမ်းထားခြင်း၊
- ၁၀။ အန္တရာယ်ရှိသည့် ပစ္စည်းများသိုလှောင်ခွင့်ရပါက သက်ဆိုင်ရာမြို့နယ် အထွေထွေအုပ်ချုပ်ရေး ဦးစီးဌာနသို့ ခွင့်ပြုသည့်အကြောင်းကြားစာ မိတ္တူပေးပို့ခြင်း၊
- ၁၁။ မီးဘေးအန္တရာယ်ဖြစ်စေတတ်သည့်ပစ္စည်း သို့မဟုတ် ပေါက်ကွဲစေတတ်သည့်ပစ္စည်းများ အသုံးပြုသောလုပ်ငန်းဖြစ်ပါကသက်ဆိုင်ရာမီးသတ်ဦးစီးဌာန၏ လမ်းညွှန်သဘောတူညီချက် ကြိုတင်ရယူခြင်း၊
- ၁၂။ ပြည်တွင်းတွင် သယ်ယူပို့ဆောင်သည့်အခါ သတ်မှတ်ထားသည့် စည်းကမ်းချက်များနှင့်အညီ ခွင့်ပြုထားသော ပမာဏနှင့် နေရာသို့ သယ်ဆောင်ခြင်း၊
- ၁၃။ ခွင့်ပြုသည့်နေရာ ပြောင်းလဲသယ်ယူပို့ဆောင်လိုပါက ဗဟိုကြီးကြပ်ရေးအဖွဲ့ထံမှ ခွင့်ပြုချက် ထပ်မံရယူခြင်း၊
- ၁၄။ စက်ပစ္စည်းကိရိယာများ၏ လုံခြုံစိတ်ချမှု၊ ခံနိုင်ရည်ရှိမှုနှင့် ဘေးအန္တရာယ်ထိခိုက်နိုင်မှု ရှိ၊ မရှိကို သက်ဆိုင်ရာကြီးကြပ်ရေးအဖွဲ့နှင့် စစ်ဆေးရေးအဖွဲ့များ၏ စစ်ဆေးမှုခံယူခြင်း၊
- ၁၅။ စွန့်ပစ်ပစ္စည်းများကို စနစ်တကျသန့်စင်ပြီးမှ စွန့်ပစ်ခြင်း သို့မဟုတ် စနစ်တကျ စုပုံထားခြင်း၊
- ၁၆။ လုပ်ငန်းကြောင့် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိစေရန် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးနှင့် သက်ဆိုင်သည့် ဥပဒေများ၊ နည်းဥပဒေများနှင့်အညီ လိုက်နာဆောင်ရွက်ခြင်း၊
- ၁၇။ ထည့်သွင်းထုပ်ပိုးထားသည့် ပစ္စည်းများပေါ်တွင် အန္တရာယ်သတိပေး အမှတ်အသားတံဆိပ်ကပ်ခြင်း၊
- ၁၈။ လုပ်ငန်းလုပ်ကိုင်သည့် ဓာတုပစ္စည်းနှင့် ဆက်စပ်ပစ္စည်းများ၏ အာနိသင်၊ အရည်အသွေးနှင့် စံချိန်စံညွှန်းတို့ကို မမှန်မကန်ကြော်ငြာ၍ မရောင်းချခြင်း။

T.F. No.1 NOTE - To be prepared by the payer in duplicate. မှတ်ရန်အချက်။ ။ ငွေပေးသွင်းသူက မိတ္တူနှစ်စောင်ရေးသွင်းရမည်။		Art. 5, C.A.C.	
ချလန်နပ်ပါတ် မဲခေါင် ၃.၀.၀၇		Chalan No.	
ဘဏ်ခွဲမန်နေဂျာ၊ မြန်မာ့အလင်းဘဏ်လီမိတက် ငွေပေးပို့သူ (စာဖြင့်) <u>သုံးသိန်းကျပ်တစ်ရာ</u> ငွေ (ဂဏန်းဖြင့်) <u>300,000/1</u>		Credit. To <u>မြန်မာ့အလင်းဘဏ်</u> Branch Manager	
ကိုလက်ခံပါမည့်အကြောင်း၊ လက်မှတ်ပေးပါမည့်အကြောင်း၊ အာဏာအရပေးပါကြောင်း၊ <u>မောင်မြင့်</u>		PLEASE receive the sum of Kyat (in words) K (in figures) being the amount payable by on account of <u>၃၀၀,၀၀၀</u> Authority under which payment is made is STATION Dated, <u>20</u> Signatures of the payer.	
Examined and entered. Received the sum of kyat (in words) <u>300000</u> K (in figures) _____ on the above account STATION _____ Dated _____ Cashier.		Head Accountant ၃၀၀၀	
* Full details should be given. If on account of previous payment, state in the date of payment, number of the voucher, etc. should also be stated. * အကြောင်းအရာများကို ပြည့်စုံစွာရေးထည့်ရမည်။ အလျဉ်းက ထုတ်ပေးထားသည့် ချလန်နပ်ပါတ်၊ ထိုသို့ ထုတ်ပေးသည့် အောက်ချာနပ်ပါတ်၊ လနှင့် နေ့ရက် စသည်တို့ကို ရေးထည့်ရမည်။			

MD-0125641
 08/05/2019 Nay Pyi Taw
 Rec No. : 66
 A/c No. : MD0125641
 Ch. No. : (15)
 Open Amt K: 73526792.74
 LSFJ-CRCH K: 300000.00
 0108 Bot K: 13926792.44

Appendix 10 Safety Data Sheets

Material Safety Data Sheet for Acetone	
Page 1 of 7	
I. Identification	
Chemicals name: ACETONE	
Other Information: -	
Relevant identified uses of the substance or mixture and uses advised against: Specification tests for Chemical products (such as Methyl isobutyl ketone, Methyl isobutyl carbinol (MIBC), Methyl methacrylate); solvents such as paint, lacquer, enamels, cellulose acetate textile solvent; cleaning and sterilizing of precision equipment; Potassium iodide and Potassium Permanganate solvents; Methyl methacrylate fiber deglazer; sulfurized rubber products.	
Information on Producer/Supplier Name, Addresses, Phone: Shih Sheng Industry Co., Ltd. / 4F, 22, Lane 423, Yuan Shan RD, Zhonghe Dist., New Taipei City, Taiwan	
Emergency Phone / Fax: +886-2-29570002 / +886-2-29570117	
II. Hazard Identification:	
Hazard Category: Class 2 flammable liquids, Class 3 skin corrosion/irritation substance, Class 2 severe injury/eye irritation materials, Class 2 hazardous inhalation substance.	
Labeled Contents:	
	
Symbols: Flame, Exclamation mark, Health hazard	
Warning: Danger	
Hazard Warning Information:	
Highly flammable liquid and vapor	
Produces light skin irritation	
Produces eye irritation	
May cause injuries if ingested and entered into the respiratory tract.	
Hazard Prevention Measures:	
Place container in a well-ventilated area.	
Keep away from inflammables. - Smoking prohibited.	
For contact with eyes, wash with large amount of water and then seek medical help.	
Other Hazards: -	
III. COMPOSITION OF MIXTURE	
Single	
English Name: ACETONE	
Synonyms: Dimethyl Formaldehyde, Dimethyl Ketol, Dimethyl Ketone, Ketone Propane, Beta-Ketopropane, Methyl Ketone, 3-Propanone, Pyroacetic Acid, Pyroacetic Ether	
Chemical Abstracts Number (CAS No.): 00067-64-1	
Percentage for Chemical Ingredient (%): 100	

Material Safety Data Sheet for Acetone	
Page 2 of 7	
IV. First Aid Measures:	
Emergency and First Aid Procedures:	
Inhalation:	
1. Remove the pollution source or the patient to a place with fresh air.	
2. If discomfort persists, seek medical care immediately.	
Skin Contact: -	
1. Use warm water to alleviate and wash the contaminated areas for 5 minutes or until the contaminants are removed.	
Eye Contact:	
1. Immediately flush eyes, use running warm water to wash contaminated eye(s) for 20 minutes or until the contaminants are removed.	
2. Prevent clean water from contacting the unaffected eye. 3. Get medical attention immediately.	
Ingestion:	
1. If the patient is losing consciousness, unconscious or in spasm, do not feed anything orally.	
2. If the patient is conscious, let the patient rinse his/her mouth completely with water.	
3. Do not induce vomiting. 4. Let the patient drink 240-300ml of water. 5. Seek medical care immediately.	
Major Disease and Harm Effect: Concentration higher than 2000 ppm may induce sleepiness, nausea, vomit, intoxication and dizziness.	
First-Aid Personal Protection: Must wear Class C protective gear and perform emergency rescue in safe area.	
Prompt to Doctor: If ingested accidentally, gastric lavage and active carbon should be administered.	
V. Fire Fighting Measure:	
Suitable Firefighting Media: chemical powder, alcoholic foam and carbon dioxide	
Special Exposure Hazards:	
1. Liquid is extremely flammable and may be ignited at room temperature.	
2. Vapor is heavier than air and may travel far from flames and flashback from ignition sources.	
3. Will accumulate in closed areas.	
4. Containers in burning areas may rupture and explode.	
5. Even diluted solution may ignite.	
Special Fighting Procedure:	
1. Retreat and extinguish the fire from a safe distance or a protected area. 2. Stay upwind to keep away from hazardous vapor and toxic decomposition. 3. Any leakage should be stopped before extinguishing the fire. If the leakage cannot be stopped and there is no immediate danger in the surrounding area, allow it to burn away. If the leakage is not stopped before extinguishing the fire, the vapor and the air will form an explosive mixture and ignite afterwards. 4. Separate materials that are not on fire and protect the personnel. 5. Move the container away from the fire field under safe conditions. 6. Use water mist to cool the tanks or containers in exposed the fire field. 7. The use of water mist to extinguish fire may be ineffective unless executed by fire fighters trained for extinguishing flammable liquids. 8. If the leakage is not ignited, spray water mist to disperse vapor and protect the personnel who try to stop the leakage. 9. A water spout is ineffective for extinguishing the fire. 10. For a big fire in a large area, use the unmanned water mist stand or the automatic water fire monitor. 11. Retreat from the fire field and allow the fire to burn out. 12. Stay away from the tanks. 13. When the safety valve alarm of the tank sounds or	

Material Safety Data Sheet for Acetone	
Page 3 of 7	
the color changes due to fire, retreat immediately. 14. Personnel without special protective equipment should not enter the fire field.	
Special Protection Equipment: Fire fighters must wear air respirators, fire fighting coats, and protective gloves.	
VI. Accidental Release Measures:	
Personal Protection:	
1. Restrict the access to the area till the polluted area is cleaned up completed. 2. Make sure the cleaning work is performed by trained personnel. 3. The personnel should wear appropriate personal protective equipment.	
Environmental Protection:	
1. The air in the area should be ventilated and exchanged. 2. All flammable sources should be eliminated. 3. Report the accident to the safety, health, and environmental protection authorities of the government.	
Methods for Cleaning Up:	
1. Do not come in contact with the released chemical. 2. Avoid the released chemical from entering the sewers, drains, or sealed spaces. 3. Stop or reduce the leakage under safe conditions if possible. 4. Use sand, earth, or other absorbents that do not react with the released chemical to block the leakage. 5. Small Quantity: Use an absorbent that does not react with the released chemical to absorb. The polluted absorbent becomes as harmful as the released chemical and should be placed in the appropriate container that is capped and labeled. Use water to clean up the leakage area. The small release may be diluted with a large quantity of water. 6. Large Quantity: Contact the fire fighting department, emergency response department, and the supplier for assistance.	
VII. Handling and Storage:	
Handling:	
1. This substance is a highly flammable and toxic liquid. Therefore, personal protective equipment should be utilized during disposal while the engineer control is operational. The staff should receive relevant trainings on the risk and safe handling of this substance. 2. All flammable sources should be removed and kept away from heat and incompatible substances. 3. The "Smoking Prohibited" sign should be present in the work area. 4. All tanks, transfer containers and pipes must be grounded and in contact with bare metal. 5. When the operation is not conducted in the sealed system, the connections between the operation container and the receiving transmission equipment should be at the equivalent electric potential. 6. The empty tanks, containers, and lines may contain harmful residues. Therefore, there should be no welding, cutting, drilling, or heating before they are cleaned. 7. The tanks or containers may be filled with inert gas to reduce the risk of fire and explosion. 8. The ventilation system or equipment that does not produce sparks used in the work area should be explosion-proof. 9. The aisles and exits should be free from obstruction. 10. The installation of the system for detecting leakage and fire, the appropriate fire-fighting system, or emergency operation equipment in the storage area and large quantity operation area should be taken into consideration. 11. The formation of mist or vapor during the operation should be avoided. The operation should be conducted in a well-ventilated area in the smallest quantity possible. The operation area should be separated from the storage area. 12. Wear appropriate personal protective equipment when necessary to avoid contact with this chemical substance or the polluted equipment. 13. Do not use with incompatible chemicals (such as strong oxidants) in order to decrease the risks of fire and explosion. 14. Use containers made from compatible materials. Do not spill during dispensing. 15. Do not use air or inert gas to	

Material Safety Data Sheet for Acetone			
Page 4 of 7			
pressurize the liquid for the transport out of the container. 16. Unless the area is isolated with a fire-resistant structure, do not conduct the handling operation in the storage area. 17. Use a certified flammable liquid storage container and handling equipment. 18. Do not pour polluted liquid back to the original container. 19. The containers should be labeled clearly. Keep the container fastened to avoid damage when not in use.			
Storage:			
1. The chemical should be stored in cool, dry, and well-ventilated area away from direct sunlight. Keep away from heat sources, flammable sources, and incompatibles. 2. Consider the installation of spill and alarm devices in the storage areas. 3. Storage facilities must be constructed using fireproof materials. 4. Use no-spark ventilation system, approved anti-explosion equipment and safe electrical systems for the storage area. 5. The floor should be constructed with non-permeable materials to prevent absorption by the floor. 6. Set up slopes, drains or furrows at doorways so that leaking substances are discharged to a safe place. 7. Label storage areas clearly with no obstacles and only assigned or trained personnel are allowed to enter. 8. Separate the storage area from the work areas; stocks should stay away from lifts, construction objects, room exits or main passages. 9. There should be adequate fire extinguishers and leakage cleaning equipment nearby the storage area. 10. Inspect the storage containers regularly for damages or leakages. 11. Inspect all new containers to see if they are properly labeled and without damage. 12. Limit the storage quantity. 13. Use storage containers made of compatible materials to store the spilled or leaked substances. 14. Ground and potentially bond storage tanks with other equipment. 15. Use anti-explosive refrigerators for small amount of storage. Empty tanks may still contain hazardous residues so they should be sealed and stored separately. 16. Tanks used for storing flammable liquids must be installed with relief valve and vacuum relief valve. 17. Store under the temperature recommended by the chemical manufacturer or supplier. If necessary, install a temperature detector alarm for warning if the temperature is too high or too low. 18. The storage of large quantities should be avoided. The chemical should be stored in the isolated fireproof building. 19. The exhaust pipes of tanks should be installed with flame arresters. 20. The storage tanks should be built on the ground level with the entire bottom sealed to prevent leakage. The liquid control dam able to hold the entire volume should be present in the surrounding area.			
VIII. Exposure Control/ Personal Protection:			
Engineering Control:			
1. A separate and grounded ventilation system that will not produce sparks shall be applied.			
2. Exhaust opening is connected directly outside the window.			
3. Provide sufficient fresh air to replenish the air exhausted by the exhaust system.			
Control Factor			
TWA	STEL	CEILING	BEI
750 ppm	937.5 ppm	—	100mg/L (Acetone in urine)
Personal Protection Equipment:			
Respiratory Protection:			
Below 250ppm: Chemical filter cartridge type with organic vapor filter cartridge, powered air purifying type, supplied air type, and self-contained breathing apparatus.			
Unknown concentration: Positive-pressure self-contained respiratory apparatus, positive-pressure full air-supply respiratory apparatus with positive-pressure self-contained respiratory apparatus.			
Escape: Gas mask with organic vapor filter cartridge, life escape self-contained breathing apparatus.			

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Material Safety Data Sheet for Acetone

Page 5 of 7

Hand Protection:	Impervious gloves made from butyl rubber, Teflon, 411, Butacide, Chemel, Responder, Trellchem and Tychem 1000 preferred.
Eye Protection:	Anti-chemical splashing safety goggles and mask (lowest limit is 8 inches)
Skin & Body Protection:	The above-mentioned one-piece protective rubber clothing, work boots, eye wash and quick shower facilities.
Hygiene Procedures:	1. Polluted clothes should be removed as soon as the work is completed. The clothes should be worn or discarded only after being washed. The washing staff should be informed of the harmful effects of the pollution. 2. Eating, drinking, and smoking are strictly prohibited in the work area. 3. Wash hands thoroughly after handling the substance. 4. Keep the work area clean.

IX. Physical and Chemical Properties / Characteristics:

Appearance: Colorless and transparent liquid	Odor: Special sweet flavor, mint flavor
Odor threshold: 3.6-65 ppm (detected), 33-69 ppm (sensed)	Melting point: -94.6°C
pH value:	Boiling Point / Boiling Range: 56.2°C
Flammability (solid, gas): -	Flash Point: -18°C
Decomposition Temperature: -	Test Method: Close Cup
Spontaneous Temperature: 465°C	Exposure Limits: 2.5-12.8%
Vapor Pressure: 180 mmHg	Vapor Density: 2
Specific Gravity: 0.791	Solubility in Water: Completely soluble
Log Kow: -0.24	Percent volatile: 5.6 (n-Butyl Acetate = 1)

X. Stability and Reactivity:

Stability: Stable under normal conditions
Special Conditions of Hazardous Reaction:
1. Acute reaction to oxidizer (such as oxide, nitrate, perchlorate), strong reducing agent, chlorinated solution and alkaline mixture (such as chloroform and sodium hydroxide), increases the risk of fire and explosion. 2. Strong reaction to potassium t-butoxide, hexachlorocyclotriphosphazene, sulfur dichloride.
Conditions to Avoid: Sparks, fire, heat, ignition sources, long exposure to heat.
Incompatibility: 1. Oxidizer, chlorinated solution and alkaline mixture, potassium t-butoxide, hexachlorocyclotriphosphazene, sulfur dichloride and strong reducing agent.
Hazardous Decomposition Products: Heat decomposition produces carbon monoxide and carbon dioxide.

XI. Toxicological Information

Exposure route: Inhalation, skin contact, eye contact, ingestion
Symptoms: Headache, weakness, tiredness, nausea, feelings of intoxication, vomiting, atrophy, unconsciousness, defatting of the skin, dermatitis, disorientation
Acute Toxicity:
Skin: 1. Direct contact may cause mild irritation.
Inhalation: 1. No acute effect at low concentration. Slight irritation to nose and pharynx at high concentration (about 1000ppm). 2. Concentration higher than 2000ppm may induce sleep, nausea, vomiting.

Material Safety Data Sheet for Acetone

Page 6 of 7

Ingestion:	feeling of intoxication and dizziness. 3. Concentration higher than 1000ppm may induce unconsciousness and death.
Eye:	1. Irritates pharynx, esophagus and stomach. 2. Symptoms for large amount of ingestion are the same as for inhalation (such as headache, weakness, tiredness, etc.) 3. Aspiration into lungs may produce fatal lung damage. 1. High concentration vapor (1000ppm) can cause slight but short irritation. 2. The liquids are severely irritating to the eyes. LD50 (test animal, absorption route): 5800mg/kg (rat, ingestion) 1/50 (test animal, absorption route): 5000 ppm/GI (rat, inhalation) 50mg/24H (rabbit, skin) causes slight irritation 20mg/24H (rabbit, eyes) causes medium level irritation.

Chronic:

1. Prolonged or repeated skin contact may cause defatting of the skin or dermatitis (dryness, irritation, redness and cracking).
2. Daily exposure of 3 hours at 1000ppm concentration for 7 to 15 years will result in nose and pharynx irritation, disorientation and weakness. 3. Exposure to acetone will increase the liver toxicity of chlorinated solutions such as 1,1-dichloroethylene, 1,1,2-trichloroethylene, carbonyl chloride, chloroform, trichloroethylene, bromodichloroethylene, dibromochloropentadecene, etc.
- 3150ug/m3/24H (mammals, inhalation) affects fertility.

XII. Ecological Information:

Acute toxicity: 1/50 (Fish); 1300-4000mg/156H
EC50 (aquatic invertebrates): 10mg/48H (cyclops)
Bio-concentration Factor (BCF): 0.69
Durability and Degradability:
1. Although acetone biodegrades rapidly with or without the presence of oxygen, but under high concentration, acetone is toxic to microorganisms.
2. When released into the air, it will react with the free oxygen radicals (half-life is about 22 days).
3. When released into water, this material is expected to readily biodegrade.
Half-life (air): 279-2790hr
Half-life (water surface): 24-168 hr
Half-life (underground water): 48-336hr
Half-life (soil): 24-168 hr
Biological Accumulation:
1. Will not accumulate; a large portion of the acetone will be discharged through respiration. A small amount of acetone will oxidize to form carbon dioxide and discharged through respiration and urine.
Fixity in the Soil: 1. When released into the soil, it is expected to readily biodegrade and quickly evaporate.
Other adverse effects: -

XIII. Disposal Information:

Material Safety Data Sheet for Acetone

Page 7 of 7

Disposal Information:
1. Dispose according to related regulations.
2. Small amounts can be burned in an approved incinerator while large amounts can be sent to an approved waste facility for disposal.
3. Waste substances must be kept in a safe container before they are disposed.
4. Substances with absorbed acetone can be buried in approved landfills.

XVI. Transport Information:

The United Nations Number (UN-No): 1090
UN Transport Name: Acetone
Transport Hazard Classification: Class 3 Flammable Liquids
Packaging Category: II
Marine Pollutant (Yes/No): No
Special Transport Way and Note: -

XV. Regulation Information:

Apply Regulation:
1. Enforcement Rules of the Occupational Safety and Health Act
2. Regulation of Labeling and Hazard Communication of Dangerous and Harmful Materials
3. Ordinance on Prevention of Organic Solvent Poisoning
4. Standards of Permissible Exposure Limits of Airborne Hazardous Substances in Workplace
5. Traffic Safety Regulations
6. Standards for the Storage, Clearance, and Disposal of Industrial Waste
7. Public Hazardous Materials and Flammable Pressurized Gases Establishment Standards and Safety Control Regulations

XVI. Other Information:

Reference:	1. CHEMINFO Database, CCINCO CD, 2005-2 2. RTECS Database, TOMES PLUS CD, Vol.63 - 2005 3. HSDB Database, TOMES PLUS CD, Vol.63 - 2005 4. ChemWatch Database, 2004-4
Responsible Department:	Name: Shi Sheng Industry Co., Ltd. Address: Tel. 4F, 22, Lane 423, Yuan Shan RD, Zhonghe Dist., New Taipei City, Taiwan +886-2-29570002
Date:	2016.06.30
Note:	This MSDS version is intended for reference only.

OP-0001-ENG

1/7

Issuing Date: Jan. 01, 2013
(1st edition)

SAFETY DATA SHEET

1. Chemical Product and Company Identification

- a. Product name: ADHESIVE (HARDLOC) OP-1005, OP-1020K, OP-1030K, OP-1045K, OP-1055H, OP-1060Z, OP-1060Z, OP-1060Z, OP-1060M, OP-1060M, OP-1060MS, OP-1060MS, OP-1060MS, OP-1060MT, OP-1060LS, OP-1060L, OP-1128LH
- b. Information on manufacturer
 - Company name: Denki Kagaku Kogyo Kabushiki Kaisha
 - Address: 1-1, Nihonbashi-Muromachi 2-chome, Chuo-Ku, Tokyo 103-8338, Japan
 - Relevant division: Tapes & Adhesives Dept., Electronic Materials Div.
 - Phone number: +81-3-5290-5290
 - Fax number: +81-3-5290-5289
 - Emergency phone number: Denki Kagaku Kogyo Kabushiki Kaisha, Shibukawa plant
Hardloc Product Section, Electronic Materials Dept.
+81-279-25-2110
- c. Recommended use: Industrial adhesives (UV curing adhesive)
- d. Restrictions on use: Please don't use for anything but adhesive use.
- e. Reference no.: OP-0001-ENG

2. Hazards Identification

- a. GHS Classification
 - Physical and chemical hazards
 - Flammable liquids
 - Health hazards
 - Acute toxicity (oral)
 - Acute toxicity (dermal)
 - Acute toxicity (inhalation/gas)
 - Acute toxicity (inhalation/vapour)
 - Acute toxicity (inhalation/dust and mist)
 - Skin corrosion/irritation
 - Serious eye damage/irritation
 - Respiratory sensitization
 - Skin sensitization
 - Carcinogenicity
 - Reproductive toxicity
 - Specific target organ toxicity (single exposure)
 - Specific target organ toxicity (repeated exposure)
 - Aspiration toxicity
 - Environmental hazards

Mar Tokeura

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

OP-0001-ENG 2/7

Hazards to aquatic environment - acute hazard Classification not possible
Hazards to aquatic environment - chronic hazard Classification not possible
The classification not mentioned above is 'Classification not possible'.

b. Label elements

- Pictograms : Not applicable
- Signal words : Not applicable
- Hazard statements : Not applicable
- Precautionary statements

[Prevention]

- P264: Wash hands thoroughly after handling.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.

[Response]

- P302+P352: If on skin: Wash with plenty of soap and water.
- P305+P351+P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P332+P313: If skin irritation occurs: Get medical advice/attention.
- P337+P313: If eye irritation persists: Get medical advice/attention.

[Storage]

- P403+P235: Store in a well-ventilated place. Keep cool.

[Disposal]

- P501: Dispose of contents and containers properly in compliance with national and local regulation.

c. Other hazards which do not result in GHS classification :

- The liquid ignites easily.
- Vapor that stays near the ground may cause explosion.
- Hazardous gas (Sulfur oxide, Nitrogen oxide, Carbon monoxide, etc.) will be generated in a fire.

d. Important sign :

- If on skin, it causes burns.

e. National/local information :

- Fire Service Law : Dangerous substance Class 4, Inflammable liquids, class 3 petroleum chemicals (Water insoluble liquid)

3. Composition/Information on Ingredients

Single chemical substance/mixture : Mixture

Chemical name or common name	Serial no. of government gazette	CAS No.	Content range (%)
Mercapto compound	Proprietary	Proprietary	50 - 90
Polyene compound	Proprietary	Proprietary	10 - 50
Polymer compound, reforming agent and additive *	Proprietary	Proprietary	< 10

* It is not applicable to the designated chemical substance under the Law for PRTR and Promotion of Chemical

Mai Tokunaga

OP-0001-ENG 3/7

Management, the hazardous substance requiring notification under the Industrial Safety and Health Law and the poisonous and deleterious substance under the Poisonous and Deleterious Substance Control Law, or is not contained over threshold limit.

4. First-aid Measures

a. If inhaled :

- If victim feels unwell or has headache, etc. by breathing vapor, immediately remove to fresh air.
- Keep victim warm by covering with a blanket and rest.
- Immediately get medical attention.

b. If on skin :

- Immediately remove contaminated clothing, shoes, etc.
- Immediately flush affected area with water and soap thoroughly.
- If it is delayed or not enough to flush skin, it may cause damage to skin.
- If any change on affected area develops or pain persists, immediately get medical attention.

c. If in eyes :

- Immediately rinse eyes with clean water for at least 15 minutes and get medical attention from an ophthalmologist.
- Hold eyelids open and away from eyeballs with fingers to ensure that all surfaces are flushed thoroughly.
- If it is delayed or not enough to flush eyes, it may cause damage to eyes.

d. If swallowed :

- Rinse mouth with water.
- Induce vomiting by giving plenty of water, if possible, to dilute the contents of stomach and immediately get medical attention.
- Never give anything by mouth to an unconscious person

5. Fire Fighting Measures

a. Extinguishing media :

- Foam, dry powder, halogenated extinguishing media, dry sand

b. Unsuitable extinguishing media :

- Water may be spreading fire to surroundings.

c. Special fire fighting method :

- Eliminate combustible materials around the area.
- Remove sources of ignition from fire area and fight fire using suitable extinguishing media.
- Extinguish fire from upwind.

d. Protection for fire-fighters :

- Wear respiratory protection and safety glasses to prevent inhalation of toxic gases during fire fighting.

6. Accidental Release Measures

a. Personal precautions :

- For an indoor place, provide sufficient ventilation until clean-up has been completed.
- Wear suitable protective equipment such as safety glasses or protective gloves, etc. during clean-up.

Mai Tokunaga

OP-0001-ENG 4/7

• Work from upwind.

b. Precautions for the environment :

- Be tender of causing effects to the environment by discharging into rivers, etc.
- Dispose of recovered materials via a licensed industrial waste disposal contractor.

c. Method for containment and clean-up :

- Recover with non-sparking tools by impact, static discharges.
- Absorb with sawdust, wastes, sand, etc. and collect into an empty container.

d. Preventive measure of secondary disaster :

- Immediately eliminate all sources of ignition nearby and prepare extinguishing media.

7. Handling and Storage

a. Handling :

- Technical measure :
 - Wear protective equipment mentioned in 'Section 8. Exposure Controls and Personal Protective Equipment' to prevent contact with eyes, skin and clothing.
 - Prevent spills, leakage, scattering and the generation of vapor.
 - Keep away from heat/sparks/open flames/hot surfaces.
- Local exhaust : general ventilation : Implement general ventilation and use local exhaust ventilation, if necessary.
- Precaution :
 - Handle in well-ventilated area and do not breathe vapor.
 - Do not contact with eyes, skin and clothing (See 'Section 8. Exposure Controls and Personal Protective Equipment').
 - Provide face and eye wash facilities in a resting place, etc. and wash hands, face thoroughly after handling.

b. Storage :

- Proper storage condition :
 - Keep container tightly closed and store in a cool and dark area (Below 5 °C is recommended), away from direct sunlight, water leak, humidity and heat to avoid deterioration in product quality.
 - Keep away from sources of fire, heat and ignition to prevent fire.
- Safe container and packaging material : Polyethylene and polypropylene container
- Unsuitable container and packaging material :
 - If the container which can't be closed is used for storage, the product can be volatilized.
 - If stored in a metal container, gel type of insoluble materials can form.

8. Exposure Controls and Personal Protective Equipment

a. Engineering controls :

- Provide local exhaust ventilation to avoid exposure.

b. Controlled exposure level : Not established.

c. Permissible exposure level :

- ACGIH Permissible exposure level/recommended permissible exposure level : Not established.
- The Japanese Occupational Hygiene Society : Not established.

d. Personal protective equipment :

Mai Tokunaga

OP-0001-ENG 5/7

• Respiratory protection : Gas mask for organic gas or airline mask, etc.

• Hand protection :

- Protective gloves made of polyethylene.
- Since adhesive components are hard to permeate into gloves, skin can be protected. But since the joint of some gloves can be easily torn and the adhesive may be permeated through it, please use gloves after confirming if the joint is torn.

• Eye protection : Safety glasses with side shields or safety goggles

• Skin and body protection : Working clothes with long-sleeves

e. General hygiene consideration :

- Prohibit eating or smoking during work.
- Wash hands with soap at the end of work.

9. Physical and Chemical Properties

a. Appearance : Viscous liquid

b. Color : Transparent

c. Odor : Odor of mercaptan

d. pH : No data

e. Boiling point : No data

f. Melting point : No data

g. Flash point : > 93 °C

h. Ignition temperature : No data

i. Explosive properties (Explosive limits) : No data

j. Vapor pressure : No data

k. Specific gravity : No data

l. Solubility : Insoluble water

m. Partition coefficient (n-octanol/water) : No data

n. Decomposition temperature : No data

10. Stability and Reactivity

a. Stability :

- Stable under proper storage condition (See Section 7).

b. Possibility of hazardous reactions :

- Rapid exothermic chemical reaction (Polymerization, decomposition) occurs by high temperature, irradiation of light, contact with incompatible materials, resulting in generation of hazardous gases or the risk of fire.

c. Conditions to avoid :

- Heating, sources of fire, direct sunlight, mix • contact with reducing agents such as metals, amines, etc.

d. Incompatible materials :

- Reducing agents such as metals, amines, etc., strong acids, strong alkalis, strong oxidants.

e. Hazardous decomposition products :

- No data

Mai Tokunaga

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

OP-0001-ENG 6/7

11. Toxicological Information
No data available

12. Effects on the Environment
If spilled, it may affect the environment.

13. Precautions for Disposal

- a. Residual wastes :
 - Dispose of properly via a licensed industrial waste disposal contractor.
- b. Contaminated container and packages :
 - Remove contents completely and then, dispose of properly via a licensed industrial waste disposal contractor.
- c. Other data :
 - See Section 7 and 8 for handling.

14. Transport Information

- a. International regulation :
 - UN class : Not applicable
 - UN number : Not applicable
 - Proper shipping name : Not applicable
 - Packing group : Not applicable
- b. Japan domestic regulation : See Section 15.
- c. Specific safety measure and condition of transport :
 - Confirm no leakage of containers before transport.
 - Load containers in a way of no falling, overturning or damage and secure prevention of cargo collapse.

15. Regulatory Information

- a. Law for PRTR and Promotion of Chemical Management (PRTR Law) : Not applicable
- b. Fire Service Law :
 - Dangerous substance Class 4, inflammable liquids, class 3 petroleum chemicals (Water insoluble liquid)
- c. Industrial Safety and Health Law :
 - Hazardous substance requiring notification : Not applicable
- d. Poisonous and Deleterious Substance Control Law : Not applicable
- e. Ship Safety Law : Not applicable

16. Other Information

1) This information is correct to the best of our knowledge, but is not absolutely accurate and not perfectly.

Mai Tokunaga

OP-0001-ENG 7/7

Includes all data.

2) The information contained in this Material Safety Data Sheet is described based on typical test value or examination and no warranty is made with respect to contents, physico-chemical properties, risk - hazard, etc.

3) This information is on the components and product and if mixed with or treated by other materials, it is not relevant.

4) Do not use it for medical purpose.

5) Since all components have unknown risks, handle with sufficient care. Specific risks are described in this MSDS, but we can't say that other risks don't exist.

6) When using it, carry out prior tests to confirm suitability for use or safety, etc. and then, set up the condition for safe use.

7) Please understand that this MSDS may be revised based on new knowledge without prior notice.

References :

- Recommendation for exposure limit by the Japanese Occupational Hygiene Society (2009)
- Recommended permissible exposure level by ACGIH (American Conference of Governmental Industrial Hygienists) (2009)
- Carcinogenic evaluation by IARC (International Agency for Research on Cancer)
- Hazard classification by European Chemical Substances Information System (ESIS)
- OECD : SIDS Initial Assessment Profile (SIAP)
- List of the chemical substances subject to GHS classification criteria by National Institute of Technology and Evaluation
- Evaluation of chemical classification by JETOC (Japan Chemical Industry Ecology-Toxicology & Information Center)

Mai Tokunaga

OP-0001-ENG 1/7

Issuing Date Jan. 01, 2013
(1st edition)

SAFETY DATA SHEET

1. Chemical Product and Company Identification

- a. Product name : ADHESIVE (HARDLOC) OP-1055, OP-1020K, OP-1030K, OP-1045K, OP-1055H, OP-1028Z, OP-1030Z, OP-1050Z, OP-1028M, OP-1030M, OP-1050M, OP-1020MS, OP-1030MS, OP-1050MS, OP-1060MT, OP-1060LS, OP-1080L, OP-1128LN
- b. Information on manufacturer
 - Company name : Denki Kagaku Kogyo Kabushiki Kaisha
 - Address : 1-1, Nihonbashi-Muromachi 2-chome, Chuo-Ku, Tokyo 103-8338, Japan
 - Relevant division : Tapes & Adhesives Dept., Electronic Materials Div.
 - Phone number : +81-3-5290-5290
 - Fax number : +81-3-5290-5289
 - Emergency phone number :
 - Denki Kagaku Kogyo Kabushiki Kaisha, Shibukawa plant
 - Hardloc Product Section, Electronic Materials Dept.
 - +81-278-25-2110
- c. Recommended use : Industrial adhesives (UV curing adhesive)
- d. Restrictions on use : Please don't use for anything but adhesive use.
- e. Reference no. : OP-0001-ENG

2. Hazards Identification

- a. GHS Classification
 - Physical and chemical hazards
 - Flammable liquids : Not classified
 - Health hazards
 - Acute toxicity (oral) : Classification not possible
 - Acute toxicity (dermal) : Classification not possible
 - Acute toxicity (inhalation/gas) : Classification not possible
 - Acute toxicity (inhalation/vapour) : Classification not possible
 - Acute toxicity (inhalation/dust and mist) : Classification not possible
 - Skin corrosion/irritation : Classification not possible
 - Serious eye damage/irritation : Classification not possible
 - Respiratory sensitization : Classification not possible
 - Skin sensitization : Classification not possible
 - Carcinogenicity : Classification not possible
 - Reproductive toxicity : Classification not possible
 - Specific target organ toxicity (single exposure) : Classification not possible
 - Specific target organ toxicity (repeated exposure) : Classification not possible
 - Aspiration toxicity : Classification not possible
 - Environmental hazards

Mai Tokunaga

OP-0001-ENG 2/7

- Hazards to aquatic environment - acute hazard : Classification not possible
- Hazards to aquatic environment - chronic hazard : Classification not possible

※ The classification not mentioned above is "Classification not possible".

b. Label elements

- Pictograms : Not applicable
- Signal words : Not applicable
- Hazard statements : Not applicable
- Precautionary statements
 - [Prevention]
 - P264: Wash hands thoroughly after handling.
 - P280: Wear protective gloves/protective clothing/eye protection/face protection.
 - [Response]
 - P302+P352: If on skin: Wash with plenty of soap and water.
 - P305+P351+P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - P332+P313: If skin irritation occurs: Get medical advice/attention.
 - P337+P313: If eye irritation persists: Get medical advice/attention.
 - [Storage]
 - P403+P235: Store in a well-ventilated place. Keep cool.
 - [Disposal]
 - P501: Dispose of contents and containers properly in compliance with national and local regulation.
- c. Other hazards which do not result in GHS classification :
 - The liquid ignites easily.
 - Vapor that stays near the ground may cause explosion.
 - Hazardous gas (Sulfur oxide, Nitrogen oxide, Carbon monoxide, etc.) will be generated in a fire.
- d. Important sign :
 - If on skin, it causes burns.
- e. National/local information :
 - Fire Service Law : Dangerous substance Class 4, inflammable liquids, class 3 petroleum chemicals (Water insoluble liquid)

3. Composition/Information on Ingredients

Single chemical substance/mixture : Mixture

Component and content	Chemical name or common name	Serial no. of government gazette	CAS No.	Content range (%)
Mercapto compound		Proprietary	Proprietary	50 - 90
		Proprietary	Proprietary	10 - 50
Polyene compound		Proprietary	Proprietary	< 10
Polymer compound, reforming agent and additive *		Proprietary	Proprietary	

* It is not applicable to the designated chemical substance under the Law for PRTR and Promotion of Chemical

Mai Tokunaga

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

OP-00001-ENG 3/7

Management, the hazardous substance requiring notification under the Industrial Safety and Health Law and the poisonous and deleterious substance under the Poisonous and Deleterious Substance Control Law, or is not contained over threshold limit.

4. First-aid Measures

a. If inhaled :

- If victim feels unwell or has headache, etc. by breathing vapor, immediately remove to fresh air.
- Keep victim warm by covering with a blanket and rest.
- Immediately get medical attention.

b. If on skin :

- Immediately remove contaminated clothing, shoes, etc.
- Immediately flush affected area with water and soap thoroughly.
- If it is delayed or not enough to flush skin, it may cause damage to skin.
- If any change on affected area develops or pain persists, immediately get medical attention.

c. If in eyes :

- Immediately rinse eyes with clean water for at least 15 minutes and get medical attention from an ophthalmologist.
- Hold eyelids open and away from eyeballs with fingers to ensure that all surfaces are flushed thoroughly.
- If it is delayed or not enough to flush eyes, it may cause damage to eyes.

d. If swallowed :

- Rinse mouth with water.
- Induce vomiting by giving plenty of water, if possible, to dilute the contents of stomach and immediately get medical attention.
- Never give anything by mouth to an unconscious person.

5. Fire Fighting Measures

a. Extinguishing media :

- Foam, dry powder, halogenated extinguishing media, dry sand

b. Unsuitable extinguishing media :

- Water may be spreading fire to surroundings.

c. Special fire fighting method :

- Eliminate combustible materials around the area.
- Remove sources of ignition from fire area and fight fire using suitable extinguishing media.
- Extinguish fire from upwind.

d. Protection for fire-fighters :

- Wear respiratory protection and safety glasses to prevent inhalation of toxic gases during fire fighting.

6. Accidental Release Measures

a. Personal precautions :

- For an indoor place, provide sufficient ventilation until clean-up has been completed.
- Wear suitable protective equipment such as safety glasses or protective gloves, etc. during clean-up.

Mai Tokunaga

OP-00001-ENG 4/7

• Work from upwind.

b. Precautions for the environment :

- Be tender of causing effects to the environment by discharging into rivers, etc.
- Dispose of recovered materials via a licensed industrial waste disposal contractor.

c. Method for containment and clean-up :

- Recover with non-sparking tools by impact, static discharges.
- Absorb with sawdust, wastes, sand, etc. and collect into an empty container.

d. Preventive measure of secondary disaster :

- Immediately eliminate all sources of ignition nearby and prepare extinguishing media.

7. Handling and Storage

a. Handling :

- Technical measure :
 - Wear protective equipment mentioned in 'Section 8. Exposure Controls and Personal Protective Equipment' to prevent contact with eyes, skin and clothing.
 - Prevent spills, leakage, scattering and the generation of vapor.
 - Keep away from heat/sparks/open flames/hot surfaces.
- Local exhaust : general ventilation : Implement general ventilation and use local exhaust ventilation, if necessary.
- Precaution :
 - Handle in well-ventilated area and do not breathe vapor.
 - Do not contact with eyes, skin and clothing (See 'Section 8. Exposure Controls and Personal Protective Equipment').
 - Provide face and eye wash facilities in a resting place, etc. and wash hands, face thoroughly after handling.

b. Storage :

- Proper storage condition :
 - Keep container tightly closed and store in a cool and dark area (Below 5 °C is recommended), away from direct sunlight, water leak, humidity and heat to avoid deterioration in product quality.
 - Keep away from sources of fire, heat and ignition to prevent fire.
- Safe container and packaging material : Polyethylene and polypropylene container
- Unsuitable container and packaging material :
 - If the container which can't be closed is used for storage, the product can be volatilized.
 - If stored in a metal container, gel type of insoluble materials can form.

8. Exposure Controls and Personal Protective Equipment

a. Engineering controls :

- Provide local exhaust ventilation to avoid exposure.

b. Controlled exposure level : Not established.

c. Permissible exposure level :

- ACGIH Permissible exposure level/recommended permissible exposure level : Not established.
- The Japanese Occupational Hygiene Society : Not established.

d. Personal protective equipment :

Mai Tokunaga

OP-00001-ENG 5/7

• Respiratory protection : Gas mask for organic gas or airline mask, etc.

• Hand protection :

- Protective gloves made of polyethylene.
- Since adhesive components are hard to permeate into gloves, skin can be protected. But since the joint of some gloves can be easily torn and the adhesive may be permeated through it, please use gloves after confirming if the joint is torn.

• Eye protection : Safety glasses with side shields or safety goggles

• Skin and body protection : Working clothes with long-sleeves

e. General hygiene consideration :

- Prohibit eating or smoking during work.
- Wash hands with soap at the end of work.

9. Physical and Chemical Properties

a. Appearance : Viscous liquid

b. Color : Transparent

c. Odor : Odor of mercaptan

d. pH : No data

e. Boiling point : No data

f. Melting point : No data

g. Flash point : > 93 °C

h. Ignition temperature : No data

i. Explosive properties (Explosive limits) : No data

j. Vapor pressure : No data

k. Specific gravity : No data

l. Solubility : Insoluble water

m. Partition coefficient (n-octanol/water) : No data

n. Decomposition temperature : No data

10. Stability and Reactivity

a. Stability :

- Stable under proper storage condition (See Section 7).

b. Possibility of hazardous reactions :

- Rapid exothermic chemical reaction (Polymerization, decomposition) occurs by high temperature, irradiation of light, contact with incompatible materials, resulting in generation of hazardous gases or the risk of fire.

c. Conditions to avoid :

- Heating, sources of fire, direct sunlight, mix + contact with reducing agents such as metals, amines, etc.

d. Incompatible materials :

- Reducing agents such as metals, amines, etc., strong acids, strong alkalis, strong oxidants.

e. Hazardous decomposition products :

- No data

Mai Tokunaga

OP-00001-ENG 6/7

11. Toxicological Information

No data available

12. Effects on the Environment

If spilled, it may affect the environment.

13. Precautions for Disposal

a. Residual wastes :

- Dispose of properly via a licensed industrial waste disposal contractor.

b. Contaminated container and packages :

- Remove contents completely and then, dispose of properly via a licensed industrial waste disposal contractor.

c. Other data :

- See Section 7 and 8 for handling.

14. Transport Information

a. International regulation :

- UN class : Not applicable
- UN number : Not applicable
- Proper shipping name : Not applicable
- Packing group : Not applicable

b. Japan domestic regulation : See Section 15.

c. Specific safety measure and condition of transport :

- Confirm no leakage of containers before transport.
- Load containers in a way of no falling, overturning or damage and secure prevention of cargo collapse.

15. Regulatory Information

a. Law for PRTR and Promotion of Chemical Management (PRTR Law) : Not applicable

b. Fire Service Law :

- Dangerous substance Class 4, inflammable liquids, class 3 petroleum chemicals (Water insoluble liquid)

c. Industrial Safety and Health Law :

- Hazardous substance requiring notification : Not applicable

d. Poisonous and Deleterious Substance Control Law : Not applicable

e. Ship Safety Law : Not applicable

16. Other Information

1) This information is correct to the best of our knowledge, but is not absolutely accurate and not perfectly

Mai Tokunaga

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

OP-0001-ENG 7/7

includes all data.

2) The information contained in this Material Safety Data Sheet is described based on typical test value or examination and no warranty is made with respect to contents, physico-chemical properties, risk - hazard, etc.

3) This information is on the components and product and if mixed with or treated by other materials, it is not relevant.

4) Do not use it for medical purpose.

5) Since all components have unknown risks, handle with sufficient care. Specific risks are described in this MSDS, but we can't say that other risks don't exist.

6) When using it, carry out prior tests to confirm suitability for use or safety, etc. and then, set up the condition for safe use.

7) Please understand that this MSDS may be revised based on new knowledge without prior notice.

References :

1. 'Recommendation for exposure limit' by the Japanese Occupational Hygiene Society (2009)
2. Recommended permissible exposure level by ACGIH (American Conference of Governmental Industrial Hygienists) (2009)
3. Carcinogenic evaluation by IARC (International Agency for Research on Cancer)
4. Hazard classification by European Chemical Substances Information System (ESIS)
5. OECD : SIDS Initial Assessment Profile (SIAP)
6. List of the chemical substances subject to GHS classification criteria by National Institute of Technology and Evaluation
7. Evaluation of chemical classification by JETOC (Japan Chemical Industry Ecology-Toxicology & Information Center)

Mai Tokunaga

OP-003 [1/7]

Issuing Date: Oct 01, 2015 (2nd edition)

SAFETY DATA SHEET (SDS)

1. Identification

Product name: Adhesive (Hardloc) OP-1903 R

Manufacturer information

- Company name: Denka Company Limited
- Address: 1-1, Nishinokuchi-Muramachi 2-chome, Chuo-Ku, Tokyo 103-8338, Japan
- Relevant division: Adhesives & Solutions Dept., Electronics & Innovative Products.
- Phone number: +81-3-6290-5321
- Fax number: +81-3-6290-5289
- E-mail address: dk010234@denka.co.jp
- Emergency phone number: Denka Company Limited, Shibukawa plant Hardloc Product Section, Electronic Materials Dept. +81-279-25-2110

Recommended use of the product and restriction on use:

- Recommended use: Industrial adhesive (UV curable adhesive).
- Restrictions on use: Don't use for any purpose other than adhesive use.

Reference no.: OP-003

2. Hazards identification

GHS Classification

- Health hazards
 - Acute oral toxicity Category 4
 - Acute inhalation toxicity(vapour) Category 4
 - Skin corrosion/irritation Category 2
 - Serious eye damage/eye irritation Category 2
 - Skin sensitization Category 1
- Environmental hazards
 - Hazards to aquatic environment - chronic hazard Category 2

✖ The classification 'Classification not possible' is not mentioned above due to lack of reliable data.

Label elements

- Pictograms:
- Signal words: Warning
- Hazard statements:
 - H302 Harmful if swallowed.
 - H332 Harmful if inhaled.

OP-003 [2/7]

- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H317 May cause an allergic skin reaction.
- H411 Toxic to aquatic life with long lasting effects.

• Precautionary statements.

[Prevention]

- P261 Avoid breathing vapors.
- P264 Wash hands thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/eye protection/face protection.

[Response]

- P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P330 Rinse mouth.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P337+P313 If eye irritation persists: Get medical advice/attention.

[Storage]

Not applicable.

[Disposal]

- P501 Dispose of contents and containers properly in compliance with national and local regulation.

Other hazards which do not result in GHS classification:

- The liquid ignites easily.
- Vapor that stays near the ground may cause explosion.
- Hazardous gas (carbon monoxide, nitrogen oxides etc.) will be generated in a fire.

Important sign:

- If on skin, it may cause rashes.

3. Composition/Information on ingredients

Single chemical substance/mixture: Mixture

Component and content

Chemical name or common name	CAS No.	Content range (%)
Organic inorganic compounds	Proprietary	30 - 50
Allyl compound	Proprietary	20 - 40
2,2-Bis[4-(4-hydroxyphenyl)propane] epichlorohydrin polymer	30563-72-3	20 - 40

4. First-aid measures

If inhaled:

OP-003 [3/7]

- If victim feels unwell or has a headache, etc. from inhaling vapor, take to a place with fresh air immediately.
- Keep victim warm by covering with a blanket and rest.
- Seek medical attention immediately.

If contact with skin:

- Remove contaminated clothing, shoes, etc. immediately.
- Wash affected area with water and soap thoroughly immediately.
- Delayed or inadequate washing may cause damage to skin.
- If any change on affected area develops or pain persists, seek medical attention immediately.

If in eyes:

- Immediately rinse eyes with clean water for at least 15 minutes and seek medical attention from an ophthalmologist.
- Hold eyelids open and away from eyeballs with fingers to ensure that all surfaces are rinsed thoroughly.
- Delayed or inadequate rinsing of eyes may cause damage to eyes.

If swallowed:

- Rinse mouth with water.
- If victim feels unwell, immediately seek medical attention.
- Never give anything by mouth to an unconscious person.

5. Fire fighting measures

Suitable extinguishing media:

- Foam, dry powder, halogenated extinguishing media, dry sand.

Unsuitable extinguishing media:

- Water may spread fire to surroundings.

Special fire fighting methods:

- Eliminate combustible materials around the area.
- Remove sources of ignition from fire area and fight fire using extinguishing media.
- Extinguish fire from upwind.

Protection for fire-fighters

- Wear respiratory protection and safety mask to prevent inhalation of toxic gases during fire fighting.
- Extinguish fire from upwind.
- Wear respiratory protection and safety glasses.

6. Accidental release measures

Personal precautions:

- For indoors, provide sufficient ventilation until clean-up has been completed.
- Wear suitable protective equipment such as safety glasses or protective gloves, etc. during clean-up.
- Work from upwind.

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

OP-003	[4/7]
<p>Precautions for the environment:</p> <ul style="list-style-type: none">Be careful as not to effect the environment by discharging into rivers, etc.Dispose of recovered materials properly via a licensed industrial waste disposal contractor. <p>Method for containment and clean-up:</p> <ul style="list-style-type: none">Recover with tools that do not spark on impact or give off static discharges.Absorb with sawdust, waste, sand, etc. and collect into an empty container. <p>Secondary disaster preventive measure:</p> <ul style="list-style-type: none">Eliminate all sources of ignition nearby and prepare extinguishing media immediately.	
<hr/>	
7. Handling and storage	
<p>Handling:</p> <ul style="list-style-type: none">Technical measures:<ul style="list-style-type: none">Wear protective equipment mentioned in 'Section 8. Exposure controls/Personal protection' to prevent contact with eyes, skin and clothing.Prevent spillage, leakage, scattering and the generation of vapor.Keep away from heat/sparks/open flames/hot surfaces.Local exhaust and general ventilation: Implement general ventilation and use local exhaust ventilation, if necessary.Precautions:<ul style="list-style-type: none">Handle in a well-ventilated area and do not inhale vapor.Do not allow contact with eyes, skin or clothing (See 'Section 8. Exposure controls/Personal protection').Provide face and eye washing facilities in a resting area, etc. and wash hands, face thoroughly after handling.Precautions for safe handling:<ul style="list-style-type: none">Do not store with incompatible materials (See Section 10). <p>Storage:</p> <ul style="list-style-type: none">Proper storage conditions:<ul style="list-style-type: none">Keep container tightly closed and store in a cool and dark area (0~10°C), away from direct sunlight, water leaks, humidity and heat to avoid deterioration in product quality.Keep away from sources of fire, heat and ignition to prevent fire.Safe container and packaging materials: Polyethylene(PE) and polypropylene(PP) container.Unsuitable container and packaging material:<ul style="list-style-type: none">If a container which can't be closed is used for storage, the product can be volatilized.If stored in a metal container, a gel form of insoluble materials can result.Plastic containers other than PE, PP, metal containers, and glass containers are inappropriate.	
<hr/>	
8. Exposure controls/Personal protection	
<p>Engineering controls:</p> <ul style="list-style-type: none">Provide local exhaust ventilation to avoid exposure.	

OP-003	[5/7]
<ul style="list-style-type: none">It is desirable to provide body shower, face and eye washing facilities near the workplace where the product is handled. <p>Occupational exposure limit(s):</p> <p>ACGIH Threshold Limit Value: Not established.</p> <p>Personal protective equipment:</p> <ul style="list-style-type: none">Respiratory protection: If used indoors where ventilation is insufficient, wear gas mask for organic gas, etc.Hand protection:<ul style="list-style-type: none">Chemical-resistant gloves.Since adhesive components are hard to permeate into gloves, skin can be protected. But since the joints of some gloves can be easily torn and the adhesive may permeate through, please use gloves after confirming if the joints are torn or not.Eye protection: Safety glasses with side shields or safety goggles.Skin and body protection: Work clothes with long-sleeves. <p>General hygiene considerations:</p> <ul style="list-style-type: none">Prohibit eating or smoking during work.Wash hands with soap and water after work.	
<hr/>	
9. Physical and chemical properties	
<p>Appearance: Transparent, Viscous liquid.</p> <p>Odor: Specific odor.</p> <p>Boiling point: No data.</p> <p>Flash point: 55 °C.</p> <p>Ignition temperature: No data.</p> <p>Explosive properties (Explosive limits): No data.</p> <p>Vapor pressure: No data.</p> <p>Specific gravity: No data.</p> <p>Solubility: Immiscible in water.</p>	
<hr/>	
10. Stability and reactivity	
<p>Stability:</p> <ul style="list-style-type: none">Stable under proper storage conditions (See Section 7). <p>Possibility of hazardous reactions:</p> <ul style="list-style-type: none">Rapid exothermic chemical reactions (polymerization, decomposition) occur in high temperatures, irradiation of light, contact with incompatible materials, resulting in generation of hazardous gases or the risk of fire. <p>Conditions to avoid:</p> <ul style="list-style-type: none">Heating, sources of fire, direct sunlight, mixing or coming in reducing agents such as metals, amine, etc. <p>Incompatible materials:</p> <ul style="list-style-type: none">Reducing agents such as metals, amine, etc., strong acids, strong alkalis, strong oxidant. <p>Hazardous decomposition products:</p> <ul style="list-style-type: none">No data.	

OP-003	[6/7]
<hr/>	
11. Toxicological information	
<p>The following toxicological information for components is available. Based on the content of these components, GHS classification is determined as that in Section 2.</p> <p>Acute oral toxicity: Organic mercapto compound and a part of allyl compound are acute oral toxicity.</p> <p>Acute inhalation toxicity(vapour): Organic mercapto compound is acute inhalation toxicity.</p> <p>Skin corrosion/irritation: 2,2-Bis(4-hydroxycyclohexyl)propane, epichlorohydrin polymer and a part of allyl compound are skin irritant.</p> <p>Serious eye damage/eye irritation: 2,2-Bis(4-hydroxycyclohexyl)propane, epichlorohydrin polymer and a part of allyl compound are eye irritant.</p> <p>Skin sensitization: 2,2-Bis(4-hydroxycyclohexyl)propane, epichlorohydrin polymer is sensitive when in contact with skin.</p> <p>NTP (National Toxicology Program): Not applicable.</p>	
<hr/>	
12. Ecological information	
<p>If spilled, it may negatively affect the environment.</p> <p>Avoid release into the environment such as water systems, soil, etc.</p> <p>Organic mercapto compound is classified as toxic to the aquatic environment.</p> <p>PBT: Not applicable.</p> <p>vPvB: Not applicable.</p>	
<hr/>	
13. Disposal considerations	
<p>Residual wastes:</p> <ul style="list-style-type: none">Dispose of properly via a licensed industrial waste disposal contractor. <p>Contaminated container and packages:</p> <ul style="list-style-type: none">Remove contents completely and then, dispose of properly via a licensed industrial waste disposal contractor. <p>Other data:</p> <ul style="list-style-type: none">See Sections 7 and 8 for handling.	
<hr/>	
14. Transport information	
<p>International regulation:</p> <ul style="list-style-type: none">UN class: Class 9 (Miscellaneous dangerous substances and articles)UN number: 3092Proper shipping name: Environmentally hazardous substance, liquid, N.O.S.Packing group: III <p>Specific safety measure and condition of transport:</p> <ul style="list-style-type: none">Confirm no leakage of containers before transport.Load containers in a way as not fall, overturn or be damages and secure prevention of falling cargo.	

OP-003	[7/7]
<hr/>	
15. Regulatory information	
<p>REACH (SVHC)(Candidate List of substances of very high concern for Authorization)</p> <p>: Not applicable.</p> <p>SNUR: Not applicable.</p> <p>California Proposition 65, Chemicals Known to the State to Cause Cancer or Reproductive Toxicity</p> <p>: Not applicable.</p>	
<hr/>	
16. Other information	
<p>1) This information is correct to the best of our knowledge, but is not absolutely accurate and does not perfectly include all data.</p> <p>2) The information contained in this Safety Data Sheet (SDS) is described based on typical test values or examinations and no warranty is made with respect to contents, physico-chemical properties, risks or hazards, etc.</p> <p>3) This information is on the components and product and if mixed with or treated by other materials, become relevant.</p> <p>4) Do not use for medical purpose.</p> <p>5) Since all components have unknown risks, handle with extreme care. Specific risks are described in this SDS, but we can not say that other risks do not exist.</p> <p>6) When using, carry out prior tests to confirm suitability for use or safety, etc. and then, set up conditions for safe use.</p> <p>7) Please understand that this SDS may be revised based on new knowledge without prior notice.</p>	

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

OP-00001-ENG 1/7

Issuing Date Jan. 01, 2013
(1st edition)

SAFETY DATA SHEET

1. Chemical Product and Company Identification

a. Product name : ADHESIVE (HARDLOC) OP-1005, OP-1020K, OP-1030K, OP-1045K, OP-1055H, OP-1020Z, OP-1030Z, OP-1050Z, OP-1020M, OP-1030M, OP-1050M, OP-1020MS, OP-1030MS, OP-1050MS, OP-1060MT, OP-1060LS, OP-1080L, OP-1120LN

b. Information on manufacturer

- Company name : Denki Kagaku Kogyo Kabushiki Kaisha
- Address : 1-1, Nihonbashi-Muromachi 2-chome, Chuo-Ku, Tokyo 103-8338, Japan
- Relevant division : Tapes & Adhesives Dept., Electronic Materials Div.
- Phone number : +81-3-5290-5290
- Fax number : +81-3-5290-5289
- Emergency phone number : Denki Kagaku Kogyo Kabushiki Kaisha, Shibukawa plant
Hardloc Product Section, Electronic Materials Dept.
+81-279-25-2110

c. Recommended use : Industrial adhesives (UV curing adhesive)

d. Restrictions on use : Please don't use for anything but adhesive use.

e. Reference no. : OP-00001-ENG

2. Hazards Identification

a. GHS Classification

- Physical and chemical hazards
 - Flammable liquids: Not classified
- Health hazards
 - Acute toxicity (oral): Classification not possible
 - Acute toxicity (dermal): Classification not possible
 - Acute toxicity (inhalation/gas): Classification not possible
 - Acute toxicity (inhalation/vapour): Classification not possible
 - Acute toxicity (inhalation/dust and mist): Classification not possible
 - Skin corrosion/irritation: Classification not possible
 - Serious eye damage/irritation: Classification not possible
 - Respiratory sensitization: Classification not possible
 - Skin sensitization: Classification not possible
 - Carcinogenicity: Classification not possible
 - Reproductive toxicity: Classification not possible
 - Specific target organ toxicity (single exposure): Classification not possible
 - Specific target organ toxicity (repeated exposure): Classification not possible
 - Aspiration toxicity: Classification not possible
- Environmental hazards

Mai Tokunaga

OP-00001-ENG 2/7

- Hazards to aquatic environment - acute hazard: Classification not possible
- Hazards to aquatic environment - chronic hazard: Classification not possible

* The classification not mentioned above is 'Classification not possible'.

b. Label elements

- Pictograms: Not applicable
- Signal words: Not applicable
- Hazard statements: Not applicable
- Precautionary statements

[Prevention]

- P264: Wash hands thoroughly after handling.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.

[Response]

- P302+P352: If on skin: Wash with plenty of soap and water.
- P305+P351+P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P332+P313: If skin irritation occurs: Get medical advice/attention.
- P337+P313: If eye irritation persists: Get medical advice/attention.

[Storage]

- P403+P235: Store in a well-ventilated place. Keep cool.

[Disposal]

- P501: Dispose of contents and containers properly in compliance with national and local regulation.

c. Other hazards which do not result in GHS classification:

- The liquid ignites easily.
- Vapor that stays near the ground may cause explosion.
- Hazardous gas (Sulfur oxide, Nitrogen oxide, Carbon monoxide, etc.) will be generated in a fire.

d. Important sign:

- If on skin, it causes burns.

e. National/local information:

- Fire Service Law : Dangerous substance Class 4, inflammable liquids, class 3 petroleum chemicals (Water insoluble liquid)

3. Composition/Information on Ingredients

Single chemical substance/mixture : Mixture

Chemical name or common name	Serial no. of government gazette	CAS No.	Content range (%)
Mercapto compound	Proprietary	Proprietary	50 - 90
Polyene compound	Proprietary	Proprietary	10 - 50
Polymer compound, reforming agent and additive *	Proprietary	Proprietary	< 10

* It is not applicable to the designated chemical substance under the Law for PRTR and Promotion of Chemical

Mai Tokunaga

OP-00001-ENG 3/7

Management, the hazardous substance requiring notification under the Industrial Safety and Health Law and the poisonous and deleterious substance under the Poisonous and Deleterious Substance Control Law, or is not contained over threshold limit.

4. First-aid Measures

a. If inhaled:

- If victim feels unwell or has headache, etc. by breathing vapor, immediately remove to fresh air.
- Keep victim warm by covering with a blanket and rest.
- Immediately get medical attention.

b. If on skin:

- Immediately remove contaminated clothing, shoes, etc.
- Immediately flush affected area with water and soap thoroughly.
- If it is delayed or not enough to flush skin, it may cause damage to skin.
- If any change on affected area develops or pain persists, immediately get medical attention.

c. If in eyes:

- Immediately rinse eyes with clean water for at least 15 minutes and get medical attention from an ophthalmologist.
- Hold eyelids open and away from eyeballs with fingers to ensure that all surfaces are flushed thoroughly.
- If it is delayed or not enough to flush eyes, it may cause damage to eyes.

d. If swallowed:

- Rinse mouth with water.
- Induce vomiting by giving plenty of water, if possible, to dilute the contents of stomach and immediately get medical attention.
- Never give anything by mouth to an unconscious person

5. Fire Fighting Measures

a. Extinguishing media:

- Foam, dry powder, halogenated extinguishing media, dry sand

b. Unsuitable extinguishing media:

- Water may be spreading fire to surroundings.

c. Special fire fighting method:

- Eliminate combustible materials around the area.
- Remove sources of ignition from fire area and fight fire using suitable extinguishing media.
- Extinguish fire from upwind.

d. Protection for fire-fighters:

- Wear respiratory protection and safety glasses to prevent inhalation of toxic gases during fire fighting.

6. Accidental Release Measures

a. Personal precautions:

- For an indoor place, provide sufficient ventilation until clean-up has been completed.
- Wear suitable protective equipment such as safety glasses or protective gloves, etc. during clean-up.

Mai Tokunaga

OP-00001-ENG 4/7

- Work from upwind.

b. Precautions for the environment:

- Be tender of causing effects to the environment by discharging into rivers, etc.
- Dispose of recovered materials via a licensed industrial waste disposal contractor.

c. Method for containment and clean-up:

- Recover with non-sparking tools by impact, static discharges.
- Absorb with sawdust, wastes, sand, etc. and collect into an empty container.

d. Preventive measure of secondary disaster:

- Immediately eliminate all sources of ignition nearby and prepare extinguishing media.

7. Handling and Storage

a. Handling:

- Technical measure:
 - Wear protective equipment mentioned in 'Section 8. Exposure Controls and Personal Protective Equipment' to prevent contact with eyes, skin and clothing.
 - Prevent spills, leakage, scattering and the generation of vapor.
 - Keep away from heat/sparks/open flames/hot surfaces.
- Local exhaust + general ventilation: Implement general ventilation and use local exhaust ventilation, if necessary.
- Precaution:
 - Handle in well-ventilated area and do not breathe vapor.
 - Do not contact with eyes, skin and clothing (See 'Section 8. Exposure Controls and Personal Protective Equipment').
 - Provide face and eye wash facilities in a resting place, etc. and wash hands, face thoroughly after handling.

b. Storage:

- Proper storage condition:
 - Keep container tightly closed and store in a cool and dark area (Below 5 °C is recommended), away from direct sunlight, water leak, humidity and heat to avoid deterioration in product quality.
 - Keep away from sources of fire, heat and ignition to prevent fire.
- Safe container and packaging material: Polyethylene and polypropylene container
- Unsuitable container and packaging material:
 - If the container which can't be closed is used for storage, the product can be volatilized.
 - If stored in a metal container, gel type of insoluble materials can form.

8. Exposure Controls and Personal Protective Equipment

a. Engineering controls:

- Provide local exhaust ventilation to avoid exposure.

b. Controlled exposure level: Not established.

c. Permissible exposure level:

- ACGIH Permissible exposure level/recommended permissible exposure level: Not established.
- The Japanese Occupational Hygiene Society: Not established.

d. Personal protective equipment:

Mai Tokunaga

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

OP-00001-ENG 5/7

- Respiratory protection : Gas mask for organic gas or airline mask, etc.
- Hand protection :
 - Protective gloves made of polyethylene.
 - Since adhesive components are hard to permeate into gloves, skin can be protected. But since the joint of some gloves can be easily torn and the adhesive may be permeated through it, please use gloves after confirming if the joint is torn.
- Eye protection : Safety glasses with side shields or safety goggles
- Skin and body protection : Working clothes with long-sleeves
- General hygiene consideration :
 - Prohibit eating or smoking during work.
 - Wash hands with soap at the end of work.

9. Physical and Chemical Properties

- Appearance : Viscous liquid
- Color : Transparent
- Odor : Odor of mercaptan
- pH : No data
- Boiling point : No data
- Melting point : No data
- Flash point : > 93 °C
- Ignition temperature : No data
- Explosive properties (Explosive limits) : No data
- Vapor pressure : No data
- Specific gravity : No data
- Solubility : Insoluble water
- Partition coefficient (n-octanol/water) : No data
- Decomposition temperature : No data

10. Stability and Reactivity

- Stability :
 - Stable under proper storage condition (See Section 7).
- Possibility of hazardous reactions :
 - Rapid exothermic chemical reaction (Polymerization, decomposition) occurs by high temperature, irradiation of light, contact with incompatible materials, resulting in generation of hazardous gases or the risk of fire.
- Conditions to avoid :
 - Heating, sources of fire, direct sunlight, mix + contact with reducing agents such as metals, amines, etc.
- Incompatible materials :
 - Reducing agents such as metals, amines, etc., strong acids, strong alkalis, strong oxidants.
- Hazardous decomposition products :
 - No data

Mari Tokunaga

OP-00001-ENG 6/7

11. Toxicological Information
No data available

12. Effects on the Environment
If spilled, it may affect the environment.

13. Precautions for Disposal

- Residual wastes :
 - Dispose of properly via a licensed industrial waste disposal contractor.
- Contaminated container and packages :
 - Remove contents completely and then, dispose of properly via a licensed industrial waste disposal contractor.
- Other data :
 - See Section 7 and 8 for handling.

14. Transport Information

- International regulation :
 - UN class : Not applicable
 - UN number : Not applicable
 - Proper shipping name : Not applicable
 - Packing group : Not applicable
- Japan domestic regulation : See Section 15.
- Specific safety measure and condition of transport :
 - Confirm no leakage of containers before transport.
 - Load containers in a way of no falling, overturning or damage and secure prevention of cargo collapse.

15. Regulatory Information

- Law for PRTR and Promotion of Chemical Management (PRTR Law) : Not applicable
- Fire Service Law :
 - Dangerous substance Class 4, inflammable liquids, class 3 petroleum chemicals (Water insoluble liquid)
- Industrial Safety and Health Law :
 - Hazardous substance requiring notification : Not applicable
- Poisonous and Deleterious Substance Control Law : Not applicable
- Ship Safety Law : Not applicable

16. Other Information

- This information is correct to the best of our knowledge, but is not absolutely accurate and not safety.

Mari Tokunaga

OP-00001-ENG 7/7

Includes all data.

- The information contained in this Material Safety Data Sheet is described based on typical test value or examination and no warranty is made with respect to contents, physico-chemical properties, risk + hazard, etc.
- This information is on the components and product and if mixed with or treated by other materials, it is not relevant.
- Do not use it for medical purpose.
- Since all components have unknown risks, handle with sufficient care. Specific risks are described in this MSDS, but we can't say that other risks don't exist.
- When using it, carry out prior tests to confirm suitability for use or safety, etc. and then, set up the condition for safe use.
- Please understand that this MSDS may be revised based on new knowledge without prior notice.

Reference :

- Recommendation for exposure limit by the Japanese Occupational Hygiene Society (2006)
- Recommended permissible exposure level by ACGIH (American Conference of Governmental Industrial Hygienists) (2009)
- Carcinogenic evaluation by IARC (International Agency for Research on Cancer)
- Hazard classification by European Chemical Substances Information System (ESIS)
- OECD : SIDS Initial Assessment Profile (SIAP)
- List of the chemical substances subject to GHS classification criteria by National Institute of Technology and Evaluation
- Evaluation of chemical classification by JETOC (Japan Chemical Industry Ecology-Toxicology & Information Center)

Mari Tokunaga

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: RW-99 No.2
Company Name: KOKONOE ELECTRIC CO., LTD. Isehara Branch
Address: 16 Suzukawa Isehara-shi Kanagawa 259-1146 JAPAN
Department in charge: Chemical Products Person in charge (Creator) Ryusichi Hirakawa
Telephone No. +81-463-94-5231 Fax No. +81-463-96-5772
Emergency Contact: Chemical Products, Isehara Branch
Telephone No. +81-463-94-5231 Fax No. +81-463-96-5772
E-mail: kasehin@kokonoe.co.jp

Reference Number: 3-0302
First Issue: 1993/12/28
Revised: 2010/3/23

2. HAZARDS IDENTIFICATION

[GHS Classification]

Health effects:

Acute toxicity (Percutaneous)	Class 5
Acute toxicity (inhalation, dust)	Class 4
Skin corrosion / Irritation	Class 3
Serious eye damage / Eyes irritation	Class 2B
Respirator sensitization	Class 1
Skin sensitization	Class 1

Environmental effects:

Specific target organs / systemic toxicity (repeated exposure)	Class 2
Hazardous to the aquatic environment (acute)	Class 2
Hazardous to the aquatic environment (chronic)	Class 2

Pictograms / Symbols

Signal word: Danger

Hazard and toxicity information: Risk of hazards when in contact with skin
Harmful if inhaled (dust)
Light skin irritation
Eye irritation
Risk of causing allergy, asthma or breathing difficulty
May cause allergic skin reaction
May cause damage to respiratory organ through prolonged or repeated exposure
Harmful to aquatic organisms
Harmful to aquatic organism due to long-term effect
Before handling, read and understand all safety precautions.
Do not eat, drink and smoke when using this product.
Keep it from ignition source as it is a combustible solid.
Prevent ignition with electrostatic discharge or sparks.
Wear protective glasses, protective gloves and protective clothing.
Use personal protection equipment or ventilation systems to avoid exposure.
Do not inhale mist, steam or spray.

Instructions:

1

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Wash hand sufficiently after handling.
Avoid the release into the environment.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Single substance or Compound: Compound

Composition	Content (W%)	CSCL	CAS No.
Rosin	80	Not applicable	8059-09-7
Beeswax	10	Not applicable	8012-89-3
Petroleum asphalt	10	9-1719	64742-93-4

4. FIRST-AID MEASURES

Inhalation: Move the exposed person immediately to fresh air. If breathing is stopped or weak, loosen clothes, ensure the airway is clear and perform artificial respiration. Cover the body with a blanket and others to keep it warm and keep the victim at rest. Get immediate medical attention.

Skin contact: Remove the contaminated clothes and shoes, flush out contacted part with water or water of appropriate temperature and then wash with soap. Get medical attention if irritation develops.

Eye contact: Promptly wash eyes with plenty of water, and get medical attention.

Ingestion: Immediately seek medical attention. It is acceptable to let the person rinse the mouth well with water. Do not give anything to the exposed person from the mouth if he/she is unconscious.

5. FIRE-FIGHTING MEASURES

Proper extinguishing media: Carbon dioxide, Dry chemicals, Fire-extinguishing foam, sprinkled or sprayed water

Prohibited media: Straight stream

Specific hazards: It may generate irritating or toxic gas depending on the type of fire.

Specific methods of fire fighting: Cut off the source of combustion for the fire and distinguish the wire by using fire extinguishing agents. Spray water and cool facilities in proximity and so forth.

Protection for firefighters: Fighters should wear protective equipment for respiration, work from the windward side as much as possible, and avoid inhalation of vapor / combustion gas. Prohibit persons other than those concerned from entering the area by stretching a rope.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Be sure to wear protective equipment to prevent spray from coming into contact with the skin or inhalation of steam when working.

Environmental precautions
Prevent the leakage from flowing into drains / ditches / rivers.

Recovery / Purification methods
Collect into an empty container with a method that would not scatter the dust, such as gathering the powder or solidifying the dust and gathering.

Prevention of secondary hazards
Evacuate people from downwind, immediately remove any sources of ignition from the proximity and prevent entry of any unrelated parties by surrounding the place of leak with a rope and so forth.

2

7. HANDLING AND STORAGE

[Handling]
Exposure controls: Refer to "8. EXPOSURE CONTROLS / PERSONAL PROTECTION."
Technical measures: Prevent liquid leak or steam emission as much as possible and wear protective equipment if there is fear of skin contact or inhalation.
Do not use tools that may generate fire, sparks or arc, or any high-temperature ignition sources in the area.
Wear conductive work clothes and work shoes.
Use outdoors or in the area with good ventilation.
Try to keep the working environment below the acceptable concentration.

[Storage]
Hazardous reaction: Refer to "10. STABILITY AND REACTIVITY."
Storage conditions: Fires are strictly prohibited in the storage area.
Close containers tightly and store away from high temperature / moisture / water and direct sunlight and in a cool dark place with good ventilation.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

	[Rosin]	[Petroleum asphalt]
Administrative levels:	Not specified	Not specified
Permissible concentration:	Japan Society for Occupational Health	Not specified
	ACGIH TLV/TWA	Not specified
Facilities:	If dust, fume or mist is generated, install a local ventilation system.	0.5mg/m ³
	Establish an emergency eye-washing facility and body-washing shower near the location of handling.	

[Protective equipment]
Respiratory protection: Use respiratory protective equipment and others depending on the situation.
Eye protection: Use protective glasses (goggles) depending on the situation.
Skin and body protection: Use protective clothing and so forth depending on the situation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Combustible blackish brown solid

Odor: No odor

Specific gravity: 1.01 (25 degrees)

Solubility: Insoluble in water. Soluble in hydrocarbons solvents

Melting point: 55 degrees Celsius at softening point

Boiling point: No data

Vapor pressure: No data

Vapor density (Air=1): No data

Flash point: 200 degrees Celsius or higher

Autoignition point: No data

Explosibility range: No data

10. STABILITY AND REACTIVITY

Stability: Stable at normal handling condition

Conditions to be avoided: Any conditions that may be sources of ignition such as high temperatures, flames or sparks.

Substances with danger of mixing: No data

Possibility of hazards: No data

Hazardous decomposition products: It may form irritating or toxic gas when burnt.

3

11. TOXICOLOGICAL INFORMATION

[Rosin]
Acute toxicity: Percutaneous: Based on LD50 value for rabbits approximately 2500mg/Kg and >2500mg/Kg, approximately 2500mg/Kg was adopted and Class 5 was set.
Risk of hazards when in contact with skin (percutaneous)
Inhalation (dust): Based on LD50 (6 hours) for rats approximately 1.5mg/L (value converted to 4 hours approximately 2.3mg/L), Class 4 was set.
Hazardous when inhaled (dust)

Skin corrosivity / irritation: Based on the description that there was light irritation in a skin irritation test using rats, Class 3 was set.
Light skin irritation

Serious eye damage and irritation: Based on the description that there was light irritation in an eye irritation test using rats, Class 2B was set.
Eye irritation

Respirator sensitization: Since it is listed as a sensitizing chemical by Japanese Society of Occupational and Environmental Allergy, Class 1 was set. Japan Society for Occupational Health classifies this product as Group 1 respiratory tract sensitization substance.
Inhalation may cause allergy, asthma or breathing difficulty.

Skin sensitization: The Japanese Society for Dermatoallergy and Contact Dermatitis classifies rosin as a skin sensitization substance, ACGIH as SEN, Japan Society for Occupational Health as Group 1 skin sensitization substance, and DFG as Sh. Since there are also reports on cases of allergic contact dermatitis, Class 1 was set.
Risk of causing allergic skin reactions

Germ-cell mutagenicity: No data

Carcinogenicity: No data

Reproductive toxicity: No data

Specific target organ / systemic toxicity
Single exposure: No data
Repeated exposure: No data
Respiratory hazards by inhalation: No data

[Petroleum asphalt]

Acute toxicity: It is estimated that the acute toxicity is low.

	Oral	Rat	LD ₅₀	> 5000mg/kg
	Dermal	Rabbit	LD ₅₀	> 2000mg/kg

Skin corrosivity / irritation: The results of Draize Test suggest no irritation.

Serious eye damage and irritation: The results of Draize Test suggest mild irritation.
The gas which is generated from molten asphalt irritates respiratory organs and mucous membrane of the eye.

Respirator sensitization: No data

Skin sensitization: No data

Germ-cell mutagenicity: No data

Carcinogenicity: IARC Group 3 (Substance where the carcinogenicity for humans cannot be classified.)

Reproductive toxicity: No data

Specific target organ / systemic toxicity
Single exposure: There is information that black rat had no skin tumors in the dissection view.

4

Repeated exposure: Based on the description of irritation in the respiratory tract due to fume, Class 2 (Irritation in the respiratory tract)

Respiratory hazards by inhalation: Not Classified as the coefficient of viscosity is 8000mm² and over.

12. ECOLOGICAL INFORMATION

[Rosin]
Reproductive toxicity:

	Daphnia magna	BC ₅₀	48 hours	4.5mg/L
Persistence / degradability:	Low in degradability			
Bioaccumulation:	No data			
Mobility in soil:	No data			

[Petroleum asphalt]
Reproductive toxicity: No data

Persistence / degradability: Low in degradability

Bioaccumulation: No data

Mobility in soil: No mobility in soil

13. DISPOSAL CONSIDERATIONS

Disposal method: Dispose in accordance with related regulations and local government standard.
Consign a qualified industrial waste treatment firm or a local government (if a local government conducts the disposal).

Disposal of container / packing: Recycle the container after cleaning, or appropriately dispose of it in accordance with related regulations and local government standard.

14. TRANSPORT INFORMATION

International restriction: No data

Domestic restriction
Land transportation information: If The Fire Service Act, Industrial Safety and Health Law and others are applied, comply with them.

Marine transportation information: Comply with Ship Safety Law: Non-hazardous material.

Aviation transportation information: Comply with Civil Aeronautics Act: Non-hazardous material.

Other precautionary measures: Check that there is no container damage, leak and so forth and load the product with measures to prevent impact, collapsing, falling or direct sunlight as well as measures to prevent load collapsing when transporting by vehicle and so forth.
Prevent it from leaking into water such as rainwater.

15. REGULATORY INFORMATION

Fire Service Act: Annexed Table No.4 "Designated Combustibles and Combustible Solids" (for amounts 3000kg and larger), Government Ordinance on regulation of hazardous substances, 4 of Article 9 of the Act

Industrial Safety and Health Law: Annexed Table No. 9 "Hazardous materials and deleterious materials to be notified of names and so forth," 2 of Article 18 of Enforcement Order, 2 of Article 57 of the Act

Act for the Prevention of Marine Pollution and Maritime Disaster:
Oil emission control

Sewerage Service Act: Mineral oils emission control

Water Quality Pollution Control Act: Oil emission control

Law related to disposal of waste and cleaning:
Industrial waste regulation

5

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

16. OTHER INFORMATION

References: GHS model MSDS, Japan Advanced Information Center of Safety and Health
Japan Chemical Industry Association
National Institute of Technology and Evaluation, Chemical Risk Information Platform
List of applicable substances for GHS classification, National Institute of Technology and Evaluation
Japan Society for Occupational Health, Recommendation about permissible concentration
MSDS from raw material manufacturer

Inquiries: Same as company information

* As the evaluation of danger and toxicity is not always sufficient, handle it carefully.
The information contained herein is based on the materials / information / data which we can obtain as of the date issued, and may be changed by new knowledge. We provide information but make no guarantees regarding the contents.

6

W/R No. 5515 Kyoritsu Chemical 2010/11/30 1/5
Date of Issue: 2010/07/26
Revision Date: 2010/11/30

Material Safety Data Sheet

1. Chemical Product And Company Identification

Product Name: Adhesive World Rock No. 5515
Manufacturer: Kyoritsu Chemical & Co., Ltd.
Address: 16F, Hibiya Dai Bldg., 1-2-2 Uchisaiwai-cho, Chiyoda-ku, Tokyo, 100-0011 JAPAN
Charge Section: Sales Headquarter Telephone Number: +81-3-3500-2421
FAX Number: +81-3-3500-2426 Emergency Telephone: +81-3-3500-2421

Usage: Adhesive (Fixation and seal of electronic industry material and parts)

2. Emergency Overview

GHS Classification:

Hazard Class	Hazard Category
Acute hazards to the aquatic environment	Category 3
Chronic hazards to the aquatic environment	Category 3

GHS label elements:

Pictogram

Signal Word: -

Hazard Statement: Harmful to aquatic life
Harmful to aquatic life with long lasting effects

Precautionary statement

Prevention

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
Use personal protective equipment as required.
In case of inadequate ventilation, wear respiratory protection.

Response

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention. Call a POISON CENTER or doctor/physician if you feel unwell. Specific measures (see ... on this label). Rinse mouth.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
Wash contaminated clothing before reuse.

W/R No. 5515 Kyoritsu Chemical 2010/11/30 2/5

Storage

Keep container tightly closed. Store in a dark place.

Dispose

Consider disposal via licensed waste disposal company. Scrap may be incinerated under properly controlled condition. Follow all regulations in your country.

3. Composition / Information on Ingredients

Distinction Between Single Product And Compound: Compound

Chemical Name: Acrylic resin

Synonyms: UV curable acrylic resin

Ingredients And Content:

Ingredients	Content (%)
Modified acrylic oligomers	20-30
UV curable monomers	55-60
Plasticizer	10-20
Other additive agents	<5
Total	100

4. First Aid Measures

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if feel unwell.

Skin Contact: Remove contaminated clothing. Flush skin immediately with plenty of soap and water. Get medical attention. Wash clothing before reuse.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes. Check for and remove contact lenses, if present and easy to do. Then continue rinsing. If irritation persists, get medical attention.

Ingestion: Wash mouth with water. Call a POISON CENTER or doctor/physician. Do not induce vomiting, unless directed to do so by medical person.

5. Fire Fighting Measures

Extinguishing Media: Water, Dry chemical, or Protein type air foam are recommended media.

Prohibited Extinguishing Media: None

Special Fire Fighting Procedures: Extinguishment work should be done from upwind of fire.

Protection Of Fire Fighting Member:

Wear positive pressure self-contained breathing apparatus (SCBA). Personnel not having suitable respiratory protection must leave the area to prevent significant exposure to toxic combustion gases from any source. If enclosed or poorly ventilated areas, wear SCBA during cleanup immediately after a fire as well as during the attack phase of fire fighting operations.

6. Accidental Release Measures

Safeguards (Personnel): Keep unnecessary people away; isolate the hazard area and deny entry.

Personal Protective Equipment and Emergency Measures:

Ventilate leak or spill area until cleanup has been completed. Use appropriate PERSONNEL PROTECTIVE EQUIPMENT, such as impermeable clothes, gloves, glasses, and masks.

Safeguards (Environment):

Consider it so that the flow out product should not influence the environment, such as discharged to the river or to the earth.

Enclose and Clarification Measures:

Scrape off the products by the disposable spatula or spawa, etc. Residual is wiped off with rags, papers, or other wiping material. Also, absorbent material (oil absorbent, sawdust, soil, and sand) can be used. Enclosed with rags or absorption materials, and the surface is prevented. Removed to the container with the shovel etc.

W/R No. 5515 Kyoritsu Chemical 2010/11/30 3/5

7. Handling And Storage

Handling

Technical Measures: Use adequate ventilation.

Precaution: Take care not to leak and / or spill. Keep away from heat.

Precautions For Safety Handling:

Avoid inhalation, or contact with eye, skin, and clothing, use appropriate PERSONAL PROTECTIVE EQUIPMENT (mask, jacket, gloves, boots, etc.).

Storage

Storage Condition: Keep container tightly closed. Store in a dark place.

Prohibited Materials: None

Container Materials For Safety Storage:

Keep in the original container. When it is impossible, use tightly sealed and light shielded plastic container made of polyethylene or polypropylene.

8. Exposure Controls / Personal Protection

Engineering Controls: To avoid from bad smell, local exhaust system ought to install. When UV irradiation equipment exist, it is necessary to shield UV.

Exposure Limits: Not Established

Personal Protective Equipment:

Respiratory Protection: Use gas mask for organic solvent, if necessary.

Hand Protection: Use protection gloves, if necessary.

Eye Protection: Use protection goggles, if necessary.

Skin and Body Protection: Use appropriate protection jacket, if necessary.

9. Physical And Chemical Properties

Appearance: CLEAR LIQUID	Bad Smell: Slightly
pH: -	Melting Point: No data
Boiling Point: No data	Flash Point: 100-150°C
Autoignition Temperature: No data	Explosion Limit: No data
Vapor Pressure: No data	Vapor Density: -
Specific Gravity: 0.9740.10	Solubility: Soluble in organic solvents
Distribution Coefficient: No data (Octanol / Water)	Decomposition Temperature: -

10. Stability And Reactivity

Chemical Stability: Stable at the normal temperatures and storage conditions. Harden or become gel may be caused by storage in glass or metal container.

Reactivity: Harden by UV light or heat.

Conditions To Be Avoided: Avoid heat or UV light. Avoid contact with metal, acid, and strong oxidizer reagent.

Prohibited Materials: None

Hazardous Decomposition Products: Hazardous decomposition products including carbon oxides, other toxic gases or vapors may be formed during combustion.

Other Reactivities: No Information

11. Toxicological Information

Ingestions	All Ingestions

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

W/R No. 5515 Kyoritsu Chemical 2010/11/30 4/5

Acute Toxicity (Oral)	Classification not possible
(Dermal)	Classification not possible
(Gases)	No Category
(Vapors)	Classification not possible
(Dusts, Mists)	Classification not possible
Skin Corrosion/Irritation	Classification not possible
Acute eye Irritation / Eye Irritation	Classification not possible
Respiratory Sensitizer	Classification not possible
Skin Sensitizer	Classification not possible
Mutagenicity	Classification not possible
Carcinogenicity	Classification not possible
Reproductive Toxicity	Classification not possible
Specific target organ toxicity following single exposure	Classification not possible/No data
Specific target organ toxicity following repeated exposure	Classification not possible/No data
Aspiration hazard	Classification not possible

12. Ecological Information

Ecotoxicity: No Information
Persistence / Degradability: No Information
Bioaccumulative Potential: No Information
Mobility In Soil: No Information

Information On Hazards To The Aquatic Environment:

Ingredients	Monomers	Diluted
Acute hazards to the aquatic environment	Category 2	Classification not possible/No data
Chronic hazards to the aquatic environment	Category 2	Classification not possible/No data

13. Disposal Considerations

Residue/Waste: Consider disposal via licensed waste disposal company. Scrap may be incinerated under properly controlled condition. Follow all regulations in your country.

Contaminated Container / Wrapping:
 Dispose after completely remove contents. Follow all regulations in your country.

14. Transport Information

UN Hazard Class: Not regulated for transport of dangerous goods.
UN No.: - **Packing Group:** -

Particular Safe Guards And Conditions For Transportation:
 Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

15. Regulatory Information

International Regulation:
 Regulatory status of the product (occupational health and safety, environment)

W/R No. 5515 Kyoritsu Chemical 2010/11/30 5/5

TSCA:	-	EU/REACH:	-
China:	-	Korea:	-
Canada (DSL):	+	Canada (NDSL):	-
Switzerland:	-	Australia:	-
Philippines:	-		

16. Other Information

Inquiry Of Contents: Kyoritsu Chemical & Co., Ltd. R&D Center
 Tel: +81-438-37-3606 Fax: +81-438-37-3603

User's Responsibility:
 This bulletin cannot cover all possible situations which the user may experience during processing. Each aspect of your operation must be examined to determine it, or where, additional precautions may be necessary. All health and safety information contained in this bulletin must be provided to your employees or customers. It is your responsibility to use this information to develop appropriate work practice guidelines and employee instructional programs for your operation.

Disclaimer Of Liability:
 As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this material. Information contained herein is believed to be true and has all statements or suggestions are made without warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the materials or the results to be obtained from the use thereof. Compliance with all applicable federal, state and local laws and regulations remains the responsibility of the user.

References:
 Guide to creating Material Safety Data Sheets for adhesive products (Japan Adhesive Industry Association)
 Indispensable handbook for making MSDS (Japan Adhesive Industry Association)
 GHS/CLP (Japan Chemical Data Base)
 Chemical Product Search System (National Institute of Technology and Evaluation)

5515 Kyoritsu Chemical & Co., Ltd. 2015.02.12 PAGE:1/6

SAFETY DATA SHEET

The date of preparation October 30, 2013
 Revised date February 12, 2015

1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND THE SUPPLIER

Product identifier: ADHESIVE WORLDROCK No.5518
Manufacturer: Kyoritsu Chemical & Co., Ltd.
Address: 16F, Hibuya Dai Bldg. 1-2-2 Uchisaiyashi-cho, Chiyoda-ku, Tokyo, 100-0011 JAPAN
Department in charge: Sales Headquarter
Telephone: 03-3500-2421
Facsimile: 03-3500-2426
Emergency phone number: 03-3500-2421
Recommended use and restrictions on use: General industrial products

2. HAZARD IDENTIFICATION

GHS classification

Flammable liquids:	Classification not possible
Acute toxicity:	
Oral:	Not classified
Dermal:	Not classified
Inhalation (Gases):	No classification
Inhalation (Vapours):	Not classified
Inhalation (Dusts/Mists):	Not classified
Skin corrosion/irritation:	Classification not possible
Serious eye damage/eye irritation:	Classification not possible
Sensitization:	
Respiratory:	Not classified
Skin:	Not classified
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Not classified
Reproductive toxicity:	Not classified
Specific target organ toxicity - Single exposure:	Not classified
Specific target organ toxicity - Repeated exposure:	Not classified
Hazardous to the aquatic environment:	
Acute hazard:	Not classified
Chronic hazard:	Classification not possible
Hazardous to the Ozone layer:	Classification not possible

GHS label elements
 Hazard Statement:

5515 Kyoritsu Chemical & Co., Ltd. 2015.02.12 PAGE:2/6

Precautionary Statement:

«Storage»
 Store in a well-ventilated place. Keep container tightly closed.
 Keep container tightly closed. Store in a dark place.

«Disposal»
 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards which do not result in classification by the GHS:

Hazards:
 This product is an irritant of the eyes, the skin, and the mucous membrane. There is a possibility of causing an allergic symptom according to the constitution.

Environmental effects: Unknown

Physical and chemical hazards: Under normal handling, the risk of fire is low.

Important symptoms: No information available

Summary of assumed emergency: No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Classification of the chemical substance or mixture: Mixture
Chemical name or common name: UV curable acrylic resin
Concentration or concentration range:

Chemical name or common name	Content(%)
Modified acrylate oligomers	20 ~ 30%
UV curable monomers	60 ~ 70%
Polymerizer	1 ~ 10%
Other additive agents	< 5%

Impurities and stabilizing additives which contribute to the classification of GHS:
 No information available

4. FIRST-AID MEASURES

IF INHALED:
 Move the victim to a place with fresh air immediately. Keep calm, and receive the treatment of a doctor. In case breathing has stopped, conduct artificial respiration, and in case breathing is difficult, conduct oxygen inhalation.

IF ON SKIN:
 Remove contaminated clothes/shoes immediately. Cut off if necessary. Wash portion in contact with product with cold/clean water. Use soap and wash thoroughly. If appearance changes or victim suffers from pain, get medical treatment immediately.

IF IN EYES:
 Wash the eyes with clean water for at least 15 minutes, and receive the treatment of a doctor at once. When washing the eyes, open the eyes fully with the fingers so that the water will reach the edge of the eyelids.
 Remove contact lenses, if present and easy to do.

IF SWALLOWED:
 Wash inside of the mouth with water, and let the victim drink 1 to 2 cups of water or milk. Receive the treatment of a doctor immediately.
 In case the victim is unconscious, do not administer anything to the victim through the mouth.

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

5515 Kyoritsu Chemical & Co., Ltd. 2015.02.12 PAGE:3/6

Conduct artificial respiration or oxygen inhalation as required.
Do not induce vomiting.
Expected immediate and delayed symptoms: No information available
Most important effects and symptoms/effects, acute and delayed: No information available

5. FIRE-FIGHTING MEASURES

Extinguishing media:
Powder type fire extinguishing agent, foam type fire extinguishing agent, carbon dioxide, sand.
Unsuitable extinguishing media: No information available
Specific hazards arising from the chemical if burning: No information available
Specific fire fighting measures:
Move mobile container immediately to safe place.
Spray water to the surrounding facilities and cool them.
Fire-fighting shall be conducted from the windward of the fire as much as possible.
Special protective equipment for fire fighter:
In the fire-fighting, wear appropriate protective equipment (gloves, glasses, mask, atmosphere-supplying respirator).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
In case of incoinc, conduct ventilation sufficiently until the disposal is completed.
At the time of conducting spillage disposal, always wear protective items such as rubber gloves, protective glasses, protective clothes, filter type breathing unit, and self-contained breathing apparatus.
Environmental precautions:
Pay attention so that the product that leaked is not discharged to the river or sewage, and have adverse effect on the environment.
Methods and materials for containment and cleaning up:
In case the amount is small, let it be absorbed with dry sand, earth, sawdust, and rags, then recover in an empty container that can be sealed.
In case the spill amount is large, surround it with an earth dike and prevent it from flowing out, then dispose of it after leaving it to a safe place.
Prevention of secondary disaster: No information available

7. HANDLING AND STORAGE

Handling:
Appropriate engineering controls:
Handle in a place with good ventilation.
Prohibit the use of high temperature objects, sparks, and fire in the vicinity of the product.
Be careful so that it will not come into contact with the skin, membrane, or clothes, and not enter the eyes.
Be careful not to cause leakage, overflow, and scattering, and do not generate vapor without reason.
Local exhaust /Total ventilation: Use local exhaust ventilation when handling.

ID:

5515 Kyoritsu Chemical & Co., Ltd. 2015.02.12 PAGE:4/6

General precautions: Pay attention so that leakage, overflow, and scattering do not occur.
Precautions for safe handling: Avoid contact with flame, spark, and high temperature objects.
How to avoid: No information available
Appropriate engineering measures:
Wear suitable protective items such as protective glasses and protective gloves

Storage

Appropriate engineering controls: No information available
Appropriate storage conditions: Be careful of fire.
Avoid the direct rays of the sun, and store in tightly sealed containers at a well ventilated place.
Products of which the guarantee period has expired shall be disposed of as soon as possible.
Safe containers and packaging materials:
Keep in the original container. When it is impossible, use tightly sealed and light shielded plastic container made of polyethylene or polypropylene.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls:
Use closed type apparatuses and equipment or local air exhauster.
When UV irradiation equipment exist, it is necessary to shield UV.
Tolerable concentration: Not established
Personal protective equipment:
Respiratory protection: Use a protective mask as required.
Hand protective equipment: Use protective gloves as required.
Eyes / Face Protection: Wear protective glasses as required.
Skin and personal protective equipment: Use work clothes and safety shoes as required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	CLEAR LIQUID
Colour:	Slightly
pH:	No data
Melting point/freezing point:	No data
Boiling point:	No data
Initial boiling point:	No data
Boiling range:	No data
Flash point:	100-150°C
Lower flammability or explosive limits:	No data
Upper flammability or explosive limits:	No data
Vapor pressure:	No data
Vapor density:	No data
Relative density:	No data
Specific gravity:	0.95±0.10
Solubility:	No data
Partition coefficient, n-octanol/water:	No data
Autogenous ignition temperature:	No data
Decomposition temperature:	No data

ID:

5515 Kyoritsu Chemical & Co., Ltd. 2015.02.12 PAGE:5/6

10. STABILITY AND REACTIVITY

Chemical stability:
Stable at the normal temperatures and storage conditions. Harden or become gel may be caused by storage in glass or metal container.
Reactivity: Harden by UV light or heat.
Possibility of hazardous reactions: No information available
Conditions to avoid:
Avoid heat or UV light. Avoid contact with metal, acid, and strong oxidizer reagent.
Incompatible materials: No information available
Hazardous decomposition products:
Hazardous decomposition products including carbon oxides, other toxic gases or vapors may be formed during combustion.

11. TOXICOLOGICAL INFORMATION

Acute toxicity: No information available
Skin corrosion/irritation: No information available
Serious eye damage/eye irritation: No information available
Respiratory sensitization/skin sensitization: No information available
Germ cell mutagenicity: No information available
Carcinogenicity: No information available
Reproductive toxicity: No information available
Specific target organ toxicity - Single exposure: No information available
Specific target organ toxicity - Repeated exposure: No information available
Aspiration hazard: No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity:
Fish: No information available
Crustacea: No information available
Algae: No information available
Persistence/Degradability: No information available
Bioaccumulative Potential: No information available
Mobility in soil: No information available
Hazardous to the Ozone layer: No information available
Other adverse effects:
Because of many unknown items, do not discard in general environment.

ID:

5515 Kyoritsu Chemical & Co., Ltd. 2015.02.12 PAGE:6/6

13. DISPOSAL CONSIDERATIONS

Commit disposal to special waste disposal contractors approved by the Metropolitan, Hokkaido, or Prefectural Governors in case of Japan.
Remove the contents completely before disposing of them.
Dispose of the container and wrapping material in accordance with the Law related to Disposal of Waste and Cleaning.

14. TRANSPORT INFORMATION

International regulations:
UN classification: Not applicable to the criteria for classification
UN number: ---
UN proper shipping name: ---
Packing group: ---
Domestic regulations:
Ensure this material in compliance with federal requirements and ensure conformity to local regulations.
Special precautions: No information available
Special precautions and conditions which a user needs to comply with transport:
Load so that there will be no tumbling, dropping or damaging, and securely conduct load collapse prevention.
Emergency response guideline number: No information

15. REGULATORY INFORMATION

<Product>

16. OTHER INFORMATION

Inquiry of contents:
Kyoritsu Chemical & Co., Ltd. Quality Assurance Dept. Tel: +81-436-37-3913 Fax: +81-436-37-3900
References:
MSDS which the maker published
eCLiCK (Japan Chemical Data Base)
Chemical Product Search System (National Institute of Technology and Evaluation)
Guide to creating Material Safety Data Sheets for adhesive products (Japan Adhesive Industry Association)
Indispensable handbook for making MSDS (Japan Adhesive Industry Association)

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully. The information is intended to ordinary usage, in case of particular handling, conduct appropriate safety measurements. The information herein is only provision of information, and it does not represent a guarantee the properties of the product.

ID:

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

8807L Kyoritsu Chemical & Co., Ltd. 2015.09.18 PAGE:1/6

SAFETY DATA SHEET

The date of preparation November 26, 2014
Revised date September 18, 2015

1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND THE SUPPLIER

Product identifier **WORLDROCK No.8807L**
Manufacturer **Kyoritsu Chemical & Co., Ltd.**
Address **16F, Hibiya Dai Bldg., 1-2-2 Uchisaiwai-cho, Chiyoda-ku, Tokyo, 100-0011 JAPAN**
Department in charge **Sales Headquarter**
Telephone **03-3500-2421**
Facsimile **03-3500-2426**
Emergency phone number **03-3500-2421**
Recommended use and restrictions on use
General industrial products

2. HAZARD IDENTIFICATION

GHS classification
Flammable liquids: Classification not possible
Acute toxicity
Oral: Not classified
Dermal: Not classified
Inhalation(Gases): No classification
Inhalation(Vapors): Not classified
Inhalation(Dusts/Mists): Not classified
Skin corrosion/Irritation: Not classified
Serious eye damage/eye irritation: Classification not possible
Sensitization
Respiratory: Not classified
Skin: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
Specific target organ toxicity - Single exposure: Not classified
Specific target organ toxicity - Repeated exposure: Not classified
Hazardous to the aquatic environment
Acute hazard: Not classified
Chronic hazard: Classification not possible
Hazardous to the Ozone layer: Classification not possible
GHS label elements
Hazard Statement:

ID:

8807L Kyoritsu Chemical & Co., Ltd. 2015.09.18 PAGE:2/6

Precautionary statement:

«Storage»
Store in a well-ventilated place. Keep container tightly closed.
Keep container tightly closed. Store in a dark place.
«Disposal»
Dispose of contents/container in accordance with local/regional/national/international regulations.
Other hazards which do not result in classification by the GHS (General hazards)
Hazards:
This product is an irritant of the eyes, the skins, and the mucous membrane. There is a possibility of causing an allergic symptom according to the constitution.
Environmental effects: Unknown
Physical and chemical hazards: Under normal handling, the risk of fire is low.
Important symptoms: No information available
Summary of assumed emergency: No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Classification of the chemical substance or mixture: Mixture
Chemical name or common name: UV curable acrylic resin
Concentration or concentration range:

Chemical name or common name	Content(wt%)
Modified acrylate oligomers	30 ~ 40%
UV curable monomers	60 ~ 70%
Other additive agents	1 ~ 10%

Impurities and stabilizing additives which contribute to the classification of GHS:
No information available

4. FIRST-AID MEASURES

IF INHALED:
Move the victim to a place with fresh air immediately, keep calm, and receive the treatment of a doctor. In case breathing has stopped, conduct artificial respiration, and in case breathing is difficult, conduct oxygen inhalation.
IF ON SKIN:
Remove contaminated clothes/shoes immediately. Cut off if necessary. Wash portion in contact with product with cold/luke warm water. Use soap and wash thoroughly. If appearance changes or victim suffers from pain, get medical treatment immediately.
IF IN EYES:
Wash the eyes with clean water for at least 15 minutes, and receive the treatment of a doctor at once. When washing the eyes, open the eyes fully with the fingers so that the water will reach the edge of the eyelids.
Remove contact lenses, if present and easy to do.
IF SWALLOWED:
Wash inside of the mouth with water.
Receive the treatment of a doctor immediately.
In case the victim is unconscious, do not administer anything to the victim through the mouth.

ID:

8807L Kyoritsu Chemical & Co., Ltd. 2015.09.18 PAGE:3/6

Conduct artificial respiration or oxygen inhalation as required.
Do not induce vomiting.
Expected immediate and delayed symptoms: No information available
Most important effects and symptoms/effects, acute and delayed: No information available

5. FIRE-FIGHTING MEASURES

Extinguishing media:
Powder type fire extinguishing agent, foam type fire extinguishing agent, carbon dioxide, sand.
Unsuitable extinguishing media: No information available
Specific hazards arising from the chemical if burning: No information available
Specific fire fighting measures:
Move mobile container immediately to safe place.
Spray water to the surrounding facilities and cool them.
Fire-fighting shall be conducted from the windward of the fire as much as possible.
Special protective equipment for fire fighter:
In the fire-fighting, wear appropriate protective equipment (gloves, glasses, mask, atmosphere-supplying respirator).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
In case of indoors, conduct ventilation sufficiently until the disposal is completed.
At the time of conducting spillage disposal, always wear protective items such as rubber gloves, protective glasses, protective clothes, filter type breathing unit, and self-contained breathing apparatus.
Environmental precautions:
Pay attention so that the product that leaked is not discharged to the river or sewage, and have adverse effect on the environment.
Methods and materials for containment and cleaning up:
In case the amount is small, let it be absorbed with dry sand, earth, sawdust, and rags, then recover in an empty container that can be sealed.
In case the spill amount is large, surround it with an earth dike and prevent it from flowing out, then dispose of it after leading it to a safe place.
Prevention of secondary disaster: No information available

7. HANDLING AND STORAGE

Handling
Appropriate engineering controls:
Handle in a place with good ventilation.
Prohibit the use of high temperature objects, sparks, and fire in the vicinity of the product.
Be careful so that it will not come into contact with the skin, membrane, or clothes, and not enter the eyes.
Be careful not to cause leakage, overflow, and scattering, and do not generate vapor without reason.
Local exhaust/Total ventilation: Use local exhaust ventilation when handling.
General precautions: Pay attention so that leakage, overflow, and scattering do not occur.
Precautions for safe handling: Avoid contact with flame, spark, and high temperature objects.

ID:

8807L Kyoritsu Chemical & Co., Ltd. 2015.09.18 PAGE:4/6

How to avoid: No information available
Appropriate engineering measures:
Wear suitable protective items such as protective glasses and protective gloves

Storage

Appropriate engineering controls: No information available
Appropriate storage conditions: Be careful of fire.
Avoid the direct rays of the sun and store in tightly sealed containers at a well ventilated place.
Products of which the guarantee period has expired shall be disposed of as soon as possible.
Safe containers and packaging materials:
Keep in the original container. When it is impossible, use tightly sealed and light shielded plastic container made of polyethylene or polypropylene.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls:
Use closed type apparatuses and equipment or local air exhauster.
When UV irradiation equipment exist, it is necessary to shield UV.
Tolerable concentration: Not established
Personal protective equipment
Respiratory protection: Use a protective mask as required.
Hand protective equipment: Use protective gloves as required.
Eyes / Face Protection: Wear protective glasses as required.
Skin and personal protective equipment: Use work clothes and safety shoes as required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: CLEAR LIQUID
Odor: Slightly
pH: No data
Melting point/Freezing point: No data
Boiling point: No data
Initial boiling point: No data
Boiling range: No data
Flash point: 100-150°C
Lower flammability or explosive limits: No data
Upper flammability or explosive limits: No data
Vapor pressure: No data
Vapor density: No data
Relative density: No data
Specific gravity: 0.95±0.05
Solubility: No data
Partition coefficient: n-octanol/water: No data
Autogenous ignition temperature: No data
Decomposition temperature: No data

ID:

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

8807L Kyoritsu Chemical & Co., Ltd. 2015.09.18 PAGE:5/6

10. STABILITY AND REACTIVITY

Chemical stability:
Stable at the normal temperatures and storage conditions. Harden or become gel may be caused by storage in glass or metal container.

Reactivity: Harden by UV light or heat.

Possibility of hazardous reactions: No information available

Conditions to avoid:
Avoid heat or UV light. Avoid contact with metal, acid, and strong oxidizer reagent.

Incompatible materials: No information available

Hazardous decomposition products:
Hazardous decomposition products including carbon oxides, other toxic gases or vapors may be formed during combustion.

11. TOXICOLOGICAL INFORMATION

Acute toxicity: No information available

Skin corrosion/irritation: No information available

Serious eye damage/eye irritation: No information available

Respiratory sensitization/skin sensitization: No information available

Germ cell mutagenicity: No information available

Carcinogenicity: No information available

Reproductive toxicity: No information available

Specific target organ toxicity - Single exposure: No information available

Specific target organ toxicity - Repeated exposure: No information available

Aspiration hazard: No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Fish: No information available

Crustacea: No information available

Algae: No information available

Persistence/Degradability: No information available

Bioaccumulative Potential: No information available

Mobility in soil: No information available

Hazardous to the Ozone layer: No information available

Other adverse effects: Because of many unknown items, do not discard in general environment.

13. DISPOSAL CONSIDERATIONS

Commit disposal to special waste disposal contractors approved by the Metropolitan, Hokkaido, or Prefectural Governors in case of Japan.

ID:

8807L Kyoritsu Chemical & Co., Ltd. 2015.09.18 PAGE:6/6

Remove the contents completely before disposing of them.
Dispose of the container and wrapping material in accordance with the Law related to Disposal of Waste and Cleaning.

14. TRANSPORT INFORMATION

International regulations

UN classification: Not applicable to the criteria for classification

UN number: None

UN proper shipping name: None

Packing group: None

IATA classification: Not regulated

ICAO classification: Not regulated

Domestic regulations:
Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

Special precautions: No information available

Special precautions and conditions which a user needs to comply with transport:
Load so that there will be no tumbling, dropping or damaging, and securely conduct load collapse prevention.

Emergency response guideline number: No information

15. REGULATORY INFORMATION

<Product>

16. OTHER INFORMATION

Inquiry of contents
Kyoritsu Chemical & Co., Ltd. Quality Assurance Division
Tel: +81-438-37-3613 Fax: +81-438-37-3900

References
SDS which the maker published
exCRIC (Japan Chemical Data Base)
Chemical Product Search System (National Institute of Technology and Evaluation)
Guide to creating Safety Data Sheets for adhesive products (Japan Adhesive Industry Association)
Indispensable handbook for making MSDS (Japan Adhesive Industry Association)

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully. The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements. The information herein is only provision of information, and it does not represent a guarantee the properties of the product.

ID:

NTS

Report No.: NTS12078135M

Date: July, 31, 2012

MSDS REPORT

Applicant	Heze Luxin Optics Technology Co., Ltd.
	Zhouqiao Village, Jiucheng Town Of Juancheng County, Heze City, Shandong, China
Manufacturer	Heze Luxin Optics Technology Co., Ltd.
	Zhouqiao Village, Jiucheng Town Of Juancheng County, Heze City, Shandong, China
Product Description	Aluminium oxide (AL2O3)
Product Code	46 Degree
Trade Mark	N/A

This report is limited to the above applicant company and the product model only.

Hotline: 400-088-6765

Nowd Testing Services Co., Ltd.
http://www.nowd.com.cn

NTS

MSDS REPORT

Product Name: Aluminium oxide (AL2O3) Establishment / Revision: July, 31, 2012

MATERIAL SAFETY DATA SHEET

(according to ISO 11014: 2009)

SECTION 1: Identification of Product and Supplier

1.1. Identification of the substance or preparation
Product Name: Aluminium oxide (AL2O3)
Sample Model No.: 46 Degree

1.2. Relevant identified uses of the substance or mixture and uses advised against
Application of the substance / the preparation: Vacuum coating material

1.3. Company / undertaking identification
Manufacturer: Heze Luxin Optics Technology Co., Ltd.
Address: Zhouqiao Village, Jiucheng Town Of Juancheng County, Heze City, Shandong, China
Tel: +86-530-2828688
Fax: +86-530-2828588

1.4. Emergency telephone
Emergency telephone number: [Weekday] +86-135 6137 8588
[Night and holiday] +86-135 6137 8588

SECTION 2: Composition / Information on Ingredients

Information about the chemical nature of product:

Common chemical name / General name	CAS number	EC number	Concentration / Concentration range	Classification and hazard labeling
Aluminium oxide (AL2O3)	1344-28-1	215-691-6	99.999%	Health: 2 Flammability: 0 Reactivity: 0
Ferrum (Fe)	65996-67-0	265-998-4	0.000005%	Health: 0 Flammability: 0 Reactivity: 1
Sodium (Na)	7440-23-5		0.00001%	Health: 3

Report No.: NTS12078135M

Page 2 of 10

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited



MSDS REPORT

Product Name: Aluminium oxide (AL2O3)

Establishment / Revision: July. 31, 2012

Common chemical name / General name	CAS number	EC number	Concentration / Concentration range	Classification and hazard labeling
Manganese (Mn)	7439-96-5	231-105-1	0.000001%	Flammability: 3 Reactivity: 2
Magnesium (Mg)	7439-95-4	231-104-6	0.000003%	Health: 1 Flammability: 0 Reactivity: 0
Silicon (Si)	7440-21-3	231-130-8	0.000012%	Health: 0 Flammability: 1 Reactivity: 1
Calcium (Ca)	7440-70-2	231-179-5	0.000003%	Health: 0 Flammability: 3 Reactivity: 0
Potassium (K)	7440-09-7	231-119-8	0.000001%	Health: 3 Flammability: 3 Reactivity: 2
Zinc (Zn)	7440-66-6	231-175-3	0.000001%	Health: 0 Flammability: 1 Reactivity: 1
Others	--	--	0.000964%	--

SECTION 3: Hazards Identification

Potential Acute Health Effects: Hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Classified None, for human.

DEVELOPMENTAL TOXICITY: Not available.

Repeated or prolonged exposure is not known to aggravate medical condition.

Report No.: NTS12078135M

Page 3 of 10



MSDS REPORT

Product Name: Aluminium oxide (AL2O3)

Establishment / Revision: July. 31, 2012

SECTION 4: Emergency measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.

Get medical attention immediately.

Skin Contact:

In case of contact, immediately flush skin with plenty of water.

Cover the irritated skin with an emollient. Wash clothing before reuse.

Remove contaminated clothing and shoes.

Thoroughly clean shoes before reuse.

Get medical attention immediately.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream.

Seek medical attention.

Inhalation:

If inhaled, remove to fresh air.

If not breathing, give artificial respiration.

If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation:

Not available.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel.

Never give anything by mouth to an unconscious person.

If large quantities of this material are swallowed, call a physician immediately.

Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion:

Not available.

SECTION 5: Fire Fighting Measures

Flammability of the Product: Non-flammable.

Auto-ignition Temperature: Not applicable.

Report No.: NTS12078135M

Page 4 of 10



MSDS REPORT

Product Name: Aluminium oxide (AL2O3)

Establishment / Revision: July. 31, 2012

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Chlorine Trifluoride reacts violently with calcium oxide producing flame.

Special Remarks on Explosion Hazards: Not available.

SECTION 6: Leak Emergency Treatment

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Use a shovel to put the material into a convenient waste disposal container.

Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Be careful that the product is not present at a concentration level above TLV.

Check TLV on the MSDS and with local authorities.

SECTION 7: Handling and Storage

Precautions:

Do not breathe dust.

Wear suitable protective clothing.

In case of insufficient ventilation, wear suitable respiratory equipment.

If you feel unwell, seek medical attention and show the label when possible.

Avoid contact with skin and eyes.

Keep away from incompatibles such as organic materials, acids.

Report No.: NTS12078135M

Page 5 of 10



MSDS REPORT

Product Name: Aluminium oxide (AL2O3)

Establishment / Revision: July. 31, 2012

Storage:

Keep container tightly closed.

Keep container in a cool, well-ventilated area.

Do not store above 24°C (75.2°F).

SECTION 8: Access Controls / Personal Protection

Engineering Control:	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
personal protection:	Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill:	Splash goggles, Full suit, Dust respirator, Boots, Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits:	TWA: 10 (mg/m3) from ACGIH (TLV) [United States] Inhalation Total. TWA: 10 (mg/m3) [Canada] Inhalation Total. TWA: 5 (mg/m3) from OSHA (PEL) [United States] Inhalation Respirable. TWA: 15 from OSHA (PEL) [United States] Inhalation Total. TWA: 10 [United Kingdom (UK)] Inhalation Total. TWA: 4 [United Kingdom (UK)] Inhalation Respirable. Consult local authorities for acceptable exposure limits.

SECTION 9: Physical and Chemical Properties

Physical state:	Solid
Appearance:	Circle block solid

Report No.: NTS12078135M

Page 6 of 10

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

NTS	
MSDS REPORT	
Product Name: Aluminium oxide (AL2O3)	Establishment / Revision: July, 31, 2012
Color:	White
Smell:	None
pH (1% soln/water):	Not applicable
Boiling Point:	3250°C (5882°F)
Melting point:	2303°C (4177°F)
Critical Temperature:	Not applicable
Autoignition Temperature:	Not applicable
Flash point:	12°C
Specific Gravity:	3.68
Solubility in water:	Insoluble
Volatile by Weight:	Essentially zero
Vapor Pressure:	Not applicable
Vapor Density:	Not applicable
Odor Threshold:	Not applicable
Ioncity (in Water):	Not applicable
Dispersion Properties:	Not applicable
Solubility:	Very slightly soluble in cold water, hot water. Insoluble in methanol, diethyl ether, n-octanol. Practically insoluble in alcohol. Soluble in acids, glycerol, sugar solution.

SECTION 10: Stability and Reactivity

Stability:	The product is stable.
Instability Temperature:	Not available.
Conditions to Avoid:	Incompatible materials
Incompatibilities with Other Materials:	Reactive with oxidizing agents, acids.
Corrosivity:	Non-corrosive in presence of glass.
Special Remarks on Reactivity:	Chlorine Trifluoride reacts violently with Aluminum Oxide producing a flame.

Report No.: NTS12078135M Page 7 of 10

NTS	
MSDS REPORT	
Product Name: Aluminium oxide (AL2O3)	Establishment / Revision: July, 31, 2012
	Ethylene oxide may polymerize violently when in contact with highly catalytic surfaces such as pure Aluminum Oxide. Reacts with hot chlorinated rubber.
Special Remarks on Corrosivity:	Not available.
Hazardous Polymerization:	Will not occur.

SECTION 11: Toxicological Information

Routes of Entry:	Inhalation, Ingestion.
Toxicity to Animals:	LD50: Not available. LC50: Not available.
Chronic Effects on Humans:	CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH. TERATOGENIC EFFECTS: Classified None, for human.
Other Toxic Effects on Humans:	Hazardous in case of skin contact (irritant), of ingestion, of inhalation.
Special Remarks on Toxicity to Animals:	Not available.
Special Remarks on Chronic Effects on Humans:	May cause cancer (tumorigenic) according to animal data. No human data found.
Special Remarks on other Toxic Effects on Humans:	Acute Potential Health Effects: Skin: May cause skin irritation. Eyes: Dust may cause mechanical eye irritation. Inhalation: Material is irritating to mucous membranes and upper respiratory tract. May cause lung injury. Ingestion: May be harmful if swallowed. Ingestion of large amounts may cause gastrointestinal tract irritation. It is expected to be a low hazard for normal industrial handling.

SECTION 12: Ecological Information

Ecotoxicity:	Not available.
--------------	----------------

Report No.: NTS12078135M Page 8 of 10

NTS	
MSDS REPORT	
Product Name: Aluminium oxide (AL2O3)	Establishment / Revision: July, 31, 2012
BOD5 and COD:	Not available.
Products of Biodegradation:	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation:	The product itself and its products of degradation are not toxic.
Special Remarks on the Products of Biodegradation:	Not available.

SECTION 13: Waste handling

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3.

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

SECTION 14: Transport Information

DOT Classification:	Not a DOT controlled material (United States).
Identification:	Not applicable.
Special Provisions for Transport:	Not applicable.

SECTION 15: Regulation Information

Federal and State Regulations:
Illinois toxic substances disclosure to employee act: Aluminum oxide Rhode Island RTK hazardous substances: Aluminum oxide Minnesota: Aluminum oxide Massachusetts RTK: Aluminum oxide New Jersey: Aluminum oxide New Jersey spill list: Aluminum oxide California Director's list of Hazardous Substances: Aluminum oxide TSCA R/O inventory: Aluminum oxide SARA 313 toxic chemical notification and release reporting: Aluminum oxide Law Information:

Report No.: NTS12078135M Page 9 of 10

NTS	
MSDS REPORT	
Product Name: Aluminium oxide (AL2O3)	Establishment / Revision: July, 31, 2012
Other Regulations: EINECS:	This product is on the European Inventory of Existing Commercial Chemical Substances.
Other Classifications:	WHMIS (Canada): Not controlled under WHMIS (Canada). DSC (EEC): R36/38: Irritating to eyes and skin. S2: Keep out of the reach of children. S46: If swallowed, seek medical advice immediately and show this container or label.
HMIS (U.S.A.):	Health Hazard: 2 Fire Hazard: 0 Reactivity: 0 Personal Protection: E National Fire Protection Association (U.S.A.): Health: 2 Flammability: 0 Reactivity: 0 Specific hazard: Protective Equipment: Gloves, Lab coat, Dust respirator. Be sure to use an approved/certified respirator or equivalent. Splash goggles.

SECTION 16: Other Information

The information contained in this Safety data sheet is based on the present state of knowledge and current legislation.

Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the data hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use.

This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

This safety data sheet provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.

Report No.: NTS12078135M Page 10 of 10

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited



SAFETY DATA SHEET

ROHM AND HAAS SHANGHAI CHEMICAL
INDUSTRY CO., LTD.

Product name: AMBERJET™ 1000 Na Resin

Issue Date: 07.06.2013
Print Date: 26.07.2013

ROHM AND HAAS SHANGHAI CHEMICAL INDUSTRY CO., LTD. encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: AMBERJET™ 1000 Na Resin

Recommended use of the chemical and restrictions on use
Identified uses
Ion exchange and/or Adsorption process

COMPANY IDENTIFICATION
ROHM AND HAAS SHANGHAI CHEMICAL
INDUSTRY CO., LTD.
A Subsidiary of The Dow Chemical Company
QINGPU INDUSTRIAL ZONE
NO. 8606 SONG ZI DA DAO
201707 SHANGHAI
CHINA

Customer Information Number: 86-21-6921-1018
SDSQuestion@dow.com
Fax: 86-21-6921-1001

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: +800 2537 8747
Local Emergency Contact: 021-5838-2516

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
This product is not hazardous per the Globally Harmonized System of Classification and Labeling (GHS).

Other hazards
no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

© TM Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow Page 1 of 8

Product name: AMBERJET™ 1000 Na Resin

Issue Date: 07.06.2013

This product is a mixture.
Contains no hazardous ingredients according to GHS

4. FIRST AID MEASURES

Description of first aid measures

Inhalation: Move subject to fresh air.

Skin contact: Wash off with soap and water. If skin irritation persists, call a physician.

Eye contact: Rinse with plenty of water. If eye irritation persists, consult a specialist.

Ingestion: Drink two glasses of water.

Most important symptoms and effects, both acute and delayed

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), no additional symptoms and effects are anticipated.

Indication of any immediate medical attention and special treatment needed

Notes to physician: Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media
Use the following extinguishing media when fighting fires involving this material:

Water spray
Carbon dioxide (CO2)
Foam
Dry chemical

Special hazards arising from the substance or mixture

Hazardous combustion products
Combustion generates toxic fumes of the following: Carbon oxides Sulfur oxides.

Unusual Fire and Explosion Hazards

Toxic fumes are generated when material is exposed to fire or fire conditions. Cool closed containers exposed to fire with water spray.

Advice for firefighters

Fire Fighting Procedures

Reinain upwind.

Avoid breathing smoke.

Special protective equipment for firefighters
In the event of fire, wear self-contained breathing apparatus.

Page 2 of 8

Product name: AMBERJET™ 1000 Na Resin

Issue Date: 07.06.2013

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Appropriate protective equipment must be worn when handling a spill of this material. See SECTION 8, Exposure Controls/Personal Protection, for recommendations.
If exposed to material during clean-up operations, see SECTION 4, First Aid Measures, for actions to follow.

Environmental precautions

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological information.

Methods and materials for containment and cleaning up

Keep spectators away.
Picks may be slippery; use care to avoid falling.
Transfer spilled material to suitable containers for recovery or disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

NOTE: This product as supplied is a whole bead resin and may produce slight eye irritation. However, the ground form of this resin should be treated as a severe eye irritant. Worker exposure to ground resins can be controlled with local exhaust ventilation at the point of dust generation, or use of suitable personal protective equipment (dustmask, air-purifying respirator and safety goggles). Avoid repeated freeze-thaw cycles; beads may fracture. If frozen, thaw at room temperature.

Conditions for safe storage

Storage conditions: Keep from freezing.

Further information on storage conditions: Keep in a dry, cool place. Keep container tightly closed.

Further information:

CAUTION: Do not pack column with dry ion exchange resins. Dry beads expand when wetted; this expansion can cause glass column to shatter.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Exposure controls

Engineering measures: None required under normal operating conditions.

Personal protective equipment: Facilities storing or utilizing this material should be equipped with an eyewash facility.

Individual protection measures

Page 3 of 8

Product name: AMBERJET™ 1000 Na Resin

Issue Date: 07.06.2013

Eye/face protection: Use safety glasses with side shields (ANSI Z87.1 or approved equivalent).

Skin protection

Hand protection: Cotton or canvas gloves.

Respiratory protection: No personal respiratory protective equipment normally required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	Beads
Color	amber
Odor	no data available
Odor Threshold	no data available
pH	3.51
Melting point/range	no data available
Freezing point	no data available
Boiling point (760 mmHg)	100.00 °C
Flash point	no data available
Evaporation Rate (Butyl Acetate = 1)	<1.00
Flammability (solid, gas)	no data available
Lower explosion limit	Not Applicable
Upper explosion limit	Not Applicable
Vapor Pressure	22 hPa at 20 °C
Relative Vapor Density (air = 1)	<1.0000
Relative Density (water = 1)	1.2600 - 1.3000
Water solubility	insoluble
Partition coefficient: n-octanol/water	no data available
Autoignition Temperature	400.00 °C
Decomposition temperature	no data available
Dynamic Viscosity	Not Applicable/Not Applicable
Kinematic Viscosity	no data available
Explosive properties	no data available
Oxidizing properties	no data available
Molecular Weight	no data available
Percent volatility	51.00 - 56.00 %
Particle size	0.300 - 1.200 mm

NOTE: The physical data presented above are typical values and should not be construed as a specification.

Page 4 of 8

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Product name: AMBERJET™ 1000 Na Resin	Issue Date: 07.06.2013
---------------------------------------	------------------------

10. STABILITY AND REACTIVITY

Reactivity
no data available

Chemical stability
no data available

Possibility of hazardous reactions
Stable under normal conditions.
Product will not undergo polymerization.

Incompatible materials
Avoid contact with the following: Strong Oxidizers

Hazardous decomposition products
Thermal decomposition may yield the following: monomer vapors,

11. TOXICOLOGICAL INFORMATION

Toxicological information on this product or its components appear in this section when such data is available.

Acute toxicity
Acute oral toxicity
LD50, rat, > 5,000 mg/kg
Acute dermal toxicity
LD50, rabbit, > 5,000 mg/kg
Acute inhalation toxicity
Product test data not available.

Skin corrosion/irritation
Product test data not available.

Serious eye damage/eye irritation
Product test data not available.

Sensitisation
Product test data not available.

Specific Target Organ Systemic Toxicity (Single Exposure)
Product test data not available.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Product test data not available.

Carcinogenicity

Page 5 of 6

Product name: AMBERJET™ 1000 Na Resin	Issue Date: 07.06.2013
---------------------------------------	------------------------

Product test data not available.

Teratogenicity
Product test data not available.

Reproductive toxicity
Product test data not available.

Mutagenicity
Product test data not available.

Aspiration Hazard
Product test data not available.

Additional information
No data are available for this material. The information shown is based on profiles of compositionally similar materials.

12. ECOLOGICAL INFORMATION

Ecotoxicological information on this product or its components appear in this section when such data is available.

Ecotoxicity
No data available.

Persistence and Degradability
No data available.

Bioaccumulative Potential
No data available.

Mobility in Soil
No data available.

Other adverse effects
No data available.

13. DISPOSAL CONSIDERATIONS

Disposal methods:
Can be landfilled or incinerated, when in compliance with local regulations.

Contaminated packaging:
Empty containers should be taken to local recyclers for disposal. Refer to applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION

Page 6 of 6

Product name: AMBERJET™ 1000 Na Resin	Issue Date: 07.06.2013
---------------------------------------	------------------------

Classification for ROAD and Rail transport:
Not regulated for transport

Classification for SEA transport (IMO-IMDG):
Not regulated for transport

Classification for AIR transport (IATA/ICAO):
Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

The following statutes, regulations and standards have the related prescribes on chemicals in terms of safe use, storage, transportation, loading and unloading, classification and symbol etc.
Provisions on the Environmental Administration of New Chemical Substances
The Regulation on Chemicals Safe Use at Working Site
Law on Prevention and Control of Environmental Pollution Caused by Solid Waste.
China, Inventory of Existing Chemical Substances in China (IECSC) (ECSC)
All intentional components are listed on the inventory, are exempt, or are supplier certified.

16. OTHER INFORMATION

Hazard Rating System
HMIS

Health	Flammability	Physical Hazard
1	1	0

Revision
Identification Number: 101062314 / 1520 / Issue Date: 07.06.2013 / Version: 1.5
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

ROHM AND HAAS SHANGHAI CHEMICAL INDUSTRY CO., LTD. urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory

Page 7 of 8


Product name: AMBERJET™ 1000 Na Resin	Issue Date: 07.06.2013
---------------------------------------	------------------------

requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

Page 8 of 8

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited



SAFETY DATA SHEET
ROHM AND HAAS TAIWAN, INC.

Product name: AMBERJET™ 4200 Cl Resin

Issue Date: 2015.05.27
Print Date: 2016.11.07

ROHM AND HAAS TAIWAN, INC. encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: AMBERJET™ 4200 Cl Resin

Other names: None

Recommended use of the chemical and restrictions on use
Identified uses: Ion exchange and/or Adsorption process

COMPANY IDENTIFICATION
ROHM AND HAAS TAIWAN, INC.
A Subsidiary of The Dow Chemical Company
DAYUAN INDUSTRIAL ZONE
DAYUAN DISTRICT
3F, NO. 6, LAINE 280, ZHONGSHAN NORTH ROAD
33741 TAOYUAN CITY
TAIWAN

Customer Information Number: 886-3-3860096
SDSQuestion@dow.com
886-3-3860266

Fax:

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: (886)49 226 0560
Local Emergency Contact: 049-226-0560

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
This product is not hazardous per the Globally Harmonized System of Classification and Labeling (GHS).

Other hazards
no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

© TM Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

Page 1 of 8

Product name: AMBERJET™ 4200 Cl Resin

Issue Date: 2015.05.27

Chemical Properties: Quaternary ammonium divinylbenzene/styrene copolymer.
This product is a mixture.
Contains no hazardous ingredients according to GHS.

4. FIRST AID MEASURES

Description of first aid measures
Inhalation: Move subject to fresh air.

Skin contact: Wash off with soap and water. If skin irritation persists, call a physician.

Eye contact: Rinse with plenty of water. If eye irritation persists, consult a specialist.

Ingestion: Drink two glasses of water.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11, Toxicology Information.

Protection of first-aiders
Indication of any immediate medical attention and special treatment needed
Notes to physicians: Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water spray, Carbon dioxide (CO2), Foam, Dry chemical

Unsuitable extinguishing media: no data available

Special hazards arising from the substance or mixture
Hazardous combustion products: no data available

Unusual Fire and Explosion Hazards: Toxic fumes are generated when material is exposed to fire or fire conditions. Cool closed containers exposed to fire with water spray.

Advice for firefighters
Fire Fighting Procedures: Remain upwind. Avoid breathing smoke.

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Appropriate protective equipment must be worn when handling a spill of this material. See SECTION 8, Exposure Controls/Personal Protection, for recommendations. If exposed to material during clean-up operations, see SECTION 4, First Aid Measures, for actions to follow.

Page 2 of 8

Product name: AMBERJET™ 4200 Cl Resin

Issue Date: 2015.05.27

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Keep spectators away. Floor may be slippery, use care to avoid falling. Transfer spilled material to suitable containers for recovery or disposal.

7. HANDLING AND STORAGE

Precautions for safe handling: NOTE: This product as supplied is a whole bead resin and may produce slight eye irritation. However, the ground form of this resin should be treated as a severe eye irritant. Worker exposure to ground resins can be controlled with local exhaust ventilation at the point of dust generation, or use of suitable personal protective equipment (adequate air-purifying respirator and safety goggles). Avoid repeated freeze-thaw cycles; beads may fracture. If frozen, thaw at room temperature. Properly designed equipment is vital if these resins are to be used in conjunction with strong oxidizing agents such as nitric acid to prevent a rapid build-up of pressure and possible explosion. Consult a source knowledgeable in the handling of these materials before proceeding.

Conditions for safe storage: Keep in a dry, cool place. Keep container tightly closed.

Other data: CAUTION: Do not pack column with dry ion exchange resins. Dry beads expand when wetted; this expansion can cause glass column to shatter.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Exposure limits are listed below, if they exist.
Any type of listing among TWA, STEL, Ceiling and BEI which is missing from above Control parameters table, can be considered as no data available.

Exposure controls
Engineering controls: None required under normal operating conditions.

Protective measures: Facilities storing or utilizing this material should be equipped with an eyewash facility.

Individual protection measures
Eyeface protection: Use safety glasses with side shields (ANSI Z87.1 or approved equivalent).
Skin protection
Hand protection: Cotton or canvas gloves.
Respiratory protection: No personal respiratory protective equipment normally required.

Hygiene measures: No smoking and drinking

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Physical state Beads
Color amber

Page 3 of 8

Product name: AMBERJET™ 4200 Cl Resin

Issue Date: 2015.05.27

Odor	amine-like
Odor Threshold	no data available
pH	no data available
Melting point/range	no data available
Freezing point	no data available
Boiling point (760 mmHg)	no data available
Flash point	no data available
Evaporation Rate (Butyl Acetate = 1)	no data available
Flammability (solid, gas)	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapor Pressure	no data available
Relative Vapor Density (air = 1)	no data available
Relative Density (water = 1)	1.0500
Water solubility	insoluble
Partition coefficient: n-octanol/water	no data available
Auto-ignition temperature	no data available
Decomposition temperature	no data available
Kinematic Viscosity	no data available
Explosive properties	no data available
Oxidizing properties	no data available
Molecular weight	no data available
Percent volatility	50.00 - 54.00 %
Particle size	0.400 - 1.000 mm

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: no data available

Chemical stability: no data available

Possibility of hazardous reactions: Stable under normal conditions.
Product will not undergo polymerization.

Conditions to avoid: no data available

Inhibitor: None

Incompatible materials: Avoid contact with the following: Strong Oxidizers, Nitric acid

Page 4 of 8

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Product name: AMBERJET™ 4200 CI Resin	Issue Date: 2015.05.27
Hazardous decomposition products: Thermal decomposition may yield the following: monomer vapors	
11. TOXICOLOGICAL INFORMATION	
Toxicological information appears in this section when such data is available.	
Route of Exposure Please refer to the information below.	
Acute toxicity Acute oral toxicity LD50, Rat: > 5,000 mg/kg Acute dermal toxicity LD50, Rabbit: > 5,000 mg/kg Acute inhalation toxicity Product test data not available.	
Symptoms	
Skin corrosion/irritation Product test data not available.	
Serious eye damage/eye irritation Product test data not available.	
Sensitization Product test data not available.	
Specific Target Organ Systemic Toxicity (Single Exposure) Product test data not available.	
Chronic toxicity or long term toxicity	
Specific Target Organ Systemic Toxicity (Repeated Exposure) Product test data not available.	
Carcinogenicity Product test data not available.	
Teratogenicity Product test data not available.	
Reproductive toxicity Product test data not available.	
Mutagenicity Product test data not available.	
Aspiration Hazard	
Page 5 of 8	


Product name: AMBERJET™ 4200 CI Resin	Issue Date: 2015.05.27
Product test data not available.	
Additional information No data are available for this material. The information shown is based on profiles of compositionally similar materials.	
12. ECOLOGICAL INFORMATION	
Ecotoxicological information appears in this section when such data is available.	
General information Limited effects are expected from exposure of the environmental compartments by insoluble plastic beads of large diameter (300 to 1200 microns).	
Ecotoxicity No data available.	
Persistence and degradability No data available.	
Bioaccumulative potential No data available.	
Mobility in soil No data available.	
Results of PBT and vPvB assessment This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.	
Other adverse effects No data available.	
13. DISPOSAL CONSIDERATIONS	
Disposal methods: Can be landfilled or incinerated, when in compliance with local regulations.	
Contaminated packaging: Empty containers should be taken to local recyclers for disposal. Refer to applicable federal, state, and local regulations.	
14. TRANSPORT INFORMATION	
Classification for ROAD and Rail transport: Not regulated for transport.	
Page 6 of 8	

Product name: AMBERJET™ 4200 CI Resin	Issue Date: 2015.05.27	
Classification for SEA transport (IMO-IMDG): Not regulated for transport Consult IMO regulations before transporting ocean bulk Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code		
Classification for AIR transport (IATA/ICAO): Not regulated for transport		
Specific transport measures and precautionary conditions: No		
This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.		
15. REGULATORY INFORMATION		
Applicable regulations in Taiwan: Occupation Safety and Health Law Fire Services Act Environmental Agents Control Act Waste Disposal Act Water Pollution Control Act.		
16. OTHER INFORMATION		
Hazard Rating System HMIS		
Health	Flammability	Physical Hazard
1	1	0
Revision Identification Number: 101080900 / 1816 / Issue Date: 2015.05.27 / Version: 1.8		
Page 7 of 8		

Product name: AMBERJET™ 4200 CI Resin	Issue Date: 2015.05.27
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.	
Information Source and References This SDS is prepared in Taiwan by the Product Regulatory Management group from information supplied by our parent company.	
Date that the MSDS was prepared: Please refer to issue date.	
Organization that prepared the MSDS	Company Name: Dow Chemical Taiwan Ltd Address/Telephone: 1, CHUNG-HSIA 1ST STREET, MIN-HSIUNG INDUSTRIAL PARK, MIN-HSIUNG, CHIA-YI HSIEN, TAIWAN / (05)2210948 ext. 112
Prepared by	Title: Product Regulatory Specialist Name: Y.P. Tsai
ROHM AND HAAS TAIWAN, INC. urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.	
Page 8 of 8	

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

 **物質安全資料表** 表準編號: H-36-0102


SECTION 1 - Chemicals and Manufacturers Information

Chemical name: Anti-corrosion and scaling agents
Product code: HIC-200
Manufacturer or Supplier Name: Haw Chem Enterprise (Stock) Company No. 544, Minguan Road, North District, Taishung City Taiwan
Emergency contact number: 0931477032(24hrs), TEL: 04-22038416, FAX: 04-22035193

SECTION 2 - Hazard identification data

Category: Corrosion/Irritation Skin Substance Level 2, Irritating Eye Substance Level 2A

Marked content:



Symbols: Exclamation mark

Warning: Warning

Hazard warning message:

Acute: Inhalation: Very low toxicity, mainly to inhibit the central nervous system, can cause dizziness and nausea.

Skin: Direct contact with liquid may cause mild skin irritation.

Eyes: 1. 300ppm vapor will irritate eyes.

Ingestion: 1. May cause sore throat, nausea, and diarrhea.

2. Vomiting may hurt the throat, causing throat irritation and damage to digestive tissue.

Chronic: dissolves skin oils, and prolonged skin contact may cause dermatitis.

Hazard precautions:

1. Wear suitable personal protective equipment.

2. Eye contact: Immediately open the eyelids, flush the contaminated eyes with gentle warm water for 15 minutes. If irritation persists after rinsing, seek medical attention immediately.

3. When there is a small amount of spillage, flush the spill area with water.

4. If the ingested patient is about to lose consciousness, have lost consciousness or paralysis, do not feed anything, give the patient 240 to 300 ml of water, do not induce vomiting, and seek medical attention immediately.

Other hazards: main symptoms: irritation


SECTION 3 - To distinguish between data

Mixed substances:

Chemical properties:

Harmful ingredient in Chinese and English:

1

 **物質安全資料表** 表準編號: H-36-0102

Hazardous substance composition (percentage of ingredients):

SECTION 4 - First-aid

First aid methods for different exposure routes:

Inhalation:

1. Remove the source of contamination or move the patient to fresh air.

2. If the breathing is stopped, artificial respiration is administered immediately by trained personnel, and if the heartbeat stops, CPR is administered.

3. Get medical attention immediately.

Skin contact:

1. Take off contaminated clothing, shoes and leather accessories (such as straps, belts).

2. Wash the affected area thoroughly and gently with clean water for 5 to 10 minutes. If severe, seek medical attention promptly.

Eye contact:

1. Immediately spread the eyelids and flush the contaminated eyes with gentle warm water for 10 minutes.

2. If there is still irritation after washing, rinse again.

3. Get medical attention immediately.

Ingestion:

1. Do not feed anything if the patient is about to lose consciousness, has lost consciousness, or is paralyzed.

2. Do not induce vomiting.

3. Drink to the patient 240-300ml of water.

4. If the patient has spontaneous vomiting, let his body lean forward to reduce the risk of inhalation and repeat the water supply.

5. Get medical attention immediately.

The most important symptoms and harmful effects: Ingestion causes sore throat, nausea and diarrhea, and damage to digestive tissue.

Protection of emergency personnel: Wear rubber gloves to avoid contact with contaminants.

Tips for physicians: Consider gastric lavage when the patient ingests food.

SECTION 5 - Extinguishing measures

Suitable extinguishing agent: No flammability of the drug

Special hazards that may be encountered when fighting a fire: The container in the fire may break.

Special fire fighting procedures: ---

Special protective equipment for firefighters: ---

SECTION 6 - Leakage treatment method

Individuals should pay attention to:

1. Provide suitable personal protective equipment.


2. Restrict personnel from entering until the spill area is completely cleaned.

3. Make sure that the trained personnel are responsible for cleaning up.

Environmental precautions:

1. Keep the spill area well ventilated.

2

 **物質安全資料表** 表準編號: H-36-0102

2. Remove all sources of ignition.

3. Inform the government about occupational safety and health and environmental protection related units.

Cleaning method:

1. Do not touch the spill.

2. In the case of security clearance, try to prevent or reduce spillage.

3. Contain spillage with sand, earth, or similar stable, non-combustible material that does not react with spilled material. Contaminated absorbents and excreta have the same hazards must be placed in standard container marked and labeled.

4. In the case of small spills, flush the spill area with water.

5. When there is a lot of spillage: Contact emergency handling units and suppliers for assistance.

SECTION 7 - Safe disposal and storage methods

Disposal: 1. Empty tanks, vessels, and lines may have hazardous residues that must not come into contact with the skin before being washed. 2. Use storage containers made of compatible materials, being careful not to spray them when dispensing. 3. The container should be marked and kept tight and free from damage when not in use. 4. The operating area should have proper water sources and equipment to clean up spills.

store:

1. Store in a cool, dry, well-ventilated place away from sources of heat, ignition sources, and incompatible materials. 2. The ramp or sill or trench at the entrance allows the spill to be discharged to a safe place. 3. The storage area should be clearly marked, free from obstructions, and allowed to be entered by designated or trained personnel. 4. Appropriate sources of water and cleanup spills should be provided near the storage area. 5. Periodically inspect the storage container for damage or spillage. 6. Check that all new containers are properly labeled and not damaged. 7. Store in an appropriate and labeled container; keep it tightly closed to avoid container accumulation and damage. 8. Contain spills in storage containers made of compatible materials. 9. Avoid storing in large quantities indoors.

SECTION 8 - Exposure prevention measures

Engineering Control:

Control parameters: ---

TWA	STEL	CEILING	BEI
---	---	> 1000ppm	3874ppm

Personal protective equipment:

Respiratory protection: basic activated carbon mask

Hand protection: Impervious gloves made of cyan rubber, fluorinated elastomer, chlorinated polyethylene, or neoprene.


Eye protection: chemical safety goggles.

Skin and Body Protection: Full body protective clothing and work shoes of the above materials.

Hygiene measures:

1. Take off contaminated clothing as soon as possible after work and wash it before it can be worn or discarded. 2. Smoking or eating in the workplace is strictly forbidden.

3

 **物質安全資料表** 表準編號: H-36-0102

3. Wash hands thoroughly after handling. 4. Maintain good housekeeping.

SECTION 9 - Physical and chemical properties

Material State: Liquid	Shape: ---
Color: Colorless to pale yellow liquid	Odor: ---
pH: <1 boiling	point/boiling point range: >100°C
Decomposition temperature: ---	flash point: --- °F --- °C
	Test method: () open cup () closed cup
Vapor pressure: --- mmHg @ 20 °C	Vapor density: (Air = 1) ---
Specific gravity (water = 1): 1.10 ±0.1	Solubility: Miscible with water

SECTION 10 - Stability and reactivity

Stability: [V] Stability [I] Unstable

Possible hazardous reactions under special conditions: ---

Conditions to avoid: Avoid contact with alkaline substances

Substances to Avoid: Alkaline

Hazardous decomposition products: ---

SECTION 11 - Toxic data

Acute Toxicity: Skin: A slight skin irritant that causes temporary skin redness and severe dermatitis.

Eyes: Slight eye irritation.

Ingestion: Low oral activity may cause sore throat, nausea and diarrhea, and damage to digestive tissue.

LD50: 3874 mg/kg (rat, absorption) LC50: >1000 mg/L/hr

Local effects: 10 mg (rabbit, eye) causes slight irritation.

Sensitivity: ---

Chronic or long-term toxicity: Skin: Causes dry, red, itchy skin (dermatitis)

Special effects: ---

SECTION 12 - Ecological data

Possible environmental impact/environmental flow distribution:

1. Avoid the flow of the original body into the river, the microorganisms in the water are not easy to survive.

2. When released into soil or water, it is mainly acidic pollution.

SECTION 13 - Disposal methods

Disposal methods: Dispose of in accordance with flammability business waste disposal procedures


1. Waste should be handled according to local government regulations.

2. Waste solution should be placed in a sealed container for recycling.

4

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited



物質安全資料表

表準編號: HS-M-0102

3. The empty barrel waste can not be discarded at will, please according to the relevant regulations, handed over to the recycling manufacturer for disposal.

SECTION 14 - Shipping information

International shipping regulations:	no danger
UN number: UN NO.----	
Domestic transportation regulations:	no danger
Special shipping methods and precautions:	None


SECTION 15 - Regulatory information

☒ Applicable regulations:

Labor Safety and Health Facilities Rules
Hazardous Materials Harmfulness Rules
Business waste storage removal processing method and facility standard

SECTION 16 - Other information

References	1. Emergency Handling Manual for Hazardous Chemical Substances, Department of Drug Control, Environmental Protection Agency, Executive Yuan, 1991.7 2. CHEMICAL ENGINEERING, 1993.2 3. Megaton chemical technology handbook, 1999.1
Manufacturer	Haw Chem Enterprise (stock) company
Unit	Address: Phone: No. 544, Mingqian Road, North District, Taichung City Taiwan 04-22038416
Manufacturer	Title: Word Processing Watchmaker
Date of publication	December 29, 106, Republic of China



TRADE MARK

MADE IN JAPAN

Prepared on: MAR.18.2019

Safety Data Sheet

1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY

Name of chemical substances	Beeswax
Product name	BEES WAX(DISK)
Company name	Miki Chemical Industry & Co., Ltd.
Address	5-210 Hirahatahakumada, Himeji, Hyogo 671-1102 Japan
Phone number	+81-79-236-3272
Emergency phone	+81-79-236-3272
Fax number	+81-79-236-2284

2 HAZARDS IDENTIFICATION

GHS classification	Implementation date for classification	Feb. 19, 2010 (in accordance with the GHS Classification Guidance for the Japanese Government issued in March 2009)
Physical hazards	Explosives	Not applicable
	Flammable gases	Not applicable
	Flammable aerosols	Not applicable
	Oxidizing gases	Not applicable
	Gases under pressure	Not applicable
	Flammable liquids	Not applicable
	Flammable solid	Classification not possible
	Self-reactive substances and mixtures	Classification not possible
	Pyrophoric liquids	Not applicable
	Pyrophoric solids	Not classified
	Self-heating substances and mixtures	Classification not possible
	Substances and mixtures which, in contact with water, emit flammable gases	Not applicable
	Oxidizing liquids	Not applicable
	Oxidizing solids	Classification not possible
	Organic peroxides	Classification not possible
	Corrosive to metals	Classification not possible
Health hazards	Acute toxicity (Oral)	Not classified
	Acute toxicity (Dermal)	Not classified
	Acute toxicity (Inhalation: gases)	Not applicable
	Acute toxicity (Inhalation: Vapor)	Classification not possible

Environmental hazards

Acute toxicity (Inhalation: Dust)	Classification not possible
Acute toxicity (Inhalation: Mist)	Not applicable
Skin corrosion/irritation	Not classified
Serious eye damage/eye irritation	Not classified
Respiratory sensitization	Classification not possible
Skin sensitization	Classification not possible
Germ cell mutagenicity	Classification not possible
Carcinogenicity	Classification not possible
Reproductive toxicity	Classification not possible
Specific target organ/systemic toxicity (single exposure)	Classification not possible
Specific target organ/systemic toxicity (repeated exposure)	Classification not possible
Aspiration hazard	Classification not possible
Acute hazards to the aquatic environment	Classification not possible
Chronic hazards to the aquatic environment	Classification not possible

Label elements

Pictogram or symbol: None
Signal word: None
Hazard statement: Influence on the human body: None

3 COMPOSITION / INFORMATION ON INGREDIENTS

Chemical or generic synonym	Beeswax
Ingredients and composition	BEESWAX White Beeswax
Chemical property (rational formula or structural formula)	Mixture of wax ester, free acid, free alcohol, hydrocarbon, etc.
CAS number	8012-89-3
Reference number in gazette list in Japan	JCSGL: Not covered (because it is a natural product)
Reference number in Japan	ISHL: No. 11-(4)-184
Impurities and stabilizing additives which contribute to the concentration or concentration ranges	No data
	100%

4 FIRST-AID MEASURES

Inhalation

If the vapor is inhaled, remove the victim to fresh air immediately and seek medical attention.

Skin contact

If the melted form comes into contact with the skin, cool down well with cold water. Keep the wax on the skin and seek medical

Eye contact

Immediately wash eyes with plenty of water. Get medical

Ingestion

If eaten by mistake, do not induce vomiting. If caught in the throat, try to get the person to vomit and seek medical advice.

Expected immediate and delayed symptoms

No data

Most important symptoms

No data

Protection of first-aiders

No data

Special notes for physicians

No data

5 FIRE-FIGHTING MEASURES

Extinguishing media

Dry chemical fire extinguishers

Unsuitable extinguish media

Stream hosing

Specific hazards

Heating, sparks, or a fire may cause ignition of the product. Intensely heating causes combustion. Cut off the combustion source and quickly remove containers to a safe place if they are movable. Use the fire extinguishing agent to extinguish from the windward side.

Specific means of extinction

Wear appropriate respirator and protective clothing (heat-)

Protection of fire fighters

6 ACCIDENTAL RELEASE MEASURES

Melted form

Pour water, sand, etc., to cool down and gather to incinerate.

Solid form

Gather to incinerate.

7 HANDLING AND STORAGE

Handling

Flammable. Do not put close to open flame or expose to high temperature. Wear protective equipment if the melted wax may come into contact with the skin or eyes. Inhalation of the vapor of the melted wax may cause the person to feel sick. Provide adequate ventilation in handling. Do not inhale the vapor.

Storage

Keep containers shaded and tightly closed in a well-ventilated, cool, and dark place.

Packaging materials

No data

8 EXPOSURE CONTROLS / PERSONAL

Control concentration

Not specified

Permissible concentration (exposure limit value and biological exposure indices)

No data

Japan Society for Occupational Health ACGIH

No data

Technical facility controls

Handle in a facility with general ventilation.


Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)


Myanmar Asia Optical International Company Limited

Personal protective equipment	Use eye protection/protective gloves/protective clothing/ respiratory protection as required.
9 PHYSICAL AND CHEMICAL PROPERTIES	
Physical state	Form Solid
Color	White to light yellow color
Melting point/freezing point	60-67°C
Boiling point, initial boiling point, and boiling range	No data
Flash point	243°C
Auto-ignition temperature	No data
Flammability (solid, gas)	No data
Flammable range	No data
Vapor pressure	No data
Vapor density	No data
Evaporation rate (Butyl acetate=1)	No data
Specific gravity (Density)	0.95-0.97 (20°C)
Solubility	Water: Insoluble
Partition coefficient, octanol/water	No data
Decomposition temperature	No data
Viscosity	No data
Lower dust explosion limit	No data
Minimum ignition energy	No data
Volume resistivity (conductivity)	No data
10 STABILITY AND REACTIVITY	
Stability	Stable under normal use.
Possibility of hazardous reactions	Flammable.
Conditions to avoid	No data
Incompatible materials	No data
Hazardous decomposition products	No data
11 TOXICOLOGICAL INFORMATION	
Acute toxicity	Oral Rat LD ₅₀ not less than 5 g/kg ⁶
Skin corrosion	No data
Irritant	Mild skin irritation ^{1,2}
Serious eye damage/ eye irritation:	No data
Respiratory or skin sensitization	Non-sensitized: Photosensitization: negative ^{3,4,5}
Germ cell mutagenicity	No mutagenicity detected ³
Carcinogenicity	No data
Reproductive toxicity	No data
Specific target organ/systemic toxicity (single exposure)	No data

Specific target organ/systemic toxicity (repeated exposure)	No data
Aspiration hazard	No data
12 ECOLOGICAL INFORMATION	
Acute hazards to the aquatic environment	No data
Chronic hazards to the aquatic environment	No data
13 DISPOSAL CONSIDERATIONS	
Residues	The method of disposal is required by regulations. Dispose appropriately pursuant to the regulations.
14 TRANSPORT INFORMATION	
International regulations	Marine regulatory information Not applicable
Domestic regulations	Aviation regulatory information Not applicable Rail and road regulatory information Not applicable Marine regulatory information Not applicable Aviation regulatory information Not applicable
No. of Emergency Response Guideline	In shipment, avoid direct sunlight, load carefully to prevent turnover, falling or damage and take measures for preventing the collapse of cargo.
15 REGULATORY INFORMATION	
Fire Service Act	Designated flammable goods (combustible solids) The technical criteria for storage and the handling of goods over 3,000 kg are specified by the regulations of municipal
16 OTHER INFORMATION	
References	1. CTFA (April 12, 1972). Submission of data. Unpublished human primary skin irritation-24-hour occlusive patch. Beeswax. 2. CTFA (Aug. 28, 1976). Submission of data. Unpublished single insult 24-hour occlusive patch test on humans or beeswax. 3. CTFA (1977). Submission of data. Unpublished cosmetic safety evaluation of a mascara formulation containing 3 percent beeswax. 4. CTFA (Oct. 30, 1980). Submission of data. Unpublished human repeat insult patch test, prosoatch and use test of product containing 10 percent white beeswax and 7.2-9.4 percent synthetic beeswax. 5. EPSTEIN, W.L. (Jan. 31, 1975). Report to Research Institute for Fragrance Materials (RIFM).

6. McOEE LABORATORIES (NL) (Sept. 21, 1974). Report to RIFM.
7. CTFA (Jan. 12, 1978). Submission of data. Unpublished six-week dermal toxicity study in rats on product containing 13 percent beeswax.
8. NATIONAL TECHNICAL INFORMATION SERVICE (NTIS) (May 30, 1975). Mutagenic evaluation of compounds: FDA 73-49 beeswax white. Liton Bionetox. Report to the Food and Drug Administration.
The MSDS is reference information to ensure the safe handling of hazardous chemical materials and is provided to the companies handling them. The companies handling them should understand that it is necessary to refer to the MSDS and take appropriate measures depending on the actual situations including individual handling on their own responsibility in order to utilize the MSDS. This MSDS was faithfully prepared based on our current knowledge, but it does not provide any guarantees.


Cleaning Agent (FQG-118)
SDSNVO-T191008022A



Safety Data Sheet (SDS)

Creation Date : 2019/10/08
Revision Date : 2019/10/08
Version : 20191008
Prepared according to UN GHS (the 7th revised edition)

Product Name: Cleaning Agent
Model: FQG-118

Company Name: FoShan FangXi Technology Co., Ltd

Written by TJTc (FoShan FangXi Technology Co., Ltd.)

TJTest GHS SDS Report(E)-T191008022A 1/10 Date: 08-Oct-19

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

通創檢測
TTC Technology Co., Ltd.

Cleaning Agent (FQG-118) SDS NO.: T191008022A

1 Identification of the chemical and supplier

1.1 Product identifier Product Name: Cleaning Agent Product Model: FQG-118 Product Code: T191008022A

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses: Cleaning the glass surface
Uses advised against: Please consult manufacturer.

1.3 Details of the supplier of the Safety Data Sheet
Name of the company: FoShan FangXi Technology Co., Ltd.
Address of the company: Room602 19th Floor NanYi District,Guicheng HaiSan Road,NanHai FoSh Guangdong
Telephone number: +86 757-86260662 Fax number: -- Zip code : --
mail address:SSH781026@163.COM Emergency phone number: +86 757-86260662

2 Hazards identification:

2.1 Hazard classification according to GHS: The product is not dangerous.

2.2 Label elements

Hazard pictograms : None

Signal word : None

2.3 Hazard statements: None

2.4 Precautionary statements

2.4.1 Prevention
None

2.4.2 Response
None

2.4.3 Storage
Not applicable

2.4.4 Disposal
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.5 Hazard description

2.5.1 Physical and chemical hazards

TTC SDS Report(E)- T191008022A 2/10 Date: 08-Oct-19

通創檢測
TTC Technology Co., Ltd.

Cleaning Agent (FQG-118) SDS NO.: T191008022A

This product is normally used without hazard.

2.5.2 Health hazards
This product is normally used without hazard.

2.5.3 Environmental hazards
Please refer to 12th chapter of SDS.

3 Composition/information on ingredients
Substance ☐ Preparation ☒

Composition:

Component	CAS No.	EC No.	Concentration (weight percent, %)
Sodium hydroxide	1310-73-2	215-185-5	10
Water	7732-18-5	231-791-2	50
Additives	--	--	40

4 First aid measures

4.1 Description of first aid measures
General advice: Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Skin contact: During production, take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes and consult a physician if fall uncomfortable.
Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if fall uncomfortable.
Inhalation: Under normal use conditions, no adverse effects will occur. If contact with decomposition products, irritation occurs. Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.
Intake: Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.
Protecting of first-aiders:
Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

4.2 Most important symptoms and effects, both acute and delayed
1) Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

4.3 Indication of any immediate medical attention and special treatment needed
1) Treat symptomatically.
2) Symptoms may be delayed.

5 Firefighting measures

TTC SDS Report(E)- T191008022A 3/10 Date: 08-Oct-19

通創檢測
TTC Technology Co., Ltd.

Cleaning Agent (FQG-118) SDS NO.: T191008022A

5.1 Extinguishing media
1) Suitable extinguishing media : Dry chemical, carbon dioxide or alcohol-resistant foam.
2) Unsuitable extinguishing media : Do not use a solid water stream as it may scatter or spread fire.

5.2 Specific hazards arising from the substance or mixture
1) Will form explosive mixtures with air.
2) Fire exposed containers may vent contents through pressure relief valves thereby increasing fire intensity and/ or vapour concentration.
2) Vapours may travel to source of ignition and flash back.
4) Liquid and vapour flammable.
5) May emit poisonous fumes on fire.
6) Containers may explode when heated.
7) Fire exposed containers may vent contents through pressure relief valves.
8) May expansion or decompose explosively when heated or involved in fire.

5.3 Advice for firefighters
1) As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and ull protective gear.
2) Fight fire from a safe distance, with adequate cover.
3) Prevent fire extinguishing water from contaminating surface water or the ground water system.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
1) Avoid breathing vapors and contacting with skin and eye.
2) Beware of vapours accumulating to form explosive concentrations.
3) Vapours can accumulate in low areas.
4) Emergency personnel wear positive pressure self-contained breathing apparatus. Wear protective and anti-static clothing. Wear chemical impermeable gloves.
1) Ensure adequate ventilation. Remove all sources of ignition.
2) Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
3) Use personal protective equipment. Avoid breathing vapours, mist, gas or dust.

6.2 Environmental precautions
1) Prevent further leakage or spillage if safe to do so.
2) Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
1) Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.
1) Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.
3) Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7 Handling and storage :

7.1 Precautions for handling

TTC SDS Report(E)- T191008022A 4/10 Date: 08-Oct-19

通創檢測
TTC Technology Co., Ltd.

Cleaning Agent (FQG-118) SDS NO.: T191008022A

1) Avoid inhalation of vapors.
2) Use only non-sparking tools.
2) To prevent fire caused by electrostatic discharge steam, equipment on all metal parts should be grounded.
4) Use explosion proof equipment.
5) Handling is performed in a well ventilated place.
6) Wear suitable protective equipment.
7) Avoid contact with skin and eyes.
4) Keep away from heat/sparks/open flames/ hot surfaces.
5) Take precautionary measures against static discharges.

7.2 Precautions for storage
1) Store in a cool, ventilated warehouse.
2) Store temperature should not exceed 37 °C, away from fire and heat sources.
3) Keep the container sealed.
4) Should be stored separately from oxidants, reducing agents, halogens, etc. Avoid mixing.
5) Use explosion-proof lighting and ventilation facilities.
6) It is forbidden to use mechanical equipment and tools that easily produce sparks.
7) The storage area should be equipped with leakage emergency treatment equipment and suitable containment materials.

8 Exposure controls/personal protection

8.1 Control Parameters

8.1.1 Occupational exposure limits

Occupational Exposure limit values

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m3	ppm	mg/m3
All components	USA-OSHA	Unspecified	Unspecified	Unspecified	Unspecified
	South Korea	Unspecified	Unspecified	Unspecified	Unspecified
	Ireland	Unspecified	Unspecified	Unspecified	Unspecified
	Germany (AGS)	Unspecified	Unspecified	Unspecified	Unspecified
	Denmark	Unspecified	Unspecified	Unspecified	Unspecified
	Australia	Unspecified	Unspecified	Unspecified	Unspecified
	South Korea	Unspecified	Unspecified	Unspecified	Unspecified
	Ireland	Unspecified	Unspecified	Unspecified	Unspecified
	Germany (AGS)	Unspecified	Unspecified	Unspecified	Unspecified
	Denmark	Unspecified	Unspecified	Unspecified	Unspecified
Australia	Unspecified	Unspecified	Unspecified	Unspecified	

8.1.2 Biological limit values
Biological limit values : No information available

8.1.3 Monitoring methods

TTC SDS Report(E)- T191008022A 5/10 Date: 08-Oct-19

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

通創檢測
TTC Technology Co., Ltd.

Cleaning Agent (FQ0-11B) SDS NO.: T191008022A







1. EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
2. GBZ/T 160.1-GBZ/T 160.81-2004 Determination of toxic substances in workplace air (Series standard).

8.2 Engineering controls

1. Ensure adequate ventilation, especially in confined areas.
2. Ensure that eyewash stations and safety showers are close to the workstation location.
3. Use explosion-proof electrical/ventilating/lighting/equipment.
4. Set up emergency exit and necessary risk-elimination area.

8.3 Personal protection

equipment General requirement:

Eye protection : Tightly fitting safety goggles (approved by EN 166(EU) or NIOSH (US)).
Hand protection : Wear protective gloves (such as butyl rubber), passing the tests according to EN 374(EU), US F739 or AS/NZS 2161.1 standard.
Respiratory protection : If exposure limits are exceeded or if irritation or other symptoms are experienced, use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges.
Skin and body protection : Wear fire/flame resistant/retardant clothing and antistatic boots.
Other protection: Smoking, eating and drinking are forbidden on the job site. Maintain good hygiene habits.

9、Physical and chemical properties :

Appearance: Light yellow.
Odor: Weak odor.
Odor threshold: Not available.
PH value: Not available.
Melting point/freezing point (°C): Not available.
Initial boiling point and boiling range (°C): Not available.
Flash point (closed cup, °C): Not available.
Evaporation rate: No data available.
Flammability (solid or gas): No data available.
Explosion upper/lower limit [% (v/v)]: No data available.
Vapor pressure (kPa): No data available.
Vapor density (air = 1): No data available.
Relative density (water = 1): No data available.
Solubility (mg/L): No data available.

TTC GH S SDS Report(E)- T191008022A 6/10 Date: 08-Oct-19

通創檢測
TTC Technology Co., Ltd.

Cleaning Agent (FQ0-11B) SDS NO.: T191008022A

Octanol/water partition coefficient: No data available.
Auto-ignition temperature (°C): No data available.
Decomposition temperature (°C): Not available.
Viscosity: No data available.
Others: No data available.

10. Stability and Reactivity:

Reactivity: Contact with incompatible materials can cause decomposition or other chemical reactions.
Chemical stability: Stable under the correct conditions of use and storage.
Possibility of hazardous reactions: No data available.
Conditions to avoid: Incompatible materials, static electricity, heat, humidity, etc.
Incompatible materials: Strong oxidizers, strong acids, strong bases.
Hazardous decomposition products: No data available.

11. Toxicological information:

11.1 Acute toxicity

Component	LD50(oral)	LD50(Transcutaneous)	LC50(inhalation, 4h)
All components	No data available	No data available	No data available

11.2 Carcinogenicity:

Component	IARC	NTP
All components	Not Listed	Not Listed

11.3 Others

Component	Corrosive skin/irritation	Serious eye damage/irritation	Skin sensitization	Respiratory sensitization	Reproductive toxicity	Specific target organ toxicity - single exposure	Specific target organ toxicity - repeated exposure	Aspiration hazard	Germ cell mutagenicity	Reproductive toxicity
All components	No data available	No data available	No data available	No data available	No data available	No data available	No data available	No data available	No data available	No data available

12. Ecological information:

12.1 Acute aquatic toxicity

TTC GH S SDS Report(E)- T191008022A 7/10 Date: 08-Oct-19

通創檢測
TTC Technology Co., Ltd.

Cleaning Agent (FQ0-11B) SDS NO.: T191008022A

Component	Fish	Crustaceans	Algae
All components	No data available.	No data available.	No data available.

12.2 Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae
All components	No data available.	No data available.	No data available.

12.3 Others

Component	Persistence and degradability	Bioaccumulation or bioaccumulation	Soil mobility	Evaluation of PBT and vPvB results
All components	No data available.	No data available.	No data available.	No data available.

13、Disposal considerations

Disposal considerations
Waste chemicals: If you need medical advice. Please carry product containers or labels. Contaminated packaging. Residual hazards may still exist after the contents of the packaging are emptied. Keep away from heat and sources of ignition. If possible, recycle them to the supplier for recycling.
Disposal considerations: Refer to the "Disposal" section.

14、Transportation information:

United Nations Dangerous Goods Number (UN No.): The product is not dangerous.
UN proper shipping name: None
UN Risk Classification: None
Packing Category: None
Packaging label: None Marine
Pollutants (Yes/No): No
Packing method: Pack according to the manufacturer's recommendations, for example: open drums. Ampoule bottle outside the ordinary wooden box. Threaded glass bottles, iron lids, glass bottles, plastic bottles or metal drums (cans) outside the ordinary wooden boxes.
Transportation Note: It is strictly prohibited to mix and transport with acids, alkalis, oxidants, foods and food additives. The exhaust pipe of the vehicle carrying this item must be equipped with a fire-retardant device, which prohibits the use of mechanical equipment and tools that generate sparks. Avoid exposure, rain, and high temperature during transportation. The tank (tank) used for transportation shall have a grounding chain, and a hole partition may be arranged in the tank to reduce the static electricity generated by the vibration.
It is strictly prohibited to mix and transport with oxidants, acids, foods and food additives. It is

TTC GH S SDS Report(E)- T191008022A 8/10 Date: 08-Oct-19

通創檢測
TTC Technology Co., Ltd.

Cleaning Agent (FQ0-11B) SDS NO.: T191008022A

strictly forbidden to use wooden boats and cement ships for bulk transportation. Avoid exposure, rain, and high temperature during transportation. Transportation vehicles shall be equipped with fire fighting equipment and emergency response treatment equipment of corresponding types and quantities. Before shipping, check whether the packaging container is complete and sealed. On the transportation means, hazard signs and announcements should be posted in accordance with the relevant transportation requirements.

15、Regulatory information:

International chemical inventory

Component	EINECS	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AICS
Sodium hydroxide	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Water	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Additives	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A

[EINECS] European Inventory of Existing Commercial Chemical Substances
[TSCA] United States Toxic Substances Control Act Inventory
[DSL] Canadian Domestic Substances List
[IECSC] China Inventory of Existing Chemical Substances
[NZIoC] New Zealand Inventory of Chemicals
[PICCS] Philippines Inventory of Chemicals and Chemical Substances

16、Others

16.1 Reference :

- [1] IPCS: The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/shwcard.html>.
- [2] IARC, website: <http://www.iarc.fr/>.
- [3] OECD: The Global Portal to Information on Chemical Substances, website: http://www.chemportal.org/chemportal/index?pagellD=0&request_locale=en.
- [4] CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>.
- [5] NLM: ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>.
- [6] EPA: Integrated Risk Information System, website: <http://cfpub.epa.gov/nris/>.
- [7] U.S. Department of Transportation: ERG, website: <http://www.phmsa.dot.gov/hazmat/library/erg>.
- [8] Germany GESTIS-database on hazard substance, website: <http://gestis-en.itrust.de/>.

16.2 Others:

TTC GH S SDS Report(E)- T191008022A 9/10 Date: 08-Oct-19

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

通創檢測
TJTest Technology Co., Ltd.


Cleaning Agent (FX-115) SDSNO: T191008023A

1) Abbreviations and acronyms
 CAS - Chemical Abstracts Service
 DNEL - Derived No Effect Level
 LC50 - Lethal Concentration 50%
 PBT - Persistent, Bioaccumulative, Toxic
 IMDG - International Maritime Dangerous Goods
 NFPA - National Fire Protection Association
 CMR - Carcinogens, mutagens or substances toxic to reproduction
 PC-TWA - Time Weighted Average
 PNEC - Predicted No Effect Concentration
 EC50 - Effective Concentration 50%
 POW - Partition coefficient Octanol/Water
 ICAO/IATA - International Civil Aviation Organization/International Air Transportation Association
 ACGIH - American Conference of Governmental Industrial Hygienists
 OECD - Organization for Economic Co-operation and Development

PC-STEL - Short term exposure limit
 RPE - Respiratory Protective Equipment
 NOEC - No Observed Effect Concentration
 BCF - Bioconcentration factor (BCF)
 UN-The United Nations

2) Disclaimer
 This Safety Data Sheet (SDS) was prepared according to UN GHS (the 7th revised edition). The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

Photograph of sample



SDS Creation Date: 2019/10/08(valid for one year)

TJTest GHS SDS Report(E)-T191008023A 10/10 Date: 08-Oct-19

通創檢測
TJTest Technology Co., Ltd.

Cleaning Agent (FX-15) SDSNO: T191008023A

Safety Data Sheet
(SDS)

Creation Date : 2019/10/08
 Revision Date : 2019/10/08
 Version: 20191008
 Prepared according to UN GHS (the 7th revised edition)

Product Name: Cleaning Agent
Model: FX-15

Company Name: FoShan FangXi Technology Co., Ltd

Written by TJTest Technology Co., Ltd.

TJTest GHS SDS Report(E)-T191008023A 1/10 Date: 08-Oct-19

通創檢測
TJTest Technology Co., Ltd.

Cleaning Agent (FX-15) SDSNO: T191008023A

1 Identification of the chemical and supplier
1.1 Product identifier Product Name:
 Cleaning Agent Product Model: FX-15
 Product Code: T191008023A

1.2 Relevant identified uses of the substance or mixture and uses advised against
 Relevant identified uses: Cleaning the glass surface
 Uses advised against: Please consult manufacturer.

1.3 Details of the supplier of the Safety Data Sheet
 Name of the company: FoShan FangXi Technology Co., Ltd
 Address of the company: Room 602 19th Floor NanYi District, Guicheng HaiSan Road, NanHai FoSh Guangdong
 Telephone number: +86 757-86260662 Fax number: ~
 Zip code: --
 mail address: SSH781026@163.COM Emergency phone number: +86 757-86260662

2 Hazards identification
2.1 Hazard classification according to GHS: The product is not dangerous.
2.2 Label elements
 Hazard pictograms: None
 Signal word: None
2.3 Hazard statements: None

2.4 Precautionary statements
2.4.1 Prevention
 None
2.4.2 Response
 None
2.4.3 Storage
 Not applicable
2.4.4 Disposal
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.5 Hazard description
2.5.1 Physical and chemical hazards

TJTest GHS SDS Report(E)-T191008023A 2/10 Date: 08-Oct-19

通創檢測
TJTest Technology Co., Ltd.

Cleaning Agent (FX-15) SDSNO: T191008023A

This product is normally used without hazard.

2.5.2 Health hazards
 This product is normally used without hazard.

2.5.3 Environmental hazards
 Please refer to 12th chapter of SDS.

3 Composition/information on ingredients
 Substance ☐ Preparation ☒
Composition:

Component	CAS No.	EC No.	Concentration (weight percent, %)
Non-ionic surfactants	308061-37-2	—	20
Sodium gluconate	527-07-1	208-407-7	5
Others			10

4 First aid measures
4.1 Description of first aid measures
General advice: Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Skin contact: During production, take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes and consult a physician if fell uncomfortable.
Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if fell uncomfortable.
Inhalation: Under normal use conditions, no adverse effects will occur. If contact with decomposition products, irritation occurs. Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.
Ingestion: Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.
Protecting of first-aiders:
 Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

4.2 Most important symptoms and effects, both acute and delayed
 1) Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

4.3 Indication of any immediate medical attention and special treatment needed
 1) Treat symptomatically.
 2) Symptoms may be delayed.

5 Firefighting measures

TJTest GHS SDS Report(E)-T191008023A 3/10 Date: 08-Oct-19

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

通創檢測
TTC Technology Co., Ltd.

Cleaning Agent (FX-15) SDSNO: T191008023A

5.1 Extinguishing media

- 1) Suitable extinguishing media : Dry chemical, carbon dioxide or alcohol-resistant foam.
- 2) Unsuitable extinguishing media : Do not use a solid water stream as it may scatter or spread fire.

5.2 Specific hazards arising from the substance or mixture

- 1) Will form explosive mixtures with air.
- 2) Fire exposed containers may vent contents through pressure relief valves thereby increasing fire intensity and/ or vapour concentration.
- 3) Vapours may travel to source of ignition and flash back.
- 4) Liquid and vapour are flammable.
- 5) May emit poisonous fumes on fire.
- 6) Containers may explode when heated.
- 7) Fire exposed containers may vent contents through pressure relief valves.
- 8) May expand or decompose explosively when heated or involved in fire.

5.3 Advice for firefighters

- 1) As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.
- 2) Fight fire from a safe distance, with adequate cover.
- 3) Prevent fire extinguishing water from contaminating surface water or the ground water system.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- 1) Avoid breathing vapors and contacting with skin and eye.
- 2) Beware of vapours accumulating to form explosive concentrations.
- 3) Vapours can accumulate in low areas.
- 4) Emergency personnel wear positive pressure self-contained breathing apparatus. Wear protective and anti-static clothing. Wear chemical impermeable gloves.
- 5) Ensure adequate ventilation. Remove all sources of ignition.
- 6) Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
- 7) Use personal protective equipment. Avoid breathing vapours, mist, gas or dust.

6.2 Environmental precautions

- 1) Prevent further leakage or spillage if safe to do so.
- 2) Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

- 1) Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.
- 2) Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.
- 3) Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7 Handling and storage :

7.1 Precautions for handling:

TTC Test GHS SDS Report(E)- T191008023A 4/10 Date: 06-Oct-19

通創檢測
TTC Technology Co., Ltd.

Cleaning Agent (FX-15) SDSNO: T191008023A

- 1) Use only non-sparking tools.
- 3) To prevent fire caused by electrostatic discharge steam, equipment on all metal parts should be grounded.
- 4) Use explosion proof equipment.
- 5) Handling is performed in a well ventilated place.
- 6) Wear suitable protective equipment.
- 7) Avoid contact with skin and eyes.
- 8) Keep away from heat/sparks/open flames/ hot surfaces.
- 9) Take precautionary measures against static discharges.

7.2 Precautions for storage:

- 1) Store in a cool, ventilated warehouse.
- 2) Store temperature should not exceed 37 °C, away from fire and heat sources.
- 3) Keep the container sealed.
- 4) Should be stored separately from oxidants, reducing agents, halogens, etc. Avoid mixing.
- 5) Use explosion-proof lighting and ventilation facilities.
- 6) It is forbidden to use mechanical equipment and tools that easily produce sparks.
- 7) The storage area should be equipped with leakage emergency treatment equipment and suitable containment materials.

8 Exposure controls/personal protection

8.1 Control Parameters

8.1.1 Occupational exposure limits

Occupational Exposure limit values

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m ³	ppm	mg/m ³
All components	USA-OSHA	Unspecified	Unspecified	Unspecified	Unspecified
	South Korea	Unspecified	Unspecified	Unspecified	Unspecified
	Ireland	Unspecified	Unspecified	Unspecified	Unspecified
	Germany (AGS)	Unspecified	Unspecified	Unspecified	Unspecified
	Denmark	Unspecified	Unspecified	Unspecified	Unspecified
	Australia	Unspecified	Unspecified	Unspecified	Unspecified
	South Korea	Unspecified	Unspecified	Unspecified	Unspecified
	Ireland	Unspecified	Unspecified	Unspecified	Unspecified
	Germany (AGS)	Unspecified	Unspecified	Unspecified	Unspecified
	Denmark	Unspecified	Unspecified	Unspecified	Unspecified
Australia	Unspecified	Unspecified	Unspecified	Unspecified	

8.1.2 Biological limit values
Biological limit values : No information available

8.1.3 Monitoring methods

TTC Test GHS SDS Report(E)- T191008023A 5/10 Date: 06-Oct-19

通創檢測
TTC Technology Co., Ltd.

Cleaning Agent (FX-15) SDSNO: T191008023A


1. EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
2. GBZ/T 160.1-GBZ/T 160.81-2004 Determination of toxic substances in workplace air (Series standard).

8.2 Engineering controls

1. Ensure adequate ventilation, especially in confined areas.
2. Ensure that eyewash stations and safety showers are close to the workstation location.
3. Use explosion-proof electrical/ventilating/lighting/equipment.
4. Set up emergency exit and necessary risk-elimination area.

8.3 Personal protection equipment

General requirement:



Eye protection :Tightly fitting safety goggles (approved by EN 166(EU) or NIOSH (US).

Hand protection : Wear protective gloves (such as butyl rubber), passing the tests according to EN 374(EU),US F739 or AS/NZS 2161.1 standard.

Respiratory protection : If exposure limits are exceeded or if irritation or other symptoms are experienced, use a full- face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges.

Skin and body protection : Wear fire/ flame resistant/retardant clothing and antistatic boots. Other protection: Smoking, eating and drinking are forbidden on the job site. Maintain good hygiene habits.

9 Physical and chemical properties :

Appearance: Transparent liquid.

Odor: Weak odor.

Odor threshold: Not available.

PH value: Not available.

Melting point/freezing point (°C): Not available.

Initial boiling point and boiling range (°C): Not available.

Flash point (closed cup, °C): Not available.

Evaporation rate: No data available.

Flammability (solid or gas): No data available.

Explosion upper/lower limit [% (v/v)]: No data available.

Vapor pressure (kPa): No data available.

Vapor density (air = 1): No data available.

Relative density (water = 1): No data available.

Solubility (mg/L): No data available.

TTC Test GHS SDS Report(E)- T191008023A 6/10 Date: 06-Oct-19

通創檢測
TTC Technology Co., Ltd.

Cleaning Agent (FX-15) SDSNO: T191008023A

Octanol/water partition coefficient: No data available.

Auto-ignition temperature (°C): No data available.

Decomposition temperature (°C): Not available.

Viscosity: No data available.

Others: No data available.

10. Stability and Reactivity:

Reactivity: Contact with incompatible materials can cause decomposition or other chemical reactions.

Chemical stability: Stable under the correct conditions of use and storage.

Possibility of hazardous reactions: No data available.

Conditions to avoid: Incompatible materials, static electricity, heat, humidity, etc.

Incompatible materials: Strong oxides, strong acids, strong bases.

Hazardous decomposition products: No data available.

11. Toxicological information:

11.1 Acute toxicity

Component	LD ₅₀ (oral)	LD ₅₀ (Transcutaneous)	LC ₅₀ (inhalation, 4h)
All components	No data available	No data available	No data available

11.2 Carcinogenicity:

Component	IARC	NTP
All components	Not Listed	Not Listed

11.3 Others

Component	Corrosive skin/irritation	Serious eye damage/irritation	Skin sensitization	Respiratory sensitization	Reproductive toxicity	Specific target organ toxicity - single exposure	Specific target organ toxicity - repeated exposure	Aspiration hazard	Germ cell mutagenicity	Reproductive toxicity
All components	No data available	No data available	No data available	No data available	No data available	No data available	No data available	No data available	No data available	No data available

12. Ecological information:

12.1 Acute aquatic toxicity

TTC Test GHS SDS Report(E)- T191008023A 7/10 Date: 06-Oct-19

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

通創檢測
TTFest Technology Co., Ltd.

Cleaning Agent (FX-15) SDSNO: T191008023A

Component	Fish	Crustaceans	Algae
All components	No data available.	No data available.	No data available.

12.2 Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae
All components	No data available.	No data available.	No data available.

12.3 Others

Component	Persistence and degradability	Bioaccumulation or bioconcentration	Soil mobility	Evaluation of PBT and vPvB results
All components	No data available.	No data available.	No data available.	No data available.

13 > Disposal considerations

Disposal considerations:
Waste chemicals: If you need medical advice: Please carry product containers or labels. Contaminated packaging: Residual hazards may still exist after the contents of the packaging are emptied. Keep away from heat and sources of ignition. If possible, recycle them to the supplier for recycling.
Disposal considerations: Refer to the "Disposal" section.

14、Transportation information:
United Nations Dangerous Goods Number (UN No.): The product is not dangerous.
UN proper shipping name: None UN Risk Classification: None Packing Category: None Packaging label: None Marine Pollutants (Yes/No): No
Packing method: Pack according to the manufacturer's recommendations, for example: open drums, Ampoule bottle outside the ordinary wooden box. Threaded glass bottles, iron lids, glass bottles, plastic bottles or metal drums (cans) outside the ordinary wooden boxes.
Transportation Note: It is strictly prohibited to mix and transport with acids, alkalis, oxidants, foods and food additives. The exhaust pipe of the vehicle carrying this item must be equipped with a fire-retardant device, which prohibits the use of mechanical equipment and tools that generate sparks. Avoid exposure, rain, and high temperature during transportation. The tank (tank) used for transportation shall have a grounding chain, and a hole partition may be arranged in the tank to reduce the static electricity generated by the vibration. It is strictly prohibited to mix and transport with oxidants, acids, foods and food additives. It is

TTFest GHS SDS Report(E)-T191008023A 8/10 Date: 08-Oct-19

通創檢測
TTFest Technology Co., Ltd.

Cleaning Agent (FX-15) SDSNO: T191008023A

strictly forbidden to use wooden boats and cement ships for bulk transportation. Avoid exposure, rain and high temperature during transportation. Transportation vehicles shall be equipped with fire fighting equipment and emergency response treatment equipment of corresponding types and quantities. Before shipping, check whether the packaging container is complete and sealed. On the transportation means, hazard signs and announcements should be posted in accordance with the relevant transportation requirements.

15> Regulatory information:
International chemical inventory

Component	EINECS	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AICS
Non-toxic surfactants	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Sodium gluconate	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Others	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A

【EINECS】 European Inventory of Existing Commercial Chemical Substances
【TSCA】 United States Toxic Substances Control Act Inventory
【DSL】 Canadian Domestic Substances List
【IECSC】 China Inventory of Existing Chemical Substances
【NZIoC】 New Zealand Inventory of Chemicals
【PICCS】 Philippines Inventory of Chemicals and Chemical Substances

16、Others

16.1 Reference:
 [1] IPCS: The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>.
 [2] IARC, website: <http://www.iarc.fr/>.
 [3] OECD: The Global Portal to Information on Chemical Substances, website: http://www.chemportal.org/chemportal/index?pagelD=0&request_locale=en.
 [4] CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>.
 [5] NLM: ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidite.jsp>.
 [6] EPA: Integrated Risk Information System, website: <http://efpub.epa.gov/iris/>.
 [7] U.S. Department of Transportation/ERG, website: <http://www.phmsa.dot.gov/hazmat/library/erg>.
 [8] Germany GESTIS-database on hazard substance, website: <http://gestis-en.itmst.de/>.

TTFest GHS SDS Report(E)-T191008023A 9/10 Date: 08-Oct-19

通創檢測
TTFest Technology Co., Ltd.

Cleaning Agent (FX-15) SDSNO: T191008023A

16.2 Others:
Abbreviations and acronyms
 CAS - Chemical Abstracts Service
 DNEL - Derived No Effect Level
 LC50 - Lethal Concentration 50%
 PBT - Persistent, Bioaccumulative, Toxic
 IMDG - International Maritime Dangerous Goods
 NFPA - National Fire Protection Association
 CMR - Carcinogens, mutagens or substances toxic to reproduction
 PC-TWA - Time Weighted Average/ARC - International Agency for Research on Cancer
 PNEC - Predicted No Effect Concentration
 EC50 - Effective Concentration 50%
 POW - Partition coefficient Octanol: Water
 vPvB - very Persistent, very Bioaccumulative
 ICAO/IATA - International Civil Aviation Organization/International Air Transportation Association
 ACGIH - American Conference of Governmental Industrial Hygienists
 OECD - Organization for Economic Co-operation and Development

PC-STEL - Short term exposure limit RPE - Respiratory Protective Equipment NOEC - No Observed Effect Concentration BCF - Bioconcentration factor (BCF) UN-The United Nations

2)Disclaimer:
 This Safety Data Sheet (SDS) was prepared according to UN GHS (the 7th revised edition). The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

Photograph of sample

*****END*****

SDS Creation Date: 2019/10/08 (valid for one year)

TTFest GHS SDS Report(E)-T191008023A 10/10 Date: 08-Oct-19

通創檢測
TTFest Technology Co., Ltd.

Cleaning Agent (QCJG-105) SDS NO.: T180705028A

Safety Data Sheet (SDS)

Creation Date: 2018/07/05
 Revision Date: 2018/07/05
 Version: 20180705
 Prepared according to UN GHS (the 7th revised edition)

Product Name: Cleaning Agent
Model: QCJG-105

Company Name: FoShan FangXi Technology Co., Ltd.

Written by TTFest Technology Co., Ltd. (Shanghai) Co., Ltd.

TTFest GHS SDS Report(E)-T180705028A 1/10 Date: 05-July-18

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited



Cleaning Agent (QCKJ-105)

SDS NO.:T180709028A

1. Identification of the chemical and supplier

1.1 Product identifier

Product Name: Cleaning Agent
Product Model: QCKJ-105
Product Code: T180705028A

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Cleaning the glass surface
Uses advised against: Please consult manufacturer.

1.3 Details of the supplier of the Safety Data Sheet

Name of the company: FoShan FangXi Technology Co., Ltd.
Address of the company: Room602 19th Floor NanYi District,Guicheng HaiSan Road,NanTai FoShi Guangdong
Telephone number: +86 757-86260662
Fax number: ---
Zip code: ---
mail address: S5H781026@163.COM
Emergency phone number: +86 757-86260662

2. Hazards identification

2.1 Hazard classification according to GHS: The product is not dangerous.

2.2 Label elements

Hazard pictograms: None

Signal word: None

2.3 Hazard statements: None

2.4 Precautionary statements

2.4.1 Prevention

None

2.4.2 Response

None

2.4.3 Storage

Not applicable

2.4.4 Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.5 Hazard description

2.5.1 Physical and chemical hazards

Tiftest GHS SDS Report(E)-T180709028A

2/10

Date: 05-July-18



Cleaning Agent (QCKJ-105)

SDS NO.:T180709028A

This product is normally used without hazard.

2.5.2 Health hazards

This product is normally used without hazard.

2.5.3 Environmental hazards

Please refer to 12th chapter of SDS.

3. Composition/information on ingredients

Substance ☐ Preparation ☒

Composition:

Component	CAS No.	EC No.	Concentration (weight percent, %)
Potassium hydroxide	1310-73-2	215-185-5	15
Water	7732-18-5	231-791-2	45
Additives	---	---	40

4. First aid measures

4.1 Description of first aid measures

General advice: Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.

Skin contact: During production, take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes and consult a physician if felt uncomfortable.

Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if felt uncomfortable.

Inhalation: Under normal use conditions, no adverse effects will occur. If contact with decomposition products, irritation occurs. Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.

Intake: Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.

Protecting of first-aiders:

Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

4.2 Most important symptoms and effects, both acute and delayed

1) Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

4.3 Indication of any immediate medical attention and special treatment needed

1) Treat symptomatically.
2) Symptoms may be delayed.

5. Firefighting measures

Tiftest GHS SDS Report(E)-T180709028A

3/10

Date: 05-July-18



Cleaning Agent (QCKJ-105)

SDS NO.:T180709028A

5.1 Extinguishing media

1) Suitable extinguishing media: Dry chemical, carbon dioxide or alcohol-resistant foam.
2) Unsuitable extinguishing media: Do not use a solid water stream as it may scatter or spread fire.

5.2 Specific hazards arising from the substance or mixture

1) Will form explosive mixtures with air.
2) Fire exposed containers may vent contents through pressure relief valves thereby increasing fire intensity and/ or vapour concentration.
3) Vapours may travel to source of ignition and flash back.
4) Liquid and vapour are flammable.
5) May emit poisonous fumes on fire.
6) Containers may explode when heated.
7) Fire exposed containers may vent contents through pressure relief valves.
8) May expand or decompose explosively when heated or involved in fire.

5.3 Advice for firefighters

1) As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.
2) Fight fire from a safe distance, with adequate cover.
3) Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

1) Avoid breathing vapors and contacting with skin and eye.
2) Beware of vapours accumulating to form explosive concentrations.
3) Vapours can accumulate in low areas.
4) Emergency personnel wear positive pressure self-contained breathing apparatus. Wear protective and anti-static clothing. Wear chemical impermeable gloves.
5) Ensure adequate ventilation. Remove all sources of ignition.
6) Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
7) Use personal protective equipment. Avoid breathing vapours, mist, gas or dust.

6.2 Environmental precautions

1) Prevent further leakage or spillage if safe to do so.
2) Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

1) Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.
2) Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.
3) Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. Handling and storage

7.1 Precautions for handling:

Tiftest GHS SDS Report(E)-T180709028A

4/10

Date: 05-July-18



Cleaning Agent (QCKJ-105)

SDS NO.:T180709028A

1) Avoid inhalation of vapors.
2) Use only non-sparking tools.
3) To prevent fire caused by electrostatic discharge steam, equipment on all metal parts should be grounded.
4) Use explosion proof equipment.
5) Handling is performed in a well ventilated place.
6) Wear suitable protective equipment.
7) Avoid contact with skin and eyes.
8) Keep away from heat/sparks/open flames/ hot surfaces.
9) Take precautionary measures against static discharges.

7.2 Precautions for storage:

1) Store in a cool, ventilated warehouse.
2) Store temperature should not exceed 37 °C, away from fire and heat sources.
3) Keep the container sealed.
4) Should be stored separately from oxidants, reducing agents, halogens, etc. Avoid mixing.
5) Use explosion-proof lighting and ventilation facilities.
6) It is forbidden to use mechanical equipment and tools that easily produce sparks.
7) The storage area should be equipped with leakage emergency treatment equipment and suitable containment materials.

8. Exposure controls/personal protection

8.1 Control Parameters

8.1.1 Occupational exposure limits

Occupational Exposure limit values

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m3	ppm	mg/m3
All components	USA - OSHA	Unspecified	Unspecified	Unspecified	Unspecified
	South Korea	Unspecified	Unspecified	Unspecified	Unspecified
	Ireland	Unspecified	Unspecified	Unspecified	Unspecified
	Germany (AGS)	Unspecified	Unspecified	Unspecified	Unspecified
	Denmark	Unspecified	Unspecified	Unspecified	Unspecified
	Australia	Unspecified	Unspecified	Unspecified	Unspecified
	South Korea	Unspecified	Unspecified	Unspecified	Unspecified
	Ireland	Unspecified	Unspecified	Unspecified	Unspecified
	Germany (AGS)	Unspecified	Unspecified	Unspecified	Unspecified
	Denmark	Unspecified	Unspecified	Unspecified	Unspecified
	Australia	Unspecified	Unspecified	Unspecified	Unspecified

8.1.2 Biological limit values

Biological limit values: No information available

8.1.3 Monitoring methods

Tiftest GHS SDS Report(E)-T180709028A

5/10

Date: 05-July-18

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited



Cleaning Agent (QCKJ-105)

SDS NO.:T18070902KA

1.EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
2.GHZ/T 160.1-GBZ/T 160.81-2004 Determination of toxic substances in workplace air (Series standard) .

8.2 Engineering controls

- 1.Ensure adequate ventilation, especially in confined areas.
- 2.Ensure that eyewash stations and safety showers are close to the workstation location.
- 3.Use explosion-proof electrical/ventilating/lighting/equipment.
- 4.Set up emergency exit and necessary risk-elimination area.

8.3 Personal protection equipment

General requirement:



Eye protection : Tightly fitting safety goggles (approved by EN 166(EU) or NIOSH (US).

Hand protection : Wear protective gloves(such as butyl rubber), passing the tests according to EN 374(EU),US F739 or AS/NZS 2161.1 standard.

Respiratory protection : If exposure limits are exceeded or if irritation or other symptoms are experienced, use a full- face respirator with multi-purpose combination (US) or type AXIBEK (EN 14387) respirator cartridges.

Skin and body protection : Wear fire/ flame resistant/retardant clothing and antistatic boots.

Other protection: Smoking, eating and drinking are forbidden on the job site. Maintain good hygiene habits.

9. Physical and chemical properties :

Appearance: Light yellow.

Odor: Weak odor.

Odor threshold: Not available.

PH value: Not available.

Melting point/freezing point (°C): Not available.

Initial boiling point and boiling range (°C): Not available.

Flash point (closed cup, °C): Not available.

Evaporation rate: No data available.

Flammability (solid or gas): No data available.

Explosion upper/lower limit [% (v/v)]: No data available.

Vapor pressure (kPa): No data available.

Vapor density (air = 1): No data available.

Relative density (water = 1): No data available.

Solubility (mg/L): No data available.

TTFest GHS SDS Report(E)-T18070902KA

6/ 10

Date: 05-July-18



Cleaning Agent (QCKJ-105)

SDS NO.:T18070902KA

Octanol/water partition coefficient: No data available.

Auto-ignition temperature (°C): No data available.

Decomposition temperature (°C): Not available.

Viscosity: No data available.

Others: No data available.

10. Stability and Reactivity:

Reactivity: Contact with incompatible materials can cause decomposition or other chemical reactions.

Chemical stability: Stable under the correct conditions of use and storage.

Possibility of hazardous reactions: No data available.

Conditions to avoid: Incompatible materials, static electricity, heat, humidity, etc.

Incompatible materials: Strong oxides, strong acids, strong bases.

Hazardous decomposition products: No data available.

11. Toxicological information:

11.1 Acute toxicity

Component	LD ₅₀ (oral)	LD ₅₀ (Transcutaneous)	LC ₅₀ (inhalation, 4h)
All components	No data available	No data available	No data available

11.2 Carcinogenicity:

Component	IARC	NTP
All components	Not Listed	Not Listed

11.3 Others

Component	Corrosive skin/irritation	Serious eye damage/irritation	Skin sensitization	Respiratory sensitization	Reproductive toxicity	Specific target organ toxicity - single exposure	Specific target organ toxicity - repeated exposure	Aspiration hazard	Germ cell mutagenicity	Reproductive toxicity
All components	No data available.	No data available.	No data available.	No data available.	No data available.	No data available.	No data available.	No data available.	No data available.	No data available.

12. Ecological information:

12.1 Acute aquatic toxicity

TTFest GHS SDS Report(E)-T18070902KA

7/ 10

Date: 05-July-18



Cleaning Agent (QCKJ-105)

SDS NO.:T18070902KA

Component	Fish	Crustaceans	Algae
All components	No data available.	No data available.	No data available.

12.2 Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae
All components	No data available.	No data available.	No data available.

12.3 Others

Component	Persistence and degradability	Bioaccumulation or bioaccumulation	Soil mobility	Evaluation of PBT and vPvB results
All components	No data available.	No data available.	No data available.	No data available.

13. Disposal considerations

Disposal considerations:

Waste chemicals: If you need medical advice: Please carry product containers or labels.

Contaminated packaging: Residual hazards may still exist after the contents of the packaging are emptied. Keep away from heat and sources of ignition. If possible, recycle them to the supplier for recycling.

Disposal considerations: Refer to the "Disposal" section.

14. Transportation information:

United Nations Dangerous Goods Number (UN No.): The product is not dangerous.

UN proper shipping name: None

UN Risk Classification: None

Packing Category: None

Packaging label: None

Marine Pollutants (Yes/No): No

Packing method: Pack according to the manufacturer's recommendations, for example: open drums. Ampoule bottle outside the ordinary wooden box. Threaded glass bottles, iron lids, glass bottles, plastic bottles or metal drums (cans) outside the ordinary wooden boxes.

Transportation Note: It is strictly prohibited to mix and transport with acids, alkalis, oxidants, foods and food additives. The exhaust pipe of the vehicle carrying this item must be equipped with a fire-retardant device, which prohibits the use of mechanical equipment and tools that generate sparks. Avoid exposure, rain, and high temperature during transportation. The tank (tank) used for transportation shall have a grounding chain, and a hole partition may be arranged in the tank to reduce the static electricity generated by the vibration.

It is strictly prohibited to mix and transport with oxidants, acids, foods and food additives. It is

TTFest GHS SDS Report(E)-T18070902KA

8/ 10

Date: 05-July-18



Cleaning Agent (QCKJ-105)

SDS NO.:T18070902KA

strictly forbidden to use wooden boats and cement ships for bulk transportation. Avoid exposure, rain, and high temperature during transportation. Transportation vehicles shall be equipped with fire fighting equipment and emergency response treatment equipment of corresponding types and quantities. Before shipping, check whether the packaging container is complete and sealed. On the transportation means, hazard signs and announcements should be posted in accordance with the relevant transportation requirements.

15. Regulatory information:

International chemical inventory

Component	EINECS	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AKCS
Potassium hydroxide	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Water	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Additives	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A

【EINECS】 European Inventory of Existing Commercial Chemical Substances

【TSCA】 United States Toxic Substances Control Act Inventory

【DSL】 Canadian Domestic Substances List

【IECSC】 China Inventory of Existing Chemical Substances

【NZIoC】 New Zealand Inventory of Chemicals

【PICCS】 Philippines Inventory of Chemicals and Chemical Substances

16. Others

16.1 Reference :

[1]IPCS:The International Chemical Safety Cards (ICSC) ,website: <http://www.ilo.org/dyn/icsc/showcard.home>.

[2]IARC , website: <http://www.iarc.fr/>.

[3]OECD: The Global Portal to Information on Chemical Substances, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en.

[4]CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>.

[5]NLM:ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>.

[6]EPA: Integrated Risk Information System, website: <http://cfpub.epa.gov/iris/>.

[7]U.S. Department of Transportation:ERG, website: <http://www.phmsa.dot.gov/hazmat/library/erg>.

[8]Germany GESTIS-database on hazard substance, website: <http://gestis-en.itrust.de/>.

16.2 Others:

TTFest GHS SDS Report(E)-T18070902KA

9/ 10

Date: 05-July-18

15. Regulatory Information			
Chemical Inventory Status - Part 1	TSCA	EC	Japan Australia
Ingredient	Yes	Yes	Yes Yes
Chemical Inventory Status - Part 2			
Ingredient	Korea	Canada	Phil.
Methylene Chloride (75-09-2)	Yes	Yes	No Yes
Federal, State & International Regulations - Part 1			
Ingredient	RQ	TFQ	SARA 302
Methylene Chloride (75-09-2)	No	No	Yes No
Federal, State & International Regulations - Part 2			
Ingredient	CERCLA	RCRA	TSCA
Methylene Chloride (75-09-2)	1000	281.33	(80)
Chemical Weapons Convention: No TSCA 12(b): No CDTA: No			
SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No			
Reactivity: No (Pure / Liquid)			
WARNING: THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.			
Australian Hazard Code: Z2			
Poison Schedule: S5			
VIBES: This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.			
16. Other Information			
NFPA Ratings: Health: 2 Flammability: 1 Reactivity: 0			
Label Hazard Warning: IRRITANT HARMFUL IF SWALLOWED. INHALED OR ABSORBED THROUGH SKIN. AFFECTS CENTRAL NERVOUS SYSTEM, LIVER, CARDIOVASCULAR SYSTEM AND BLOOD. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. SUSPECT CANCER HAZARD. MAY CAUSE CANCER. Risk of cancer depends on level and duration of exposure.			
Label Precautions: Do not breathe vapor. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Keep away from heat and flame. Do not get in eyes, on skin, or in clothing.			
Label First Aid: If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. In all cases, get medical attention.			
Product Use: Laboratory Reagent.			
Revision Information: No Changes.			
Disclaimer: Jiangsu Lee & Man Chemical Ltd. provides the information contained herein in good faith but makes no representation as to its completeness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their own judgment in determining its appropriateness for a particular purpose. JIANGSU LEE & MAN CHEMICAL LTD. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR OF THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, MALLINCRDROT BAKER, INC. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.			
Prepared by: Environmental Health & Safety			
Phone Number: (512) 6265333			

1

西陇科学
XILONG SCIENTIFIC

西陇科学股份有限公司
XILONG SCIENTIFIC CO., LTD.

Material Safety Data Sheet

Revision Date 03/20/2017

Print Date 04/01/2017

Section 1 - Chemical Product

Product name : Calcium carbonate

Brand: Xilong

Product Use: For laboratory research purposes.

Supplier: Xilong Scientific Co., Ltd.

No. 2 Xilong Middle Street, Chendun Road, Shantou, China

Manufacturer: Xilong Scientific Co., Ltd.

No. 2 Xilong Middle Street, Chendun Road, Shantou, China

Telephone: +86-20-42612188

Fax: +86-20-42611885

Emergency Phone #: (For both supplier and manufacturer): 86-20-42612188

Preparation Information: Xilong Scientific Co., Ltd.

Section 2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS#	Chemical Name	content	ENEC#
471-34-1	Calcium carbonate	100	207-438-9

Hazard Symbol: Xi

Risk Phrases: 36

Section 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Irritating to eyes.

Potential Health Effects

Eye:

May cause eye irritation.	
Skin:	
Causes skin irritation.	
Ingestion:	
Ingestion of large amounts may cause gastrointestinal irritation.	
Expected to be a low ingestion hazard.	
Inhalation:	
Low hazard for usual industrial handling. Excessive inhalation may cause minor respiratory irritation.	
Chronic:	
Chronic ingestion may cause hypercalcemia, alkalosis, and kidney damage. May also produce "milk-alkali syndrome" characterized by neurological symptoms such as irritability, lethargy, stupor, and coma.	
Section 4 - FIRST AID MEASURES	
Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.	
Skin:	
Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.	
Ingestion:	
Do not induce vomiting. If victim is conscious and alert, give 2-4 cupsful of milk or water. Get medical aid.	
Inhalation:	
Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.	
Notes to Physician:	
Section 5 - FIRE FIGHTING MEASURES	
General Information:	
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, inhaling and highly toxic gases may be generated by thermal decomposition or combustion.	
Non-combustible. substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes.	
Extinguishing Media:	
Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.	
Section 6 - ACCIDENTAL RELEASE MEASURES	
General Information: Use proper personal protective equipment as indicated in Section 8.	
Spill/Leak:	
Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Provide ventilation.	

Section 7 - HANDLING AND STORAGE	
Handling:	
Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid breathing dust.	
Storage:	
Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from strong acids.	
Section 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION	
Engineering Controls:	
Facilities during or storing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.	
Exposure Limits: CAS# 471-34-1: United Kingdom: WEL - TWA: (listed as calcium carbonate): 10 mg/m3 (inhalable dust); 4 mg/m3 TWA (respirable dust) United Kingdom: WEL - STEL: (listed as calcium carbonate): 30 mg/STEL (inhalable dust); 12 mg/m3 STEL (respirable dust) United States OSHA: 15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction) (listed under Calcium carbonate); Belgium - TWA: (listed as calcium carbonate): 10 mg/m3 VLE France - VME: (listed as calcium carbonate): 10 mg/m3 VME Germany: (listed as calcium carbonate): 10 mg/m3 VME Japan: (listed as calcium carbonate): 1 mg/m3 OEL (respirable dust 4 mg/m3 OEL (total dust) Malaysia: (listed as calcium carbonate): 10 mg/m3 TWA (particulate matter containing no asbestos and <1% crystalline sil) Netherlands: 10 mg/m3 MAC Russia: 6 mg/m3 TWA Spain: 10 mg/m3 VLA/ED Personal Protective Equipment Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1915.133 or European Standard EN156.	
Skin:	
Wear appropriate gloves to prevent skin exposure.	
Clothing:	
Wear appropriate protective clothing to minimize contact with skin.	
Respirators:	
Follow the OSHA respirator regulations found in 29 CFR 1915.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.	
Section 9 - PHYSICAL AND CHEMICAL PROPERTIES	
Physical State: Solid	
Color: white	
Odor: odorless	
pH: 8-9 (solution)	
Vapor Pressure: Not available.	
Viscosity: Not available.	
Boiling Point: Not available.	
Freezing/Melting Point: 825 deg C (dec)	
Autoignition Temperature: Not applicable.	
Flash Point: Not applicable.	
Explosion Limits: lower: Not available.	

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Explosion Limits, upper: Not available.
Decomposition Temperature: 825 deg C
Solubility in water: Slightly soluble in water.
Specific Gravity/Density: 2.732.9
Molecular Formula: CaCO_3
Molecular Weight: 100.09

Section 10 - STABILITY AND REACTIVITY
Chemical Stability
Stable.
Conditions to Avoid:
Dust generation, moisture, high humidity.
Incompatibilities with Other Materials:
Will ignite on contact with fluorine; incompatible with acids, alum, ammonium salts and mercury + hydrogen.
Hazardous Decomposition Products:
Calcium oxide.
Hazardous Polymerization: Has not been reported.

Section 11 - TOXICOLOGICAL INFORMATION
RTECS#:
CAS# 471-34-1: FF933000 LD50/LC50:
CAS# 471-34-1: Draize test, rabbit, eye: 780 ug/24H Severe; Draize test, rabbit, skin: 500 mg/24H Moderate; Oral, rat: LD50 = 6450 mg/kg.
Carcinogenicity:
Calcium carbonate - Not listed by ACGIH, IARC, or NTP.
Other:
See actual entry in RTECS for complete information.


Section 12 - ECOLOGICAL INFORMATION
Ecotoxicity:
This chemical is expected to cause no oxygen depletion in aquatic systems. It has a low potential to affect aquatic organisms. Acute aquatic effects: 48-hour LC50: Mosquito fish: 56,000 mg/L.


Section 13 - DISPOSAL CONSIDERATIONS
Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - TRANSPORT INFORMATION
ATA:
Not regulated as a hazardous material.
IMO:
Not regulated as a hazardous material.
RID/ADR:
Not regulated as a hazardous material.

Section 15 - REGULATORY INFORMATION
European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: Xi
Risk Phrases:
R 36 Irritating to eyes.
Safety Phrases:
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 36 Wear eye/face protection.
WGK (Water Danger/Protection)
CAS# 471-34-1: 0
Canada
CAS# 471-34-1 is listed on Canada's DSL List.
CAS# 471-34-1 is not listed on Canada's Ingredient Disclosure List.
US FEDERAL
TSCA
CAS# 471-34-1 is listed on the TSCA inventory.

16. OTHER INFORMATION
Further information
Copyright 2017 Xlong Scientific Co., Ltd. License granted to make unlimited paper copies for internal use only.
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Xlong Scientific Co., Ltd. and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.xlong.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

 TJTest Technology Co., Ltd.
SDS NO.: TJ180515026A




Safety Data Sheet (SDS)

Creation Date: 2018/05/15
Revision Date: 2018/05/15
Version: 20180515
Prepared according to UN GHS (the 7th revised edition)


Product Name: Cutting Fluid
Model: CK-01

Company Name: FoShan FangXi Technology Co., Ltd.

Written by TJTest Technology Co., Ltd. (Foshan) Co., Ltd.



TJTest GHS SDS Report(E)-TJ180515026A I/11 Date: 15-May-18

 TJTest Technology Co., Ltd.
SDS NO.: TJ180515026A

1. Identification of the chemical and supplier

1.1 Product identifier
Product Name: Cutting Fluid
Product Model:
Product Code: TJ180515026A

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses: Please consult manufacturer.
Uses advised against: Please consult manufacturer.


1.3 Details of the supplier of the Safety Data Sheet
Name of the company: FoShan FangXi Technology Co., Ltd.
Address of the company: Foshan, Guangdong, China
Telephone number: +86 (0) 13548275066
Fax number: +86 757-86260662
Zip code: 528000
Email address: SSH781026@163.COM

1.4 Emergency phone number
Emergency phone number: +86 757-86260662

2. Hazards identification:

2.1 Hazard classification according to GHS: Serious eye damage/eye irritation Category 2A

2.2 Label elements



Hazard pictograms:
Signal word: **Warning**

2.3 Hazard statements:
H319 Causes serious eye irritation

2.4 Precautionary statements

2.4.1 Prevention
P264 Wash thoroughly after work.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

2.4.2 Response

TJTest GHS SDS Report(E)-TJ180515026A 2/11 Date: 15-May-18

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited



SDS NO. T180515026A

P337-P313 If eye irritation persists: Get medical advice/attention.
P305-P351-P338 IF IN EYES: Rinse cautiously with water for several minutes. If you wear a contact lens and can easily remove it, remove the contact lens. Continue rinsing.

2.4.3 Storage
None.

2.4.4 Disposal
None.

2.5 Hazard description

2.5.1 Physical and chemical hazards

This product is normally used without hazard.

2.5.2 Health hazards

Causes serious eye irritation.

2.5.3 Environmental hazards

Please refer to 12th chapter of SDS.

3. Composition/information on ingredients

Substance □ Preparation □

Composition:

Component	CAS No.	EC No.	Concentration (weight percent, %)
Triethanolamine	102-71-6	203-049-8	25%
Surfactant	—	—	10%
Lubricant	—	—	20%
Others	—	—	45%

4. First aid measures

4.1 Description of first aid measures

General advice: Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.

Skin contact: During production, take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes and consult a physician if felt uncomfortable.

Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if felt uncomfortable.

Inhalation: Under normal use conditions, no adverse effects will occur. If contact with

Tiftest GHS SDS Report(E)-T180515026A

3/ 11

Date: 15-May-18



SDS NO. T180515026A

decomposition products, irritation occurs. Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.

Intake: Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.

Protecting of first-aiders:

Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

4.2 Most important symptoms and effects, both acute and delayed

1) Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

4.3 Indication of any immediate medical attention and special treatment needed

1) Treat symptomatically.
2) Symptoms may be delayed.

5. Firefighting measures

5.1 Extinguishing media

1) Suitable extinguishing media: Dry chemical, carbon dioxide or alcohol-resistant foam.
2) Unsuitable extinguishing media: Do not use a solid water stream as it may scatter or spread fire.

5.2 Specific hazards arising from the substance or mixture

1) Will form explosive mixtures with air.
2) Fire exposed containers may vent contents through pressure relief valves thereby increasing fire intensity and/or vapour concentration.
3) Vapours may travel to source of ignition and flash back.
4) Liquid and vapour are flammable.
5) May emit poisonous fumes on fire.
6) Containers may explode when heated.
7) Fire exposed containers may vent contents through pressure relief valves.
8) May expand or decompose explosively when heated or involved in fire.

5.3 Advice for firefighters

1) As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and all protective gear.
2) Fight fire from a safe distance, with adequate cover.
3) Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

1) Avoid breathing vapors and contacting with skin and eye.
2) Beware of vapours accumulating to form explosive concentrations.
3) Vapours can accumulate in low areas.
4) Emergency personnel wear positive pressure self-contained breathing apparatus. Wear

Tiftest GHS SDS Report(E)-T180515026A

4/ 11

Date: 15-May-18



SDS NO. T180515026A

protective and anti-static clothing. Wear chemical impermeable gloves.

5) Ensure adequate ventilation. Remove all sources of ignition.
6) Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
7) Use personal protective equipment. Avoid breathing vapours, mist, gas or dust.

6.2 Environmental precautions

1) Prevent further leakage or spillage if safe to do so.
2) Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

1) Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.
2) Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.
3) Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. Handling and storage :

7.1 Precautions for handling:

1) Avoid inhalation of vapors.
2) Use only non-sparking tools.
3) To prevent fire caused by electrostatic discharge steam, equipment on all metal parts should be grounded.

4) Use explosion proof equipment.
5) Handling is performed in a well ventilated place.

6) Wear suitable protective equipment.
7) Avoid contact with skin and eyes.

8) Keep away from heat/sparks/open flames/ hot surfaces.
9) Take precautionary measures against static discharges.

7.2 Precautions for storage:

1) Store in a cool, ventilated warehouse.
2) Store temperature should not exceed 37 °C, away from fire and heat sources.
3) Keep the container sealed.
4) Should be stored separately from oxidants, reducing agents, halogens, etc. Avoid mixing.
5) Use explosion-proof lighting and ventilation facilities.
6) It is forbidden to use mechanical equipment and tools that easily produce sparks.
7) The storage area should be equipped with leakage emergency treatment equipment and suitable containment materials.

8. Exposure controls/personal protection

8.1 Control Parameters

8.1.1 Occupational exposure limits

Occupational Exposure limit values

Component	Country/Region	Limit value - Eight hours	Limit value - Short term
-----------	----------------	---------------------------	--------------------------

Tiftest GHS SDS Report(E)-T180515026A

5/ 11

Date: 15-May-18



SDS NO. T180515026A

		ppm		mg/m ³	
		ppm	mg/m ³	ppm	mg/m ³
All components	USA - OSHA	Unspecified	Unspecified	Unspecified	Unspecified
	South Korea	Unspecified	Unspecified	Unspecified	Unspecified
	Ireland	Unspecified	Unspecified	Unspecified	Unspecified
	Germany (AGS)	Unspecified	Unspecified	Unspecified	Unspecified
	Denmark	Unspecified	Unspecified	Unspecified	Unspecified
	Australia	Unspecified	Unspecified	Unspecified	Unspecified
	South Korea	Unspecified	Unspecified	Unspecified	Unspecified
	Ireland	Unspecified	Unspecified	Unspecified	Unspecified
	Germany (AGS)	Unspecified	Unspecified	Unspecified	Unspecified
	Denmark	Unspecified	Unspecified	Unspecified	Unspecified
	Australia	Unspecified	Unspecified	Unspecified	Unspecified

8.1.2 Biological limit values

Biological limit values: No information available

8.1.3 Monitoring methods

1. EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

2. GBZ/T 160.1-GBZ/T 160.81-2004 Determination of toxic substances in workplace air (Series standard).

8.2 Engineering controls

1. Ensure adequate ventilation, especially in confined areas.
2. Ensure that eyewash stations and safety showers are close to the workstation location.
3. Use explosion-proof electrical/ventilating/lighting/equipment.
4. Set up emergency exit and necessary risk-elimination area.

8.3 Personal protection equipment

General requirement:



Eye protection : Tightly fitting safety goggles (approved by EN 166(EU) or NIOSH (US)).

Hand protection : Wear protective gloves(such as butyl rubber), passing the tests according to EN 374(EU)/US F739 or AS/NZS 2161.1 standard.

Respiratory protection : If exposure limits are exceeded or if irritation or other symptoms are experienced, use a full- face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges.

Skin and body protection : Wear fire/ flame resistant/retardant clothing and antistatic boots.

Other protection: Smoking, eating and drinking are forbidden on the job site. Maintain good

Tiftest GHS SDS Report(E)-T180515026A

6/ 11

Date: 15-May-18

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited



SDS NO. T180515026A

hygiene habits.

9. Physical and chemical properties :

Appearance: Liquid.

Odor: Weak odor.

Odor threshold: No data available.

PH value: 8.

Melting point/freezing point (°C): No data available.

Initial boiling point and boiling range (°C): No data available.

Flash point (closed cup, °C): No data available.

Evaporation rate: No data available.

Flammability (solid or gas): Non-flammable.

Explosion upper/lower limit [% (v/v)]: Not available.

Vapor pressure (kPa): Not available.

Vapor density (air = 1): Not available.

Relative density (water = 1): Not available.

Solubility (mg/L): Soluble in water.

Octanol/water partition coefficient: Not available.

Auto-ignition temperature (°C): Not available.

Decomposition temperature (°C): Not available.

Viscosity: No data available.

Others: Resistance value: Not available.

10. Stability and Reactivity:

Reactivity: Contact with incompatible materials can cause decomposition or other chemical reactions.

Chemical stability: stable under the correct conditions of use and storage.

Possibility of hazardous reactions: Reacts violently with oxidants, causing a risk of combustion explosion.

Conditions to avoid: Electrostatic discharge, heat, humidity, etc.

Incompatible materials: Strong oxidizers, strong acids, strong bases.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information:

11.1 Acute toxicity

Component	LD ₅₀ (oral)	LD ₅₀ (Transcutaneous)	LC ₅₀ (inhalation, 4h)
All components	Not available	Not available	Not available

11.2 Carcinogenicity:

Component	IARC	NTP
All components		

TTest GHS SDS Report(JD)-T180515026A

7/ 11

Date: 15-May-18



SDS NO. T180515026A

All components	Not Listed	Not Listed
----------------	------------	------------

11.3 Others

Component	Corrosive skin/irritation	Serious eye damage/irritation	Skin sensitization	Respiratory sensitization	Reproductive toxicity	Specific target organ toxicity - single exposure	Specific target organ toxicity - repeated exposure	Aspiration hazard	Germ cell mutagenicity	Reproductive toxicity
All components	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available

12. Ecological information:

12.1 Acute aquatic toxicity

Component	Fish	Crustaceans	Algae
All components	Not available	Not available	Not available

12.2 Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae
All components	Not available	Not available	Not available

12.3 Others

Component	Persistence and degradability	Bioaccumulation or bioaccumulation	Soil mobility	Evaluation of PBT and vPvB results
All components	Not available	Not available	Not available	Not available

13. Disposal considerations

Disposal considerations: Recycle as much as possible. If it cannot be recycled, use incineration for disposal. Do not dispose of this product by means of discharge to the sewer.

Waste chemicals: Contaminated packaging: Residual hazards may still exist after the contents of the packaging are emptied. Keep away from heat and sources of ignition. If possible, recycle them to the supplier for recycling.

Disposal considerations: Refer to the "Disposal" section.

TTest GHS SDS Report(JD)-T180515026A

8/ 11

Date: 15-May-18



SDS NO. T180515026A

14. Transportation information:

United Nations Dangerous Goods Number (UN No.): The product is not dangerous.

UN proper shipping name: None

UN Risk Classification: None

Packing Category: None

Packaging label: None

Marine Pollutants (Yes/No): No

Packing method: Pack according to the manufacturer's recommendations, for example: open drums. Ampoule bottle outside the ordinary wooden box. Threaded glass bottles, iron lids, glass bottles, plastic bottles or metal drums (cans) outside the ordinary wooden boxes.

Transportation Note: It is strictly prohibited to mix and transport with acids, alkalis, oxidants, foods and food additives. The exhaust pipe of the vehicle carrying this item must be equipped with a fire-retardant device, which prohibits the use of mechanical equipment and tools that generate sparks. Avoid exposure, rain, and high temperature during transportation. The tank (tank) used for transportation shall have a grounding chain, and a hole partition may be arranged in the tank to reduce the static electricity generated by the vibration.

It is strictly prohibited to mix and transport with oxidants, acids, foods and food additives. It is strictly forbidden to use wooden boats and cement ships for bulk transportation. Avoid exposure, rain, and high temperature during transportation. Transportation vehicles shall be equipped with fire fighting equipment and emergency response treatment equipment of corresponding types and quantities. Before shipping, check whether the packaging container is complete and sealed. On the transportation means, hazard signs and announcements should be posted in accordance with the relevant transportation requirements.

15. Regulatory information:

International chemical inventory

Component	EINECS	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AICS
Triethanolamine	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Others	NA	NA	NA	NA	NA	NA	NA	NA

【EINECS】 European Inventory of Existing Chemical Substances

【TSCA】 United States Toxic Substances Control Act Inventory

【DSL】 Canadian Domestic Substances List

【IECSC】 China Inventory of Existing Chemical Substances

【NZIoC】 New Zealand Inventory of Chemicals

【PICCS】 Philippines Inventory of Chemicals and Chemical Substances

TTest GHS SDS Report(JD)-T180515026A

9/ 11

Date: 15-May-18



SDS NO. T180515026A

16. Others

16.1 Reference :

- [1] IPCS: The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>.
- [2] IARC, website: <http://www.iarc.fr/>.
- [3] OECD: The Global Portal to Information on Chemical Substances, website: http://www.chemportal.org/chemportal/index?pageID=0&request_locale=en.
- [4] CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>.
- [5] NLM: ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>.
- [6] EPA: Integrated Risk Information System, website: <http://cfpub.epa.gov/iris/>.
- [7] U.S. Department of Transportation: ERG, website: <http://www.phmsa.dot.gov/hazmat/library/erg>.
- [8] Germany GESTIS-database on hazard substance, website: <http://gestis-en.itrust.de/>.

16.2 Others:

1) Abbreviations and acronyms

CAS - Chemical Abstracts Service	PC-STEL - Short term exposure limit
DNEL - Derived No Effect Level	RPE - Respiratory Protective Equipment
LC50 - Lethal Concentration 50%	NOEC - No Observed Effect Concentration
PBT - Persistent, Bioaccumulative, Toxic	BCF - Bioconcentration factor (BCF)
IMDG - International Maritime Dangerous Goods	UN - The United Nations
NFPA - National Fire Protection Association	
CMR - Carcinogens, mutagens or substances toxic to reproduction	
PC-TWA - Time Weighted Average	ARC - International Agency for Research on Cancer
PNEC - Predicted No Effect Concentration	LD50 - Lethal Dose 50%
EC50 - Effective Concentration 50%	
POW - Partition coefficient Octanol:Water	vPvB - very Persistent, very Bioaccumulative
ICAO/IATA - International Civil Aviation Organization/International Air Transportation Association	
ACGIH - American Conference of Governmental Industrial Hygienists	
OECD - Organization for Economic Co-operation and Development	

2) Disclaimer

This Safety Data Sheet (SDS) was prepared according to UN GHS (the 7th revised edition). The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

TTest GHS SDS Report(JD)-T180515026A

10/ 11

Date: 15-May-18


Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

通鋼检测
Tian Technology Co., Ltd.

SDS NO.:T180519026A

Photograph of samp



*****END*****

SDS Creation Date: 2018/05/15 (valid for one year)

TJTest GHS SDS Report(E)-T180519026A 1/11 Date: 15-May-18

31-1020Z 16 December 2015 1 / 3

SAFETY DATA SHEET

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Chemical Product Name : CUTTING LIQUID (GREEN CUT)
Name of Manufacturer : NIKKO SANGYO CO., LTD.
Name of Section : Research & Development Division
Address : 4057, NAKATU, AIKAWA-CHO, AIKO-GUN, KANAGAWA-KEN, JAPAN
Telephone Number : 81-46-285-0749
FAX Number : 81-46-285-0420

2. COMPOSITION / INFORMATION INGREDIENTS

Substance / Mixture : Mixture
Generic Name : Water Soluble Grinding Fluid
Ingredients and Composition : Water ; 3~13 mass%
Additive ; 87~97 mass%
CAS Registry Number : Registered
UN Class : Not Applicable
UN Number : Not Applicable

3. HAZARDS IDENTIFICATION

Class Name of Hazardous Chemical for SDS in Japan : Flammable liquids
Physical and Chemical Hazards : Flammable liquids
Adverse Human Health Hazards : There is not the useful information.
Environmental Effects : There is not the useful information.

4. FIRST-AID MEASURES

IF IN EYES : Gently rinse the affected eyes with clean water for at least 15 minutes.
Arrange for transport to the nearest medical facility for examination and treatment by a physician as soon as possible.
IF ON SKIN : Remove all contaminated clothing, shoes and socks from the affected areas as quickly as possible, cutting them off if necessary. Wash the affected area under tepid running water using a mild soap.
IF INHALED : Remove the victim from the contamination immediately to fresh air.
Arrange for transport to the nearest medical facility for examination and treatment by a physician as soon as possible.
IF SWALLOWED : Do not induce vomiting.
Do not give an unconscious person anything to drink.
Arrange for transport to the nearest medical facility for examination and treatment by a physician as soon as possible.

5. ACCIDENTAL RELEASE MEASURES

Evacuate non essential personnel.
Wear proper protective equipment.
Eliminate all sources of ignition and ventilate the area.
Absorb spill with inert material (dry sand or earth), then place in a chemical waste container with covers for disposal, using no sparking tools.

NIKKO SANGYO CO., LTD.

31-1020Z 16 December 2015 2 / 3

6. HANDLING AND STORAGE

Handling : Evacuate non essential personnel.
Use only in the well-ventilated areas.
Keep container tightly closed.
Protect against physical damage.
Avoid contact with skin or eyes.
Storage : Store in a cool, dry, well-ventilated location.
Keep away from heat, steam pipe or sunlight.
Separate from oxidizing material.

7. EXPOSURE CONTROL/ PERSONAL PROTECTION

Engineering Measures : Do not use in areas without adequate ventilation.
Make available emergency shower and eye wash in the work area.

Personal Protective Equipment

Respiratory Protection : Industrial Canister gas masks
Eye Protection : Goggles
Hand, Skin and Body Protection : Impervious clothing, Chemical-resistant gloves, apron and impervious boots

8. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Green transparent liquid
Density : 1.127g/cm³ (15°C)
Boiling Point : —
pH : 11.5 (×30)
Pour Point : —
Solubility in Water : Soluble (100%)

9. PHYSICAL HAZARD (STABILITY AND REACTIVITY)

Flash Point : > 112°C (COC)
Auto Ignition Temperature : Nothing
Upper Explosion Limit : —
Lower Explosion Limit : —
Flammability : Nothing
Spontaneous Combustibility : Nothing
Oxidizability : Nothing
Self-Reactivity : Nothing

NIKKO SANGYO CO., LTD.

31-1020Z 16 December 2015 3 / 3

10. TOXICOLOGICAL INFORMATION

Corrosive and Irritant Properties(Skin Effects) : Repeated or prolonged contact may cause skin sensitization.
Allergenic and Sensitizing Effects : Not available
Acute Toxicity : Oral LD₅₀ >=4311 mg/kg (ATEmix)
Sub-Chronic Toxicity : There is not the useful information.
Chronic Toxicity : There is not the useful information.
Carcinogenic Effects : There is not the useful information.
Mutagenic Effects : There is not the useful information.
Effects on The Reproductive System : There is not the useful information.
Teratogenic Effects : There is not the useful information.

11. ECOLOGICAL INFORMATION

Biodegradability : There is not the useful information.
Bioaccumulation : There is not the useful information.
Fish Toxicity : There is not the useful information.
Hazardous to the ozone layer : There is not the useful information.

12. DISPOSAL CONSIDERATION

Burn in chemical incinerator equipped with an afterburners and scrubber but exert extra care in igniting as this material is highly flammable.
Do not dump into sewers, on the ground or into any body of water.

13. TRANSPORT INFORMATION

Keep away from source of ignition.
Follow all regulations in your country.

14. REGULATORY INFORMATION

Regulatory information with regard to this substance in your country or in your region should be examined by your own responsibility.

15. OTHER INFORMATION

References


1. Thresholds limit values for chemical substances and physical agents and biological exposure indices ACGIH(2010)
2. IARC monographs on the evaluation of the carcinogenic risk of chemicals to humans Vol 33
3. Existing Chemicals Based on the CSDL Japan, Hand-book No.4
Edited by KAGAKU KOGYONIPPONSYA.
4. Material Safety Data Sheet guidebook.
Edited by Japan Chemical Industry Association Information Center.

The information herein is given in good faith, but no warranty, express or implied, is made.

NIKKO SANGYO CO., LTD.

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

**Safety Data Sheet**

SECTION 1: Identification of the substance/mixture and of the company undertaking

1.1 Product identifier
Trade name: Cutting Fluid
Model No: CHR-07

1.2 Relevant identified uses of the substance or mixture and uses advised against
No further relevant information available.

Application of the substance / the mixture
For glass separation of optical mirror

1.3 Details of the supplier of the Safety Data Sheet
Manufacturer/Supplier:
Foshan FangGu Technology Co., Ltd.
Rm 602 19th NanYi District, HaiSan Road,Nanhai Foshan Guangdong
TEL 0757-8626062

1.4 Emergency telephone number: 0757-8626062

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
The product is not classified as hazardous according to the Globally Harmonized System (GHS).
The product is not classified as hazardous according to OSHA GHS regulations within the United States.
The product is not classified as hazardous according to the CLP regulation.

Additional information:
There are no other hazards not otherwise classified that have been identified.
0 percent of the mixture consists of component(s) of unknown toxicity

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008
This product does not have a classification according to the CLP regulation.
The product is not classified as hazardous according to OSHA GHS regulations within the United States.

Hazard pictograms Not Regulated
Signal word Not Regulated

Hazard-determining components of labelling: None.
Hazard statements Not Regulated
Precautionary statements Not Regulated


Additional information:
EUH210 Safety data sheet available on request.

Hazard description:
WHMIS-symbols: Not hazardous under WHMIS.

NFPA ratings (scale 0 - 4)

Health = 1
Fire = 0
Reactivity = 0

NH-201912220013 Issue date: 2019-12-23 Page 1 of 8

**Safety Data Sheet**

HMS-ratings (scale 0 - 4)

Health = 1
Fire = 0
Reactivity = 0

HMS Long Term Health Hazard Substances
None of the ingredients are listed.

2.3 Other hazards
Results of PBT and vPvB assessment
-PBT: Not applicable.
-vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Mixtures
Description: Mixture of substances listed below with nonhazardous additions.

Ingredient name	%	CAS
Three acetic acid amine	10	102-71-6
Glycerol	46	56-81-5
Deframer	2	/
Water	22	7732-18-5
Else	20	/

Additional information:
For the listed ingredients, the identity and exact percentages are being withheld as a trade secret.


SECTION 4: First aid measures

4.1 Description of first aid measures
General information: No special measures required.
After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact:
Immediately rinse with water.
If skin irritation is experienced, consult a doctor.
After eye contact:
Rinse opened eye for several minutes under running water.
Remove contact lenses if worn.
After swallowing:
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed
Slight irritant effect on skin and mucous membranes.
Slight irritant effect on eyes.

Hazards No further relevant information available.

NH-201912220013 Issue date: 2019-12-23 Page 2 of 8

**Safety Data Sheet**

4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.
For safety reasons unsuitable extinguishing agents: None.

5.2 Special hazards arising from the substance or mixture
Formation of toxic gases is possible during heating or in case of fire.

5.3 Advice for firefighters
Protective equipment:
Wear self-contained respiratory protective device.
Wear fully protective suit.
Additional information No special measures required.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Ensure adequate ventilation
Product forms slippery surface when combined with water.

6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Pick up mechanically.
Dispose of the material collected according to regulations.


6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling No special measures required.
Information about fire - and explosion protection: No special measures required.

7.2 Conditions for safe storage, including any incompatibilities
Storage:
Requirements to be met by storerooms and receptacles: Do not allow product to freeze.
Information about storage in one common storage facility: Store away from foodstuffs.
Further information about storage conditions:
Store in cool, dry conditions in well sealed receptacles.
Protect from frost

NH-201912220013 Issue date: 2019-12-23 Page 3 of 8

**Safety Data Sheet**

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection


Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters
Ingredients with limit values that require monitoring at the workplace:

66-81-5 glycerol	Long-term value: 15* 5 th mg/m ³ mist, "total dust" "respirable fraction"
PEL (USA)	TLV withdrawn-insufficient data human occup. exp.
TLV (USA)	Long-term value: 10* 3 rd mg/m ³ "mist, "mist, respirable"
EL (Canada)	Long-term value: 10 mg/m ³
EV (Canada)	Long-term value: 10 mg/m ³
102-71-6 2,2'-methyltriethanol	Long-term value: 5 mg/m ³
TLV (USA)	Long-term value: 5 mg/m ³
EL (Canada)	Long-term value: 5 mg/m ³
EV (Canada)	Long-term value: 3.1 mg/m ³ , 0.5 ppm

DNELs No further relevant information available.
PNECs No further relevant information available.
Additional information: No further relevant information available.

8.2 Exposure controls
Personal protective equipment:
General protective and hygienic measures:
The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Avoid contact with the eyes and skin.
Respiratory protection: Not required under normal conditions of use.
Protection of hands:
Gloves not required under normal conditions of use.
Wear protective gloves to handle contents of damaged or leaking units.
Eye protection:

 Safety glasses

Body protection: Not required under normal conditions of use.
Limitation and supervision of exposure into the environment No special requirements.
Risk management measures No special requirements.

NH-201912220013 Issue date: 2019-12-23 Page 4 of 8

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

华谨检测
HUAJIN TESTING

Safety Data Sheet

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General information

Appearance: Liquid

Form: Not determined.

Colour: Not determined.

Odour: Not determined.

Odour threshold: Not determined.

pH-value: Not determined.

Change in condition

Melting point/Melting range: Not Determined.

Boiling point/Boiling range: Undetermined.

Flash point: Not applicable.

Flammability (solid, gaseous): Not applicable.

Auto/Self-ignition temperature: 400 °C (752 °F)

Decomposition temperature: Not determined.

Self-igniting: Product is not self-igniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower: Not determined.

Upper: Not determined.

Vapour pressure at 20 °C (68 °F): 23 hPa (17 mm Hg)

Density: Not determined.

Relative density: Not determined.

Vapour density: Not determined.

Evaporation rate: Not determined.

Solubility in / Miscibility with water:

Fully miscible.

Partition coefficient (n-octanol/water):

Not determined.

Viscosity:

Dynamic: Not determined.

Kinematic: Not determined.

9.2 Other information

No further relevant information available.

NH-201912220013 Issue date: 2019-12-23 Page 5 of 8

华谨检测
HUAJIN TESTING

Safety Data Sheet

SECTION 10: Stability and reactivity

10.1 Reactivity

10.2 Chemical stability

Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions

Reacts with strong acids and alkali.

Reacts with strong oxidising agents.

10.4 Conditions to avoid

No further relevant information available.

10.5 Incompatible materials:

No further relevant information available.

10.6 Hazardous decomposition products:

Carbon monoxide and carbon dioxide

Toxic metal compounds

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity:

LD₅₀/LC₅₀ values relevant for classification: None.

Primary irritant effect:

on the skin: No irritant effect.

on the eye: No irritating effect.

Sensitisation:

No sensitising effects known.

Subacute to chronic toxicity:

No further relevant information available.

Additional toxicological information:

The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.

When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

Repeated dose toxicity:

No further relevant information available.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):

None.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

No further relevant information available.

12.2 Persistence and degradability

No further relevant information available.

12.3 Bioaccumulative potential

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

Additional ecological information:

General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

NH-201912220013 Issue date: 2019-12-23 Page 6 of 8

华谨检测
HUAJIN TESTING

Safety Data Sheet

12.6 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects

No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Smaller quantities can be disposed of with household waste.

The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

Uncleaned packaging:

Recommendation:

Disposal must be made according to official regulations.

Recommended cleansing agents:

Water, if necessary together with cleansing agents.

SECTION 14: Transport information

14.1 UN-Number

DOT, ADR, ADN, IMDG, IATA

Not Regulated

14.2 UN proper shipping name

DOT, ADR, ADN, IMDG, IATA

Not Regulated

14.3 Transport hazard class(es)

DOT, ADR, ADN, IMDG, IATA

Class

Not Regulated

14.4 Packing group

DOT, ADR, IMDG, IATA

Not Regulated

14.5 Environmental hazards:

Marine pollutant: No

14.6 Special precautions for user

Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

UN "Model Regulation": Not applicable.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

United States (USA)

SARA

Section 356 (extremely hazardous substances):

None of the ingredients are listed.

NH-201912220013 Issue date: 2019-12-23 Page 7 of 8

华谨检测
HUAJIN TESTING

Safety Data Sheet

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACQHS: American Conference of Governmental Industrial Hygienists

ENRECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (Division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMSD: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

VOC: Volatile Organic Compounds (USA, EU)

DNEL: Derived No-Effect Level (REACH)

PNEL: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Skin Irr. 2: Skin corrosion/irritation, Hazard Category 2


Eye Irr. 2: Serious eye damage/eye irritation, Hazard Category 2

End of Report


NH-201912220013 Issue date: 2019-12-23 Page 8 of 8

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

 通創檢測
TTTech Technology Co., Ltd.

Cutting Oil SDS NO.: T191123024A




Safety Data Sheet (SDS)

Creation Date: 2019/11/23
Revision Date: 2019/11/23
Version: 20191123
Prepared according to UN GHS (the 7th revised edition)


Product Name: Cutting Oil
Model: QXY-281

Company Name: FoShan FangXi Technology Co., Ltd.

Written by TTTech Technology Co., Ltd.



TTTech GHS SDS Report(E)-T191123024A 1/0 Date: 23-Nov.-19

 通創檢測
TTTech Technology Co., Ltd.

Cutting Oil SDS NO.: T191123024A

1 - Identification of the chemical and supplier

1.1 Product identifier Product Name: Cutting Oil
Product Model: QXY-281 Product Code: T191123024A

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses: Glass cleaning - Lubrication
Uses advised against: Please consult manufacturer.

1.3 Details of the supplier of the Safety Data Sheet
Name of the company: FoShan FangXi Technology Co., Ltd.
Address of the company: Room602 19th Floor NanYi District,Guicheng HaiSan Road,NanHai FoSh Guangdong
Telephone number: +86 757-86260662 Fax number: -- Zip code: --
mail address: S8H781026@163.COM Emergency phone number: +86 757-86260662


2 - Hazards identification:

2.1 Hazard classification according to GHS: The product is not dangerous.
2.2 Label elements
Hazard pictograms: None
Signal word: None
2.3 Hazard statements: None

2.4 Precautionary statements

2.4.1 Prevention
None
2.4.2 Response
None
2.4.3 Storage
Not applicable
2.4.4 Disposal
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
2.5 Hazard description

TTTech GHS SDS Report(E)-T191123024A 2/0 Date: 23-Nov.-19

 通創檢測
TTTech Technology Co., Ltd.

Cutting Oil SDS NO.: T191123024A

2.5.1 Physical and chemical hazards

This product is normally used without hazard.

2.5.2 Health hazards

This product is normally used without hazard.

2.5.3 Environmental hazards

Please refer to 12th chapter of SDS.

3、Composition/information on ingredients

Substance ☐ Preparation ☐
Composition:

Component	CAS No.	EC No.	Concentration (weight percent, %)
mineral oil	8042-47-5	232-455-8	95
Extreme pressure oil			1.5
Antioxidants			3.5

4、First aid measures

4.1 Description of first aid measures

General advice: Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Skin contact: During production, take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes and consult a physician if felt uncomfortable.
Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if felt uncomfortable.
Inhalation: Under normal use conditions, no adverse effects will occur. If contact with decomposition products, irritation occurs. Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.
Ingestion: Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.
Protecting of first-aiders: Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

4.2 Most important symptoms and effects, both acute and delayed


1) Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

4.3 Indication of any immediate medical attention and special treatment needed

1) Treat symptomatically.
2) Symptoms may be delayed.

5、Firefighting measures

TTTech GHS SDS Report(E)-T191123024A 3/0 Date: 23-Nov.-19

 通創檢測
TTTech Technology Co., Ltd.

Cutting Oil SDS NO.: T191123024A

5.1 Extinguishing media

1) Suitable extinguishing media: Dry chemical, carbon dioxide or alcohol-resistant foam.
2) Unsuitable extinguishing media: Do not use a solid water stream as it may scatter or spread fire.

5.2 Specific hazards arising from the substance or mixture

1) Will form explosive mixtures with air.
2) Fire exposed containers may vent contents through pressure relief valves thereby increasing fire intensity and/or vapour concentration.
3) Vapours may travel to source of ignition and flash back.
4) Liquid and vapour are flammable.
5) May emit poisonous fumes on fire.
6) Containers may explode when heated.
7) Fire exposed containers may vent contents through pressure relief valves.
8) May expand or decompose explosively when heated or involved in fire.

5.3 Advice for firefighters

1) As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.
2) Fight fire from a safe distance, with adequate cover.
3) Prevent fire extinguishing water from contaminating surface water or the ground water system.

6 - Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

1) Avoid breathing vapors and contacting with skin and eye.
2) Beware of vapours accumulating to form explosive concentrations.
3) Vapours can accumulate in low areas.
4) Emergency personnel wear positive pressure self-contained breathing apparatus. Wear protective and anti-static clothing. Wear chemical impermeable gloves.
1) Ensure adequate ventilation. Remove all sources of ignition.
2) Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
3) Use personal protective equipment. Avoid breathing vapours, mist, gas or dust.

6.2 Environmental precautions

1) Prevent further leakage or spillage if safe to do so.
2) Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

1) Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.
2) Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.
3) Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.


7 - Handling and storage:

7.1 Precautions for handling

TTTech GHS SDS Report(E)-T191123024A 4/0 Date: 23-Nov.-19

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited



通測检测
TTTest Technology Co., Ltd.

Cutting Oil

SDS NO.: T191123024A

1) Avoid inhalation of vapors.
2) Use only non-sparking tools.
3) To prevent fire caused by electrostatic discharge steam, equipment on all metal parts should be grounded.
4) Use explosion proof equipment.
5) Handling is performed in a well ventilated place.
6) Wear suitable protective equipment.
7) Avoid contact with skin and eyes.
4) Keep away from heat/sparks/open flames/ hot surfaces.
5) Take precautionary measures against static discharges.

7.2 Precautions for storage

1) Store in a cool, ventilated warehouse.
2) Store temperature should not exceed 37 °C, away from fire and heat sources.
3) Keep the container sealed.
4) Should be stored separately from oxidants, reducing agents, halogens, etc. Avoid mixing.
5) Use explosion-proof lighting and ventilation facilities.
6) It is forbidden to use mechanical equipment and tools that easily produce sparks.
7) The storage area should be equipped with leakage emergency treatment equipment and suitable containment materials.

8 • Exposure controls/personal protection

8.1 Control Parameters

8.1.1 Occupational exposure limits


Occupational Exposure limit values

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m ³	ppm	mg/m ³
All components	USA-OSHA	Unspecified	Unspecified	Unspecified	Unspecified
	South Korea	Unspecified	Unspecified	Unspecified	Unspecified
	Ireland	Unspecified	Unspecified	Unspecified	Unspecified
	Germany (AGS)	Unspecified	Unspecified	Unspecified	Unspecified
	Denmark	Unspecified	Unspecified	Unspecified	Unspecified
	Australia	Unspecified	Unspecified	Unspecified	Unspecified
	South Korea	Unspecified	Unspecified	Unspecified	Unspecified
	Ireland	Unspecified	Unspecified	Unspecified	Unspecified
	Germany (AGS)	Unspecified	Unspecified	Unspecified	Unspecified
	Denmark	Unspecified	Unspecified	Unspecified	Unspecified
	Australia	Unspecified	Unspecified	Unspecified	Unspecified

8.1.2 Biological limit values
Biological limit values: No information available

8.1.3 Monitoring methods

TTTest QHS SDS Report(E)- T191123024A 5/10 Date: 23-Nov-19



通測检测
TTTest Technology Co., Ltd.

Cutting Oil

SDS NO.: T191123024A







1. EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
2. GBZ/T 160.1 - GBZ/T 160.81-2004 Determination of toxic substances in workplace air (Series standard).

8.2 Engineering controls

1. Ensure adequate ventilation, especially in confined areas.
2. Ensure that eyewash stations and safety showers are close to the workstation location.
3. Use explosion-proof electrical/ventilating/lighting/equipment.
4. Set up emergency exit and necessary risk-elimination area.

8.3 Personal protection equipment

General requirement:




Eye protection : Tightly fitting safety goggles (approved by EN 166(EU) or NIOSH (US)).
Hand protection : Wear protective gloves (such as butyl rubber), passing the tests according to EN 374(EU)/US F739 or AS/NZS 2161.1 standard.
Respiratory protection : If exposure limits are exceeded or if irritation or other symptoms are experienced, use a full- face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges.
Skin and body protection : Wear fire/ flame resistant/retardant clothing and antistatic boots.
Other protection: Smoking, eating and drinking are forbidden on the job site. Maintain good hygiene habits.

9 • Physical and chemical properties :

Appearance: Colorless transparent liquid.
Odor: Slight smell.
Odor threshold: Not available.
PH value: 6-8.
Melting point/freezing point (°C): Not available.
Initial boiling point and boiling range (°C): Not available.
Flash point (closed cup, °C): Not available.
Evaporation rate: No data available.
Flammability (solid or gas): No data available.
Explosion upper/lower limit [% (v/v)]: No data available.
Vapor pressure (kPa): No data available.
Vapor density (air = 1): No data available.
Relative density (water = 1): No data available.
Solubility (mg/L): No data available.

TTTest QHS SDS Report(E)- T191123024A 6/10 Date: 23-Nov-19



通測检测
TTTest Technology Co., Ltd.

Cutting Oil

SDS NO.: T191123024A

Octanol/water partition coefficient: No data available. **Auto-ignition temperature (°C):** No data available. **Decomposition temperature (°C):** Not available. **Viscosity:** No data available.
Others: No data available.

10. Stability and Reactivity:

Reactivity: Contact with incompatible materials can cause decomposition or other chemical reactions.
Chemical stability: Stable under the correct conditions of use and storage.
Possibility of hazardous reactions: No data available.
Conditions to avoid: Incompatible materials, static electricity, heat, humidity, etc.
Incompatible materials: Strong oxidants, strong acids, strong bases.
Hazardous decomposition products: No data available.

11. Toxicological information:

11.1 Acute toxicity

Component	LD ₅₀ (oral)	LD ₅₀ (Transcutaneous)	LC ₅₀ (inhalation, 4h)
All components	No data available	No data available	No data available

11.2 Carcinogenicity:

Component	IARC	NTP
All components	Not Listed	Not Listed


11.3 Others

Component	Corrosive skin/irritation	Serious eye damage/irritation	Skin sensitization	Respiratory sensitization	Reproductive toxicity	Specific target organ toxicity - single exposure	Specific target organ toxicity - repeated exposure	Aspiration hazard	Germ cell mutagenicity	Reproductive toxicity
All components	No data available	No data available	No data available	No data available	No data available	No data available	No data available	No data available	No data available	No data available

12. Ecological information:

12.1 Acute aquatic toxicity

TTTest QHS SDS Report(E)- T191123024A 7/10 Date: 23-Nov-19



通測检测
TTTest Technology Co., Ltd.

Cutting Oil

SDS NO.: T191123024A

Component	Fish	Crustaceans	Algae
All components	No data available.	No data available.	No data available.

12.2 Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae
All components	No data available.	No data available.	No data available.

12.3 Others

Component	Persistence and degradability	Bioaccumulation or bioconcentration	Soil mobility	Evaluation of PBT and vPvB results
All components	No data available.	No data available.	No data available.	No data available.

13. Disposal considerations

Disposal considerations:
Waste chemicals: If you need medical advice: Please carry product containers or labels. Contaminated packaging: Residual hazards may still exist after the contents of the packaging are emptied. Keep away from heat and sources of ignition. If possible, recycle them to the supplier for recycling.
Disposal considerations: Refer to the "Disposal" section.

14. Transportation information:

United Nations Dangerous Goods Number (UN No.): The product is not dangerous.
UN proper shipping name: None
UN Risk Classification: None
Packing Category: None
Packing label: None Marine
Pollutants (Yes/No): No
Packing method: Pack according to the manufacturer's recommendations, for example: open drums. Ampoule bottle outside the ordinary wooden box. Threaded glass bottles, iron lids, glass bottles, plastic bottles or metal drums (cans) outside the ordinary wooden boxes.
Transportation Note: It is strictly prohibited to mix and transport with acids, alkalis, oxidants, foods and food additives. The exhaust pipe of the vehicle carrying this item must be equipped with a fire-retardant device, which prohibits the use of mechanical equipment and tools that generate sparks. Avoid exposure, rain, and high temperature during transportation. The tank (tank) used for transportation shall have a grounding chain, and a hole partition may be arranged in the tank to reduce the static electricity generated by the vibration.
It is strictly prohibited to mix and transport with oxidants, acids, foods and food additives. It is

TTTest QHS SDS Report(E)- T191123024A 8/10 Date: 23-Nov-19

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

通創 檢測
TITest Technology Co., Ltd.

Cutting Oil SDS NO.: T191123024A

strictly forbidden to use wooden boats and cement ships for bulk transportation. Avoid exposure, rain and high temperature during transportation. Transportation vehicles shall be equipped with fire fighting equipment and emergency response treatment equipment of corresponding types and quantities. Before shipping, check whether the packaging container is complete and sealed. On the transportation means, hazard signs and announcements should be posted in accordance with the relevant transportation requirements.

15. Regulatory information:

International chemical inventory

Component	EINECS	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AICS
mineral oil	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Extreme pressure oil	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
Antioxidant	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A

EINECS European Inventory of Existing Commercial Chemical Substances
TSCA United States Toxic Substances Control Act Inventory
DSL Canadian Domestic Substances List
IECSC China Inventory of Existing Chemical Substances
NZIoC New Zealand Inventory of Chemicals
PICCS Philippines Inventory of Chemicals and Chemical Substances

16. Others

16.1 Reference:

[1] IPCS: The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>.
 [2] IARC, website: <http://www.iarc.fr/>.
 [3] OECD: The Global Portal to Information on Chemical Substances, website: http://www.chemportal.org/chemportal/index?pageID=04&request_locale=en.
 [4] CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>.
 [5] NLM: ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidite.jsp>.
 [6] EPA: Integrated Risk Information System, website: <http://cfpub.epa.gov/iris/>.

TITest GHS SDS Report(E)-T191123024A 9/10 Date: 23-Nov-19

通創 檢測
TITest Technology Co., Ltd.

Cutting Oil SDS NO.: T191123024A

[7] U.S. Department of Transportation/ERG, website: <http://www.phmsa.dot.gov/hazmat/library/erg>.
 [8] Germany GESTIS-database on hazard substance, website: <http://gestis-en.itst.de/>.

16.2 Others:

1) Abbreviations and acronyms


CAS - Chemical Abstracts Service
 DNEL - Derived No Effect Level
 LC50 - Lethal Concentration 50%
 PBT - Persistent, Bioaccumulative, Toxic
 IMDG - International Maritime Dangerous Goods
 NFPA - National Fire Protection Association
 CMR - Carcinogens, mutagens or substances toxic to reproduction
 PC-TWA - Time Weighted Average
 PNEC - Predicted No Effect Concentration
 EC50 - Effective Concentration 50%
 POW - Partition coefficient Octanol:Water
 ICAO/IATA - International Civil Aviation Organization/International Air Transportation Association
 ACGIH - American Conference of Governmental Industrial Hygienists
 OECD - Organization for Economic Co-operation and Development

PC-STEL - Short term exposure limit
 RPE - Respiratory Protective Equipment
 NOEC - No Observed Effect Concentration
 BCF - Bioconcentration factor (BCF)
 UN - The United Nations
 LD50 - Lethal Dose 50%
 vPvB - very Persistent, very Bioaccumulative

2) Disclaimer

This Safety Data Sheet (SDS) was prepared according to UN GHS (the 7th revised edition). The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

Photograph of sample



SDS Creation Date: 2019/11/23 (valid for one year)

*****[2]*****

TITest GHS SDS Report(E)-T191123024A 10/10 Date: 23-Nov-19

Material Safety Data Sheet

1. Chemical Product and Company Identification

Product Name : CENOFLEX 2821

Company Identification


Company Name : Kokosae Electric Co., Ltd. (Isehara Factory)
 Address : 16 Sunakawa, Isehara-shi, Kanagawa-ken, Japan
 Department in Charge : Chemical-Product Department (Person in Charge, Ryusuke Hirokawa)
 Tel. And Fax. No. : Tel. 0463-94-5231 ; Fax. 0463-96-5772
 Where to make contact in Emergency : Chemical-Product Department, Isehara Factory
 Tel. Number of this Department : 0463-94-5231
 Reference Number : 6-0302
 Effective Date : August 18, 2003
 Revision Date : February 16, 2010

2. Summary Hazardous

[GHS classification]

Physical and Chemical risks : Flammable liquids, Division 2
 Hazardous to health : Acute toxicity (oral), Division 4
 Acute toxicity (dermal), Division 5
 Acute toxicity (inhalation, dust), Division 4
 Corrosive irritant skin, Division 2
 Severe eye irritation and damage to the eye, Division 2A
 Carcinogenicity, Division 2
 Reproduction is toxic, Division 1B
 Specific target organ systemic toxicity (single exposure), Division 1
 (Respiratory, Central nervous system, Liver, Kidney)
 Division 3
 (Anesthesia, Respiratory tract pungency)
 Specific target organ systemic toxicity (repeated exposure), Division 1
 (Respiratory, Nervous system, An organ of hearing, Central nervous)
 Respiratory aspiration hazard, Division 1
 Environmental hazard : Acute toxicity aquatic environment, Division 1
 Chronic aquatic environmental hazards, Division 2

View Pictures of symbols :



1

Beverage Language : Danger.

Hazardous information : Flammable explosive liquid and steam.

Harmful when swallow it (oral)
 When touch skin: fear of the harmfulness (dermal).
 harmful when inhale it (steam).
 Skin pungency.
 Strong eyes pungency
 Doubt of the cancer-causing fear
 Fecundity or the fear of the bad influence.
 Respiratory organs, a liver, the central nervous system, the obstacle of the liver.
 Sleepiness and fear of the dizziness.
 A long term or nervous system by the repetition revelation.
 Respiratory organs, the central nervous system, the obstacle of the organ of hearing.
 When swallow it, and invade the respiratory tract, is fear of the danger for life.
 Toxic to an aquatic by long-term influence.

Note

Do not handle it till read and understand all security or Attention.
 When use this product, do not do eating and drinking or smoking.
 Because it is a flammable liquid, keep it away from the firing source.
 Use an electric apparatus of explosion-proof type, a ventilating device, illuminate machinery.
 Prevent an electrostatic electric discharge and ignition by the spark.
 Wear protection glasses, protection gloves, protection clothes.
 With a tool for protection and ventilating device for individuals, avoid revelation.
 Do not absorb mist, steam, spray.
 Handle it, and wash well afterward.
 Avoid release to the environment.

3. Composition and information on Ingredients

Distinction between a Single-Ingredient Material or Mixture : Mixture

An ingredient name	Content (wt%)	ISHL Law	CAS No.
Acrylic acid resin	20	No exhibition	
Ethylene resin			
Calcium carbonate	45	1-122	471-94-1

2

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Mixture of xylene	10	3-3	1330-20-7
Isomer			
Ethylbenzene	5	3-28	100-41-4
Butanol	10	2-3049	71-26-3
Mixture of hydrocarbons (TDS 404/2)	10	Inapplicable	64742-82-1

4. First aid

Inhalation : move a victim promptly in the place of fresh air.
Population breathes when breathing stop and when breathing is weak after loosened clothing, and having found the breathing respiratory tract, cover the body with blankets and keep it warm and keep it rest.
receive treatment for the doctor immediately.

In case of contact with the Skin : may use soap and wash it off after having washed the part which take off polluted clothing, shoes and touched while draining water or the water of the right temperature.
When produced inflammation, receive treatment for the doctor.

Eye : receive treatment for the ophthalmologist after having washed its eyes with a large quantity of water promptly.

Ingestion : Danger rather increases when let spit it out because volatile. receive treatment for the doctor immediately.
may let you wash it in a mouth with water well.
A mouth give a victim without consciousness anything.

5. Fire Fighting

Appropriate extinguishing : Carbon dioxide, agent, Alcohol resistant foam agents, sprinkling, water spray.

Extinguishing agent used is not : Red-like discharge.

Specific hazards : It occurs in a large quantity of black smoke at time when burnt.
There is a threat that it occurs with pungency the toxicity, corrosive gas depending on a fire.
There is the danger of the ignition explosion depending on a density condition.

How specific fire : quit combustion source to the origin of a fire and extinguish a fire with extinguishing.
water neighboring facilities and cool off.

Protection of the fire : Proper air respirator, protective clothing to wear.
work on fire extinguishing as much as possible from windward and avoid the inhalation of steam (the fire gas).
set up ropes and prohibit an entrance except

the person concerned.

6. Accidental release measures

Personal precautions : Spray of water strikes in the case of the work and wear a tool for protection by all means not to inhale steam and work from windward.

Environmental precautions : Careful so that the thing which leaked does not flow into Swamp, gutter and river the small quantity either.

How to collection and purification : Make it powder and the state of the lump and sweep it in sky container by the method.

Secondary disaster prevention : Evacuate a person of the lee.
Remove a thing becoming the nearby firing source immediately.
Set up a rope around the place that leaked and do it and prohibit an entrance except the person concerned.

7. Precaution for handling and storage

[Attention in the handling]
Handling : Refer to 8. Exposure and personal protection.
Technical measures : Prevent a leak of the liquid and the emission of the steam as much as possible and wear a tool for protection when there is the fear of contact - absorption.
Do not use fire, spark, ark in the neighborhood of growing thing or high temperature ignition source.

[Attention in the safekeeping]
Incompatible materials : Refer to 10. Stability and reactivity.
Storage conditions : The safekeeping place is fire strict prohibition.
Seal it up and tear a high temperature, moisture, water.
Keep it in the good cool and dark space of the ventilation net to win direct rays of the sun directly.
Do not keep it in the place same as an oxidizer.

8. Exposure and Personal Protection

Management concentration :

Ethylbenzene	Unconfigured
Butanol	25 ppm
Xylene	50 ppm

Allowable concentration :

	Defense Association Japan	ACGIH TLV/TWA
Ethylbenzene	50ppm	217mg/m ³
Butanol	50ppm	150mg/m ³
Xylene	50ppm	217mg/m ³

Engineering measures : Use a device, machinery sealed up as much as possible or a local exhaust.
Set up eye washer facilities for emergency and body washer use near a handling place.

(Protective)

Respiratory protective : Use a mask for organic gas, a supply of air mask, air respiratory organs depending on the situation.

Eye protection : Use protection glasses (goggles).

Skin and body protective : Use a thing suitable for the work from chemical protection gloves, boots of oiliness resistant (imperviousness), an apron.

9. Physical and Chemical Properties

Appearance : Black Volatility liquid.

Smell : Characteristic smell.

Evaporation rate (are=1) : Heavier than air.

Solubility : Insoluble in water.

	Ethylbenzene	o-Xylene	m-Xylene	p-Xylene	Butanol
Melting point	-96 °C	-25 °C	-48 °C	-13 °C	-90 °C
Boiling point	136 °C	144 °C	139 °C	138 °C	117 °C
Flash point	18 °C	32 °C	27 °C	27 °C	29 °C
Auto ignition temperature	432 °C	463 °C	527 °C	527 °C	345 °C
Explosive range upper limit (Vol %)	6.7 %	6.7 %	7.0 %	7.0 %	11.3 %
Explosive range Bottom (Vol %)	1.0 %	0.9 %	1.1 %	1.1 %	1.4 %
Vapor pressure	0.9kPa (20°C)	0.7kPa (20°C)	0.8kPa (20°C)	0.9kPa (20°C)	0.6kPa (20°C)
Evaporation rate (are=1)	3.7	3.66	3.66	3.66	2.6

10. Stability and reactivity

Stability : Usually stable in handling conditions.

Conditions to Avoid : Contact with the warming, high temperature, oxidation-related material.

Incompatible materials : Oxidizer, strong alkali, strong acid.

Potentially hazardous reaction : React with an oxidizer by conditions such as the heating intensely and bring the danger of a fire and the explosion.

Hazardous decomposition : It occurs with a poisonous gas (carbon monoxide, carbon dioxide) by the heating resolution.

11. Toxicological Information (Ethylbenzene)

Acute toxicity :

Oral	Rat	LD ₅₀	3,600 mg/Kg
Dermal	Rabbit	LD ₅₀	15,400 mg/Kg
Inhalation (Steam)	Rat	LD ₅₀	17.2mg/L (4,000ppm)

Corrosive irritant skin : There is it in the description of the first skin pungency test result with/showed slight skin pungency by a skin application.

for 24 hours)

Serious damage to the eye : There is it in the description of the eyes pungency examination that use a rabbit for with (showed did it or was influence, ed recovery-related, being damaged in slight pungency, the comes on the conjunctiva).

Sensitizer (Respiratory, skin) : It is thought that there are not the skin sensitization characteristics for the person by the description of the skin sensitization of the volunteer-related test result.

Germ cell mutagenesis : Negative by a somatic cell In VIVO variation Ames test.

Carcinogen : IARC group 2B (cancer causing for a person)
ACGIH A3 (animal carcinogen)

Reproductive toxicity : The fetus toxicity (the deformity of the urinary organ)
Was seen in an amount of medicine for usage that did not show the motherly toxicity in Embryonic stem cell test with a mouse and a rat.

Specific target organ systemic toxicity

Single exposure : The influence on central nervous system for the laboratory animal is seen in a range of the guidance value equivalent to division 2, and the respiratory tract pungency is seen again.

Repeated exposure : No data

Respiratory aspiration hazard : (There is danger to cause chemistry-related pneumonia by an aspiration when swallow this liquid) certain.

(Xylene)

Acute toxicity :

Oral	Rat	LD ₅₀	3,600 mg/Kg
Dermal	Rabbit	LD ₅₀	>4,350 mg
Inhalation (Steam)	Rat	LD ₅₀	29.08mg/L/4H

Corrosive irritant skin : There is a result of middle-class pungency by the skin pungency examination that used a rabbit for.

Serious damage to the eye : There is a result of middle-class pungency by the skin pungency examination that used a rabbit for.

Sensitizer (Respiratory, skin) : No data.

Germ cell mutagenesis : Negative in person administration charges immunology
Negative by a somatic cell In VIVO variation Ames test (micronucleus test - chromosome examination).

Carcinogen : IARC group A4, classified in group 3 in IARC.

Reproductive toxicity : Weight reduction and hydronephrosis are seen in a fetus by the outbreak toxicity test of the mouse.

Specific target organ systemic toxicity

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Single exposure : There are descriptions such as the (pungency of the throat, severe pulmonary congestion, alveolus bleeding and lungs dropical swelling, congestion with the swelling of the liver and the vacuolation of the hepatocyte of the hepatic lobule, dot hemorrhage and swelling and the damage of the nerve cell with the disappearance of the Nuclei body corpucle, cyanosis of limbs) about the person.

Repeated exposure : There are description such as the (pungency of eyes , and the nose , the thirst of the throat , a chronic headache , chest pain, difficult breathing, a physical disability and a mental disorder) about the person.

Respiratory aspiration hazard : (There is danger to cause chemistry-related pneumonia by an aspiration when swallow this liquid) certain.

(Butanol)

Acute toxicity :

Oral	Rat	LD ₅₀	790g/Kg
Dermal	Rabbit	LD ₅₀	3,402mg/Kg
Inhalation(Steam)	Rat	LD ₅₀	24ppm(mg/L)
Inhalation(mist)	Rat	LD ₅₀	8,000ppm(mg/L)

Corrosive irritant skin : There are a description that middle-class pungency was accepted in 24h patch test which used a rabbit for and a description that cutitis was accepted in occupation revelation example.

Serious damage to the eye : There is description that the eyes pungency such as the inflammation of the cornea was accepted in occupation revelation (steam revelation) was a person.

Respiratory(sensitiser , Skin) : No respiratory sensitivity data.

Germ cell mutagenesis : There is negative result by a mutagenesis study with the mammalian red blood cell which is a In VIVO variation Ames with a somatic cell-related examination.

Carcinogen : Classified in E in EPA.

Reproductive toxicity : The mother animals toxicity is recognized by a revelation examination to the pregnant woman rat. Frame deformity (neck rib) was recognized by revelation density by a fetus.

Specific target organ systemic toxicity

Single exposure : Thought with respiratory tract pungency from a description that slight pungency was seen in a pharynx by date of the person.

Repeated exposure : The Central nervous system and an organ of hearing are

7

Regarded as the target internal organs by a description that a hearing loss was accepted in the occupation revelation example of the person

Respiratory aspiration hazard : Equivalent to first class n-alcohol which consisted of the carbon atom which is not beyond 18 more than 3 , isobutyl alcohol and the Ketone which do not go over 13 .

12.Ecological

(Ethylbenzene)

Habit toxicity :

Brine shrimp	LC ₅₀	96 hours	0.4 mg/L
--------------	------------------	----------	----------

Residual property • Resolvability : There is rapid resolvability.

Bioaccumulation characteristics : The accumulation characteristics are low. (Octanol/Water Partition Coefficient log Kow=3.15)

Mobile among the soil : No data

(Xylene)

Habit toxicity :

Rainbow trout	LC ₅₀	96 hours	3.3 mg/L
---------------	------------------	----------	----------

Residual property • Resolvability : There is rapid resolvability.

Bioaccumulation characteristics : The accumulation characteristics are low. (Octanol/Water Partition Coefficient log Kow=3.16)

Mobile among the soil : No data

(Butanol)

Habit toxicity :

Oryzias latipes	LC ₅₀	96 hours	100ppm
-----------------	------------------	----------	--------

Residual property • Resolvability : There is not rapid resolvability.

Bioaccumulation characteristics : The accumulation characteristics are low.

Mobile among the soil : No data.

13.Disposal

Disposal method : The waste is to comply with relevant legislation and local standards. Absorb it to sawdust, distamaceous earth , a waste in the case of the small quantity and work as industrial waste. When the person who took the permission such as the Governor metropolis and districts of waste industry or local public entity works to the , entrust there and process it .

Handling of containers • packaging : How to recycle containers and to clean , do the Proper disposal of local governments in accordance with standards and relevant legislation. It processes it as industrial waste after absorb a residual quantity to sawdust , distamaceous earth , a waste , and having emptied it because in danger of the explosion when dispose of an empty container.

14.Transport information

8

Domestic regulation

Regulatory Land : When fall under firefighting method , the Occupational Safety and Health Act, observe laws and ordinance and transport it.

Maritime Regulatory : Observe Marine Safety Act.

Aviation Regulatory : Observe Aviation Act.

Other safety measures : When carry it by vehicles, check that there is not damage • the leak of the container , such as a shock • a fall • the fall do it so that there is not it. Load it not to win direct rays of the sun and perform prevention of collapse of cargo surely.

15.Regulatory

Occupational Safety and Health Act : The ninth tow separate tables of 2 , enforcement order Article 18s of Law Article 87. [The dangerous material which should notify of names and a harmful thing] (Xylene , Ethylbenzene , Butanol) Enforcement order Article 18. [The dangerous material which should notify of names and a harmful thing] (Xylene , Butanol) 2 of the sixth • Ordinance on the Prevention of Organic Solvent Poisoning , the fourth Article 1 clause 1, The second class existence machine solvents. (Xylene , Butanol) The first enforcement order separate table fourth. [Dangerous materials • a flammable thing] (Xylene , Ethylbenzene , Butanol)

Labor Standards Law : Law Article 76 clause 2, The enforcement regulations Article 35 separate table first two the fourth. [An illness chemical substance] (Xylene)

PETR Law : Law Article 2 clause 2 , the first enforcement order Article 1 separate table. [First-class designated chemicals] (Xylene , Ethylbenzene)

Poison and dynamite Control Law : Appointment Law Article 2. [Dynamite] (Xylene)

Fire Law : The second the fourth dangerous material oil. (Xylene , Ethylbenzene , Butanol)

Marine Pollution Prevention Act : Dangerous materials ship transport and storage rule Article 2 , 3 the first dangerous materials notification separate table.[Flammable liquid kind] (Xylene , Ethylbenzene , Butanol)

Aviation Act : the first enforcement regulation Article 194 dangerous

9

materials notification separate table.[Flammable liquid] (Xylene , Ethylbenzene , Butanol)

16.Other Information

References cited : Safe hygiene information center GHS model MSDS. (a corporate judicial person) Japan Chemical Industry Association. (Germany) Product evaluation technology base mechanism. A chemical Substance synthesis search system. (Germany) A chemical substance synthesis search system. A list of GHS classification object materials. Nihon sangyo hygiene society. An advice of the permission density. MSDS from raw materials maker.


Mention contents Reference : The same as corporate information.

* Please warn the evaluation of danger • the hazardous property enough to handle it because not always enough. Make the mention content based on document • information • data available at present, and there is a thing revised by new knowledge. In addition , it is not a thing the mention contents are reporting , and to guarantee.

10


Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

 **通創检测**
TTTest Technology Co., Ltd.

Dein King Agent

SDS NO.: TT91220028A




Safety Data Sheet (SDS)

Creation Date : 2019/12/20
Revision Date : 2019/12/20
Version: 20191220
Prepared according to UN GHS (the 7th revised edition)


Product Name: Dein King Agent
Model: FCT-18

Company Name: FoShan FangXi Technolony Co., Ltd

Written by TTTest Technology Co., Ltd. (Shanghai) Co., Ltd.



TTTest GHS SDS Report(C)- TT91220028A 1/11 Date: 20-Dec-19

 **通創检测**
TTTest Technology Co., Ltd.

Dein King Agent

SDS NO.: TT91220028A

1. Identification of the chemical and supplier

1.1 Product identifier Product Name: Dein King Agent
Product Model: FCT-18 Product Code: TT91220028A


1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses: Cleaning the glass surface
Uses advised against: Please consult manufacturer.

1.3 Details of the supplier of the Safety Data Sheet
Name of the company: FoShan FangXi Technolony Co., Ltd
Address of the company: Room602 19th Floor NanYi District,Guicheng HaiSan Road,NanHai FoSh Guangdong
Telephone number: +86 757-86260662
Fax number: -----
Zip code: -----
mail address: SSH781026@163.COM Emergency phone number: +86 757-86260662

2. Hazards identification

2.1 Hazard classification according to GHS:
Skin corrosion/irritation Category 2 Serious eye damage/eye irritation Category 2A Carcinogenicity Category 2
Specific target organ toxicity - single exposure Category 1
Specific target organ toxicity - single exposure: anesthetic effect Category 3
Specific target organ toxicity - repeated exposure Category 1

2.2 Label elements




Hazard pictograms :

Signal word : Danger

2.3 Hazard statements

H315 causes skin irritation
H319 causes serious eye irritation
H351 suspected of causing cancer
H370 causes damage to organs
H336 may cause drowsiness or dizziness
H372 Causes damage to organs through prolonged or repeated exposure

TTTest GHS SDS Report(C)- TT91220028A 2/11 Date: 20-Dec-19

 **通創检测**
TTTest Technology Co., Ltd.

Dein King Agent

SDS NO.: TT91220028A

2.4 Precautionary statements

2.4.1 Prevention
P201 Special instructions are given prior to use.
P202 Do not move until you understand all safety precautions.
P260 Do not breathe dust/fume/gas/mist/vapour/spray.
P261 Avoid breathing dust/fume/gas/mist/vapour/spray.
P264 Wash thoroughly after work.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothes should not be taken out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection

2.4.2 Response
P312 Call a POISON CENTER/doctor if you feel unwell.
P314 If you feel unwell, you need to seek medical attention/attention.
P302+P352 IF ON SKIN: Wash thoroughly with water.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308+P311 If contacted: Call a poisoning emergency center/doctor.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P332+P313 IF skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off all contaminated clothing and wash it before reuse.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. If you wear contact lenses and can easily remove them, remove the contact lenses. Continue to rinse

2.4.3 Storage
P405 The storage area must be locked.
P403+P233 Store in a well ventilated area. Keep container closed

2.4.4 Disposal
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.5 Hazard description


2.5.1 Physical and chemical hazards

1 - It can produce highly toxic phosgene when it comes into contact with an open flame or a hot object.
2 - In the case of humid air can be hydrolyzed to produce traces of hydrogen chloride, light can also promote hydrolysis and corrosive to metal.

2.5.2 Health hazards

Skin corrosion/irritation Category 2 Eye damage/eye irritation Class 2A
Specific target organ toxicity - single exposure: anesthetic effect Category 3 Carcinogenicity Category 2

TTTest GHS SDS Report(C)- TT91220028A 3/11 Date: 20-Dec-19

 **通創检测**
TTTest Technology Co., Ltd.

Dein King Agent

SDS NO.: TT91220028A

Specific target organ toxicity - single exposure Category 1
Specific target organ toxicity - repeated exposure Category 1

2.5.3 Environmental hazards

Please refer to 12th chapter of SDS.

3. Composition/information on ingredients

Substance ☐ Preparation

Composition:

Colimpolicit	CAS No.	EC No.	Concentration (weight percent, %)
formic acid	64-18-6	200-579-1	15
Surfactant	-	-*	5
Dichloromethane	75-09-2	200-838-9	80

4. First aid measures

4.1 Description of first aid measures

General advice: Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Skin contact: During production - take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes and consult a physician if fall uncomfortable.
Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if fall uncomfortable.
Inhalation: Under normal use conditions, no adverse effects will occur. If contact with decomposition products, irritation occurs. Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.
Intake: Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.
Protecting of first-aiders: Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

4.2 Most important symptoms and effects, both acute and delayed

1) Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

4.3 Indication of any immediate medical attention and special treatment needed

1) Treat symptomatically.
2) Symptoms may be delayed.

5. Firefighting measures


5.1 Extinguishing media

1) Suitable extinguishing media : Mist water, anti-solvent foam, carbon dioxide, sand

TTTest GHS SDS Report(C)- TT91220028A 4/11 Date: 20-Dec-19

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

 **通創檢測**
TTF Technology Co., Ltd.

Dein King Agent

SDS NO.: T191220028A

extinguishing.

2) Unsuitable extinguishing media: Do not use a solid water stream as it may scatter or spread fire.

5.2 Specific hazards arising from the substance or mixture

1) Containers exposed to fire may leak contents through the pressure relief valve, thereby increasing the concentration of fire and/or vapor.

2) The vapor may move to the source of ignition and flash back.

3) Toxic fumes may be released during combustion.

4) The container may explode when heated.

5) Containers exposed to fire may leak contents through a pressure relief valve.

6) Exposure to heat or exposure to flame may cause swelling or explosive decomposition 53

Advice for firefighters

1) Firefighters must wear an air respirator, wear a full-body fire-fighting anti-virus suit, and extinguish the fire in the upwind direction.

2) Spray the water to cool the container and, if possible, move the container from the fire to the open space.

3) If the container in the fire has changed color or produces sound from a safety relief device, it must be evacuated immediately.

6 - Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

1) Delineate the warning zone according to the influence area of liquid flow and vapor diffusion, and evacuate the unrelated personnel from the crosswind and upwind to the safe zone.

2) It is recommended that emergency personnel wear positive pressure self-contained breathing apparatus and wear anti-virus suits.

3) Cut off the leak source as much as possible.

4) Prevent leakage from entering water bodies, sewers, basements or confined spaces.

5) Small amount of leakage: absorbed by sand or other non-combustible materials.

6) Large amount of leakage: constructing dikes or digging pits.

7) Cover with foam to reduce evaporation.

8) Absorb large amounts of liquid with flying dust or lime powder.

9) Transfer to the tank truck or special collector with the pump.

6.2 Environmental precautions

1) Prevent further leakage or spillage if safe to do so.

2) Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up


1) Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.

2) Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

3) Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7 Handling and storage :

TTF Technology Co., Ltd. SDS Report(C)- T191220028A 5/11 Date: 20-Dec-19

 **通創檢測**
TTF Technology Co., Ltd.

Dein King Agent

SDS NO.: T191220028A

7.1 Precautions for handling:

1) Closed operation, local exhaust

2) Operators must be specially trained to strictly abide by the operating procedures

3) It is recommended that operators wear direct gas masks (half masks), chemical safety glasses, anti-poison penetrating work clothes, and chemical resistant gloves.

4) Keep away from fire, heat, and smoking in the workplace

5) Use explosion-proof ventilation systems and equipment

6) Prevent vapor from leaking into the workplace air

7) Avoid contact with alkali metals

8) Lightly load and unload during handling to prevent damage to packaging and containers

9) Equipped with the corresponding variety and quantity of fire-fighting equipment and leakage emergency treatment equipment

10) Empty containers may be harmful residues

7.2 Precautions for storage:

1) Store in a cool, ventilated warehouse

2) Keep away from fire and heat sources

3) The library temperature does not exceed 32 °C, the relative humidity does not exceed 80%

4) Keep the container sealed

5) should be stored separately from alkali metals and food chemicals, avoid mixing

6) Fire equipment equipped with the corresponding variety and quantity

7) The storage area should be equipped with leakage emergency treatment equipment and suitable containment materials.

8> Exposure controls/personal protection


8.1 Control Parameters

8.1.1 Occupational exposure limits

Occupational Exposure limit values

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m ³	ppm	mg/m ³
All components	USA-OSHA	Unspecified	Unspecified	Unspecified	Unspecified
	South Korea	Unspecified	Unspecified	Unspecified	Unspecified
	Ireland	Unspecified	Unspecified	Unspecified	Unspecified
	Germany (AGS)	Unspecified	Unspecified	Unspecified	Unspecified
	Denmark	Unspecified	Unspecified	Unspecified	Unspecified
	Australia	Unspecified	Unspecified	Unspecified	Unspecified
	South Korea	Unspecified	Unspecified	Unspecified	Unspecified
	Ireland	Unspecified	Unspecified	Unspecified	Unspecified
	Germany (AGS)	Unspecified	Unspecified	Unspecified	Unspecified
	Denmark	Unspecified	Unspecified	Unspecified	Unspecified
Australia	Unspecified	Unspecified	Unspecified	Unspecified	

TTF Technology Co., Ltd. SDS Report(C)- T191220028A 6/11 Date: 20-Dec-19

 **通創檢測**
TTF Technology Co., Ltd.

Dein King Agent

SDS NO.: T191220028A

8.1.2 Biological limit values

Biological limit values: No information available

8.1.3 Monitoring methods

1. EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

2. GBZ/T 160.1-GBZ/T 160.81-2004 Determination of toxic substances in workplace air (Series standard).

8.2 Engineering controls

1. Ensure adequate ventilation, especially in confined areas.







2. Ensure that eyewash stations and safety showers are close to the workstation location.

3. Use explosion-proof electrical/ventilating/lighting/equipment.

4. Set up emergency exit and necessary risk-elimination area.

8.3 Personal protection equipment

General requirement:



Eye protection : Tightly fitting safety goggles (approved by EN 166(EU) or NIOSH (US)).

Hand protection : Wear protective gloves (such as butyl rubber), passing the tests according to EN 374(EU), US F739 or AS/NZS 2161.1 standard.

Respiratory protection : If exposure limits are exceeded or irritation or other symptoms are experienced, use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges.

Skin and body protection : Wear fire/flammable resistant/retardant clothing and antistatic boots.

Other protection: Smoking, eating and drinking are forbidden on the job site. Maintain good hygiene habits.

9 - Physical and chemical properties :

Appearance: Yellow transparent liquid.

Odor: Stimulating smell.

Odor threshold: No data available.

pH value: 3.

Melting point/freezing point (°C): No data available.

Initial boiling point and boiling range (°C): 55.

Flash point (closed cup, °C): No data available.


Evaporation rate: No data available.

Flammability (solid or gas): No data available.

Explosion upper/lower limit [% (v/v)]: No data available.

Vapor pressure (kPa): No data available.

TTF Technology Co., Ltd. SDS Report(C)- T191220028A 7/11 Date: 20-Dec-19

 **通創檢測**
TTF Technology Co., Ltd.

Dein King Agent

SDS NO.: T191220028A

Vapor density (air = 1): No data available.

Relative density (water = 1): No data available.

Solubility (mg/L): No data available.

Octanol/water partition coefficient: No data available.

Auto-ignition temperature (°C): No data available.

Decomposition temperature (°C): Not available.

Viscosity: No data available.

Others: No data available.

10. Stability and Reactivity:

Reactivity: Contact with incompatible materials can cause decomposition or other chemical reactions.

Chemical stability: Stable under the correct conditions of use and storage.

Possibility of hazardous reactions: No data available.

Conditions to avoid: Incompatible materials, static electricity, heat, humidity, etc.

Incompatible materials: Strong oxidizers, strong acids, strong bases.

Hazardous decomposition products: No data available.

11. Toxicological information:

11.1 Acute toxicity

Component	LD50(oral)	LD50(Transcutaneous)	LC50(Inhalation, 4h)
All components	No data available	No data available	No data available

11.2 Carcinogenicity:

Component	IARC	NTP
All components	Not Listed	Not Listed

11.3 Others

Component	Corrosive/skin/irritation	Serious eye damage/irritation	Skin sensitization	Respiratory sensitization	Reproductive toxicity	Specific target organ toxicity - single exposure	Specific target organ toxicity - repeated exposure	Aspiration hazard	Germ cell mutagenicity	Reproductive toxicity
All components	No data available	No data available	No data available	No data available	No data available	No data available	No data available	No data available	No data available	No data available

12. Ecological information:

TTF Technology Co., Ltd. SDS Report(C)- T191220028A 8/11 Date: 20-Dec-19

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

通創檢測
TTC Technology Co., Ltd.

Dein King Agent

SDS NO.: T191220028A

12.1 Acute aquatic toxicity

Component	Fish	Crustaceans	Algae
All components	No data available.	No data available.	No data available.

12.2 Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae
All components	No data available.	No data available.	No data available.

12.3 Others

Component	Persistence and degradability	Bioaccumulation or bioaccumulation	Soil mobility	Evaluation of PBT and vPvB results
All components	No data available.	No data available.	No data available.	No data available.

13. Disposal considerations

Disposal considerations:

Waste chemicals: If you need medical advice: Please carry product containers or labels. Contaminated packaging: Residual hazards may still exist after the contents of the packaging are emptied. Keep away from heat and sources of ignition. If possible, recycle them to the supplier for recycling.

Disposal considerations: Refer to the "Disposal" section.

14. Transportation information:

United Nations Dangerous Goods Number (UN No.): UN 1593.

UN proper shipping name: None

UN Risk Classification: Class 6.1

Packing Category: III

Packaging label:

Marine Pollutants (Yes/No): No

Packing method: Pack according to the manufacturer's recommendations, for example: open drums, Ampoule bottle outside the ordinary wooden box. Threaded glass bottles, iron lids, glass bottles, plastic bottles or metal drums (cans) outside the ordinary wooden boxes.

Transportation Note: It is strictly prohibited to mix and transport with acids, alkalis, oxidants, foods and food additives. The exhaust pipe of the vehicle carrying this item must be equipped with a

TTC SDS Report(C)-T191220028A 9/11 Date: 20-Dec-19

通創檢測
TTC Technology Co., Ltd.

Dein King Agent

SDS NO.: T191220028A

fire-retardant device, which prohibits the use of mechanical equipment and tools that generate sparks. Avoid exposure, rain, and high temperature during transportation. The tank (tank) used for transportation shall have a grounding chain, and a hole partition may be arranged in the tank to reduce the static electricity generated by the vibration.

It is strictly prohibited to mix and transport with oxidants, acids, foods and food additives. It is strictly forbidden to use wooden boats and cement ships for bulk transportation. Avoid exposure, rain, and high temperature during transportation. Transportation vehicles shall be equipped with fire fighting equipment and emergency response treatment equipment of corresponding types and quantities. Before shipping, check whether the packaging container is complete and sealed. On the transportation means, hazard signs and announcements should be posted in accordance with the relevant transportation requirements.

15. Regulatory information:

International chemical inventory

Component	EINECS	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AICS
formic acid	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Surfactant	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
Dichloro methane	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed

【EINECS】 European Inventory of Existing Commercial Chemical Substances
【TSCA】 United States Toxic Substances Control Act Inventory [DSL] Canadian Domestic Substances List
【IECSC】 China Inventory of Existing Chemical Substances
【NZIoC】 New Zealand Inventory of Chemicals
【PICCS】 Philippines Inventory of Chemicals and Chemical Substances

16. Others

16.1 Reference:

[1] IPCS: The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>.

[2] IARC, website: <http://www.iarc.fr/>.

[3] OECD: The Global Portal to Information on Chemicals, website: http://www.chemportal.org/chemportal/index?pageID=0&request_locale=en

[4] CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>.

[5] NLM: ChemDplus, website: <http://chem.sis.nlm.nih.gov/chemdplus/chemdplus.jsp>.

[6] EPA: Integrated Risk Information System, website: <http://cfpub.epa.gov/iris/>.

TTC SDS Report(C)-T191220028A 10/11 Date: 20-Dec-19

通創檢測
TTC Technology Co., Ltd.

Dein King Agent

SDS NO.: T191220028A

[7] U.S. Department of Transportation:ERG, website: <http://www.phmsa.dot.gov/hazmat/library/erg>.

[8] Germany GESTIS-database on hazard substance, website: <http://gestis-en.inist.de/>.

16.2 Others:

1 Abbreviations and acronyms

CAS - Chemical Abstracts Service

PC-STEL - Short term exposure limit RPE - Respiratory Protective Equipment NOEC - No Observed Effect Concentration BCF - Bioconcentration factor (BCF) UN-The United Nations

CMR - Carcinogens, mutagens or substances toxic to reproduction

PC-TWA - Time Weighted Average IARC - International Agency for Research on Cancer

PNEC - Predicted No Effect Concentration LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water vPvB - very Persistent, very Bioaccumulative

ICAO/IATA-International Civil Aviation Organization/International Air Transportation Association

ACGIH-American Conference of Governmental Industrial Hygienists OECD-Organization for Economic Co-operation and Development

2)Disclaimer

This Safety Data Sheet (SDS) was prepared according to UN GHS (the 7th revised edition). The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

Photograph of sample

*****[END]*****

SDS Creation Date: 2019/12/20(valid for one year)

TTC SDS Report(C)-T191220028A 11/11 Date: 20-Dec-19

Material Safety Data Sheet

Product name : Detergent(SAT-686)

Revision : 01/08.2018 Version : 1.0.1

Print date : 01.08.2018

01. Identification of substance, preparation and company

Product name: SAT-686

Use of the substance / preparation: Detergent

Company: Star Advance Technology Co., Ltd.

Telephone Number: 886-2-8522-8023

Emergency Phone Number: 886-2-8522-8023

Validation Date: November 01, 2017

02. Composition/information on ingredients

Hazardous components

Composition	%	CAS No.
Potassium hydroxide	<5%	1310 - 58 - 3
Sodium hydroxide	<5%	1310 - 73 - 2
sodium hydrogen carbonate	< 5%	1310 - 73 - 2
TOTAL:	100%	

03. Hazards identification

Hazard designation: -

04. First-aid measures

After inhalation: Let in fresh air.

After skin contact: Flush away with water and rinse.

After eye contact: Remove contact lenses, keep eyelids open. Flush with plenty of water (15 min.). Call a physician.

After ingestion: Drink plenty of water. Call a physician.

05. Fire-fighting measures

Suitable extinguishing media: Water spray jet.

Unsuitable extinguishing media: None known.

Additional information:

None.

06. Accidental release measures
Personal precautions
Take the precautions customary when handling chemicals.
Environmental precautions
Do not empty into drains.

07. Handling and storage
Information for safe handling
Avoid contact with skin and eyes.
Information about protection against explosions and fires
No anti-explosion measures necessary.
Further information about storage conditions
Always keep in containers of same material as the original one. See also instructions on the label. Avoid heating and direct sunlight.

08. Exposure controls and personal protection
Personal protective equipment
General protective and hygiene measures
Keep away from food, drink and animal feeding stuff
Respiratory protection
Do not inhale the vapour. Use suitable respiratory protective device (A2-P2) only when used in open systems and aerosol is formed.
Hand protection
In full contact: Glove material: nitrile rubber Layer thickness: 0.11 mm
Eye protection
Use tightly fitting safety glasses.
Body protection
Light protective clothing.

09. Physical and chemical properties
Image
Form : Liquid.
Colour : Clear
Odour : none
Relevant safety data
Boiling point / range : 100°C
Flash point : not applicable °C
Vapour pressure : (50 °C) no data available hPa
Density : (20 °C) : 1.055g/cm3
Solvent-separation test : (20 °C) no data available %
Solubility in water : (20 °C) 100 g/l
pH value : 7.34-0.5
Flow time : (20 °C) no data available
Viscosity : (20 °C) no data available

10. Stability and reactivity
Conditions to avoid
None.
Materials to avoid
Avoid acid.

11. Toxicological information
Toxicological tests
LD50/LC50 values that are relevant for classification
Specification : LD-50
Routes of entry : intraperitoneal
Test species : Rat
Value / dosage : > 3543 mg/kg

12. Ecological information
Details on elimination (persistence / degradability)
Specification : Biological oxygen demand (BOD)
Value / dosage : no data available
Specification : Chemical oxygen demand (COD)
Value / dosage : no data available

13. Disposal considerations
Product
Recommendation
In accordance with local official regulations.

14. Transport information
Land transport ADR/RID
Classification
Class : No Classification
Remarks
Maritime transport IMDG/GGVSea
Classification
IMDG-Code : —
Air transport ICAO-TI and IATA-DGR
Classification
Class : No Classification

15. Regulatory information
Classification according to EEC directives
Danger symbol and danger designation : —
R-Phrases : —
S-Phrases : —

16. Other information
The user is responsible for the observance of all required statutory provisions.
Further information

R-Phrases of components : —

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

CHEMITECH INC. CHEMISEAL A-521 SDS No. EG-A521-1 2016-02-16 Page 1/8

SAFETY DATA SHEET

Issued : 2016-02-16
Revised : —
SDS No. : EG-A521-1

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product identity
-Product name: Chloroprene rubber solvent
-Product number: CHEMISEAL A-521
Supplier's details
-Manufacturer: CHEMITECH INC.
-Department issuing SDS: Quality-related Gr.
-Address: 4-9-1, Shimmedai, Hamura-shi, Tokyo, 205-0023, JAPAN
-TEL No.: +81-(0)42-553-6100
-FAX No.: +81-(0)42-553-6108
-Emergency phone No. Same as above
Recommended use of the chemical and restriction on use:
Synthetic rubber adhesive (for industrial use)

2. HAZARDS IDENTIFICATION

•GHS classification
Physical hazards
-Explosives: Not applicable
-Flammable gases: Not applicable
-Flammable aerosols: Not applicable
-Oxidizing gases: Not applicable
-Gases under pressure: Not applicable
-Flammable liquids: Category 2
-Flammable solids: Not applicable
-Self-reactive substances and mixtures:
Classification not possible
-Pyrophoric liquids: Not applicable
-Pyrophoric solids: Not applicable
-Self-heating substances and mixtures:
Classification not possible
-Substances and mixtures which, in contact with water, emit flammable gases:
Not applicable
-Oxidizing liquids: Not applicable
-Oxidizing solids: Not applicable
-Organic peroxides: Not applicable
-Corrosive to metals: Classification not possible
Health hazards
-Acute toxicity / Oral: Classification not possible
-Acute toxicity / Skin: Classification not possible
-Acute toxicity / Inhalation
- gases: Not applicable
- vapor: Classification not possible

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

CHEMITECH INC. CHEMISEAL A-521 SDS No. EG-4521-1 2016-02-16 Page 6/8	
Vapor density:	No data
Specific gravity:	0.88
Solubility	
-For solvent:	Insoluble (water)
-Octanol / water distribution coefficient:	No data
10. STABILITY AND REACTIVITY	
Stability:	- Stable in sealed container. - Stored in cool and dark place.
Hazardous reaction under special conditions:	Polymerization and heat generation
Conditions not to be exposed:	Visible ray, UV rays, direct sun light, heat up, fire, contact with metals, static electricity
Materials contact to be avoided:	Acid, base, strong oxidizer, peroxide
Hazardous gases produced by decomposition:	Organic gases, carbon monoxide, Carbon dioxide etc
11. TOXICOLOGICAL INFORMATION	
Acute toxicity:	- rat (oral) LD50 > 29,700mg/kg : n-Hexane(Hexane) > 5,600mg/kg : Ethyl acetate > 4,800mg/kg : Toluene > 4,300mg/kg : Xylene - rat (dermal) LD50 > 12,000mg/kg : Toluene - rabbit (dermal) LD50 > 14,100mg/kg : n-Hexane(Hexane) - rat (inhalation) LC50 > 4,800ppm : Toluene > 1,600ppm/8h : Ethyl acetate - mouse (inhalation) LC50 > 40,000ppm : n-Hexane(Hexane) Flammables may occur in direct touch for a long time or in repeated use.
Local effect:	
Skin Corrosion / irritation:	
Irritation	- rabbit Moderate : Toluene Positive : Xylene n-Hexane(Hexane)
Eye Damage / irritation:	
Irritation	- rabbit Moderate : Toluene Xylene Positive : Ethyl acetate n-Hexane(Hexane)
Respiratory Organs Sensitizing or Skin Sensitization:	Positive : Ethyl acetate
Germ Cell Mutagenicity (Mutagenicity)	

CHEMITECH INC. CHEMISEAL A-521 SDS No. EG-4521-1 2016-02-16 Page 7/8	
	Negative : Toluene Ethyl acetate
Carcinogenicity:	
IARC	Group 3 : Toluene
ACGIH	A4 : Toluene
Reproductive tox:	Positive : Toluene Xylene
Target Organ Systemic Toxicity:	central nervous system: Toluene (Single exposure) respiratory system: Ethyl acetate respiratory irritation: narcotic effects : Toluene n-Hexane(Hexane)
Target Organ Systemic Toxicity:	central nervous system, liver, kidney (Repeated exposure) : Toluene n-Hexane(Hexane)
Aspiration Hazard	Positive : Toluene n-Hexane(Hexane) Xylene
12. ECOLOGICAL INFORMATION	
Ecotoxicity	
- Fish toxicity	- cyprinodon variegatus LC50 / 96h > 13mg/L : Toluene - oncorhynchus mykiss LC50 / 96h > 3.3mg/L : Xylene
- Others:	- daphnia magna EC50 / 48h > 19.6mg/L : Toluene - daphnia magna EC50 / 24h > 1mg/L : Xylene
Persistence/Bio-degradability:	Degradable : Toluene n-Hexane(Hexane) Ethyl acetate
Accumulation in organism:	No data
Mobility:	No data
Harmful effect on the ozone layer:	No data
13. DISPOSAL CONSIDERATIONS	
Ask a qualified trader with approved qualification for trading the waste to disuse it.	
14. TRANSPORTATION INFORMATION	
International regulations	
-UN No.:	1133
-Proper Shipping name:	ADHESIVES containing flammable liquid
-Hazard Class:	3
-Packing Group:	II

CHEMITECH INC. CHEMISEAL A-521 SDS No. EG-4521-1 2016-02-16 Page 8/8	
-Marine Pollutant Material:	None
Other regulations:	None
Safety precautions for transportation:	Be sure containers have no leakage. Pile the containers in an orderly manner so that no collapse and damage happens during transportation.
Others:	Observe all instructions in Article 7 for transportation.
Materials not to be transported together:	None
15. REGULATORY INFORMATION	
Please refer to national regulations that may be relevant.	
16. OTHER INFORMATION	
-This information is furnished without warranty. The figures shown in this document, such as content of each component and physical properties, are not guaranteed value. No information about harmfulness of the product exists at present. This SAFETY DATA SHEET is prepared for the safe handling of the product, based on the currently available information, including those from raw Material manufacturers. So, it might not be sufficient for safety use. Please pay attention in handling. -Only ordinary uses are considered to prepare the precautions in this document. If non-ordinary use is planned, user should take additional safety measures appropriate to that purpose. -This SDS may be revised when new knowledge is obtained.	

Page 1/16	
INDUSTRIAL SOLVENTS AND CHEMICALS PVT. LTD.	
Safety data sheet	
COMMISSION REGULATION (EU) No 2015/830 of 1 June 2015 amending Annex II of Regulation (EU) No 453/2010	
Printing date 01.03.2016	Revision: 01.03.2016
SECTION 1: Identification of the substance/mixture and of the company/undertaking	
-Trade name: <u>diethyl ether</u>	
-CAS Number: 60-29-7	
-EC number: 200-467-2	
-Index number: 603-022-00-4	
-Registration number 01-2119535785-29-0002	
-1.2 Relevant identified uses of the substance or mixture and uses advised against	
Used as solvent, used as fuel.	
-Sector of Use	
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites	
SU8 Manufacture of bulk, large scale chemicals (including petroleum products)	
SU9 Manufacture of fine chemicals	
SU10 Formulation (mixing) of preparations and/or re-packaging (excluding alloys)	
SU12 Manufacture of plastics products, including compounding and conversion	
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)	
SU24 Scientific research and development	
-Product category PC13 Fuels	
-Process category	
PROC1 Use in closed process, no likelihood of exposure	
PROC2 Use in closed, continuous process with occasional controlled exposure	
PROC3 Use in closed batch process (synthesis or formulation)	
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises	
PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)	
PROC7 Industrial spraying	
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities	
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	
PROC10 Roller application or brushing	
PROC15 Use as laboratory reagent	
PROC16 Using material as fuel sources, limited exposure to unburned product to be expected	
-Environmental release category	
ERC1 Manufacture of substances	
ERC2 Formulation of preparations	
ERC4 Industrial use of processing aids in processes and products, not becoming part of articles	
ERC8a Wide dispersive indoor use of processing aids in open systems	
ERC8d Wide dispersive outdoor use of processing aids in open systems	
(Contd. on page 2)	

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Page 2/16

INDUSTRIAL SOLVENTS AND CHEMICALS PVT. LTD. Safety data sheet COMMISSION REGULATION (EU) No 2015/830 of 1 June 2015 amending Annex II of Regulation (EU) No 453/2010

MANUFACTURER OF DANGEROUS AND DENSE SUBSTANCES
101 ATLANTA, 209 NARIMAN POINT, MUMBAI - 400 021.
Mr. Nitin P. Shah / Email: hshah@iascpl.com
Tel: 0091-22-2284 1180 / 2284 1178
Fax: 0091-22-2287 1957
Further information obtainable from:
Mr. P. R. Rao / Email: iacpln@iascpl.com
Tel: 0091-2646-239549/239553/239554
Fax: 0091-2646-251173
OR Details:
Sustainability Support Services (Europe) AB
Ideon Science Park, Scheelevägen 17, Beta 5
223 70 Lund, Sweden
1.4 Emergency telephone number:
Emergency telephone number: 0091-2646-239549/239553/239554
Contact details of European importer
Telephone number of EU importer:
Opening hours:
Other Comments (e.g. language(s) of the phone service): English

Printing date 01.03.2016 Revision: 01.03.2016

Trade name: diethyl ether

(Contd. of page 1)

Application of the substance / the mixture used as solvent and in fuels

1.3 Details of the supplier of the safety data sheet
Manufacturer/Supplier:
Industrial Solvents and Chemicals Pvt. Ltd.,
101 Atlanta, 209 Nariman Point, Mumbai - 400 021.
Mr. Nitin P. Shah / Email: hshah@iascpl.com
Tel: 0091-22-2284 1180 / 2284 1178
Fax: 0091-22-2287 1957


Further information obtainable from:
Mr. P. R. Rao / Email: iacpln@iascpl.com
Tel: 0091-2646-239549/239553/239554
Fax: 0091-2646-251173

OR Details:
Sustainability Support Services (Europe) AB
Ideon Science Park, Scheelevägen 17, Beta 5
223 70 Lund, Sweden


1.4 Emergency telephone number:
Emergency telephone number: 0091-2646-239549/239553/239554
Contact details of European importer
Telephone number of EU importer:
Opening hours:
Other Comments (e.g. language(s) of the phone service): English

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008

 Flame

Flam. Liq. 1 H224 Extremely flammable liquid and vapour.

 Acute Tox. 4 H302 Harmful if swallowed.
STOT SE 3 H336 May cause drowsiness or dizziness.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008
The substance is classified and labelled according to the CLP regulation.

(Contd. on page 3)

Page 3/16

INDUSTRIAL SOLVENTS AND CHEMICALS PVT. LTD. Safety data sheet COMMISSION REGULATION (EU) No 2015/830 of 1 June 2015 amending Annex II of Regulation (EU) No 453/2010

MANUFACTURER OF DANGEROUS AND DENSE SUBSTANCES
101 ATLANTA, 209 NARIMAN POINT, MUMBAI - 400 021.
Mr. Nitin P. Shah / Email: hshah@iascpl.com
Tel: 0091-22-2284 1180 / 2284 1178
Fax: 0091-22-2287 1957

Printing date 01.03.2016 Revision: 01.03.2016

Trade name: diethyl ether

(Contd. of page 2)

Hazard pictograms
 
GHS02 GHS07

Signal word Danger

Hazard statements
H224 Extremely flammable liquid and vapour.
H302 Harmful if swallowed.
H336 May cause drowsiness or dizziness.

Precautionary statements
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:
EUH019 May form explosive peroxides.
EUH066 Repeated exposure may cause skin dryness or cracking.

2.3 Other hazards
-PBT: Not applicable.
-vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.1 Chemical characterisation: Substances
CAS No. Description
60-29-7 diethyl ether
Identification number(s)
EC number: 200-457-2
Index number: 603-022-00-4
Additional information:
Molecular Weight: 74.1216
Molecular formula: C4H10O
SVHC The substance is not in the list of SVHC substances

(Contd. on page 4)

Page 4/16

INDUSTRIAL SOLVENTS AND CHEMICALS PVT. LTD. Safety data sheet COMMISSION REGULATION (EU) No 2015/830 of 1 June 2015 amending Annex II of Regulation (EU) No 453/2010

MANUFACTURER OF DANGEROUS AND DENSE SUBSTANCES
101 ATLANTA, 209 NARIMAN POINT, MUMBAI - 400 021.
Mr. Nitin P. Shah / Email: hshah@iascpl.com
Tel: 0091-22-2284 1180 / 2284 1178
Fax: 0091-22-2287 1957

Printing date 01.03.2016 Revision: 01.03.2016

Trade name: diethyl ether

(Contd. of page 3)

SECTION 4: First aid measures

4.1 Description of first aid measures
General information:
Consult Physician. Show this safety data sheet to doctor in attendance.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
After inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
After skin contact:
Wash skin with soap and water. If irritation develops, seek medical attention.
After eye contact:
Rinse opened eye for several minutes under running water.
Consult a doctor.
After swallowing:
Never give anything by mouth to an unconscious person. Rinse mouth with water.
Do not induce vomiting.
Call for a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed
Cough, chest pain, Difficulty in breathing, Dizziness, Drowsiness, Contact with eyes can cause, Redness, Provokes tears, Blurred vision, Prolonged or repeated exposure to skin causes defatting and dermatitis.
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Information for doctor: Treat symptomatically and supportively.

4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents:
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
In case of fire, the following can be released:
Carbon monoxide (CO)
Carbon dioxide (CO2)

5.3 Advice for firefighters
Protective equipment:
Wear self-contained breathing apparatus for firefighting if necessary.
Additional information Use water spray to cool unopened containers.

(Contd. on page 5)

Page 5/16

INDUSTRIAL SOLVENTS AND CHEMICALS PVT. LTD. Safety data sheet COMMISSION REGULATION (EU) No 2015/830 of 1 June 2015 amending Annex II of Regulation (EU) No 453/2010

MANUFACTURER OF DANGEROUS AND DENSE SUBSTANCES
101 ATLANTA, 209 NARIMAN POINT, MUMBAI - 400 021.
Mr. Nitin P. Shah / Email: hshah@iascpl.com
Tel: 0091-22-2284 1180 / 2284 1178
Fax: 0091-22-2287 1957

Printing date 01.03.2016 Revision: 01.03.2016

Trade name: diethyl ether

(Contd. of page 4)

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.
Avoid breathing vapors, mist or gas.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions:
Prevent further leakage or spillage if this can be done safely. Do not let product enter drains.
Do not allow product to reach sewage system or any water course.

6.3 Methods and material for containment and cleaning up:
Ensure adequate ventilation.
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations

6.4 Reference to other sections
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Information about fire - and explosion protection:
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges

7.2 Conditions for safe storage, including any incompatibilities
Storage:
Requirements to be met by storerooms and receptacles:
Store in a cool, dry, well-ventilated area away from incompatible substances.
Information about storage in one common storage facility:
Air sensitive. Heat sensitive. Light sensitive.
Further information about storage conditions:
Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s) Used as solvent and in fuels

SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities: No further data, see item 7.

(Contd. on page 6)

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Page 6/16

INDUSTRIAL SOLVENTS
AND CHEMICALS PVT. LTD.

Safety data sheet
COMMISSION REGULATION (EU) No 2015/830
of 1 June 2015 amending Annex II of
Regulation (EU) No 453/2010

MANUFACTURER OF CHEMICALS AND DYES
101 ATLANTA, 200 HARBAN POINT
HARBAN - 480 001
Tel: 001-200-1106, 2004 1116
Fax: 001-200-1107
E-Mail: info@myanmar.com

Printing date 01.03.2016 Revision: 01.03.2016

Trade name: diethyl ether

(Contd. of page 5)

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

60-29-7 diethyl ether

IOELV (EU) Short-term value: 616 mg/m³, 200 ppm
Long-term value: 308 mg/m³, 100 ppm

DNELs

DN(M)ELs for workers

Acute systemic effects-inhalation-616 mg/m³
Long-term systemic effects-Dermal-44 mg/kg bw/day
Long-term systemic effects-inhalation-308 mg/m³
DN(M)ELs for the general population

Long-term systemic effects Dermal-15.6 mg/kgbw/day
Long-term systemic effects Inhalation-54.5 mg/m³
Long-term systemic effects Oral-15.6 mg/kgbw/day

PNECs

PNEC water:

PNEC aqua (freshwater): 2 mg/L
PNEC aqua (marine water): 0.2 mg/L
PNEC aqua (intermittent releases): 1.65 mg/L

PNEC sediment:

PNEC sediment (freshwater): 9.14 mg/kg sediment dw
PNEC sediment (marine water): 0.914 mg/kg sediment dw

PNEC soil:

PNEC soil: 0.66 mg/kg soil dw
PNEC for sewage treatment plant:
PNEC STP: 4.2 mg/L
PNEC oral-No potential for bioaccumulation

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.

Respiratory protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

(Contd. on page 7)

Page 7/16

INDUSTRIAL SOLVENTS
AND CHEMICALS PVT. LTD.

Safety data sheet
COMMISSION REGULATION (EU) No 2015/830
of 1 June 2015 amending Annex II of
Regulation (EU) No 453/2010

MANUFACTURER OF CHEMICALS AND DYES
101 ATLANTA, 200 HARBAN POINT
HARBAN - 480 001
Tel: 001-200-1106, 2004 1116
Fax: 001-200-1107
E-Mail: info@myanmar.com

Printing date 01.03.2016 Revision: 01.03.2016

Trade name: diethyl ether

(Contd. of page 6)

Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Tightly sealed goggles

Body protection: Protective work clothing

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form: The substance is a liquid at 20 °C and 1013 hPa

Colour: Colourless

Odour: Sweetish

Odour threshold: Not determined.

pH-value: Not determined.

Change in condition

Melting point/Melting range: According to Regulation (EC) no. 1907/2006, Annex VII, 7.2, column 2, the melting point does not need to be carried out below -20 °C.

Boiling point/Boiling range: 34.59 °C

(Contd. on page 8)

Page 8/16

INDUSTRIAL SOLVENTS
AND CHEMICALS PVT. LTD.

Safety data sheet
COMMISSION REGULATION (EU) No 2015/830
of 1 June 2015 amending Annex II of
Regulation (EU) No 453/2010

MANUFACTURER OF CHEMICALS AND DYES
101 ATLANTA, 200 HARBAN POINT
HARBAN - 480 001
Tel: 001-200-1106, 2004 1116
Fax: 001-200-1107
E-Mail: info@myanmar.com

Printing date 01.03.2016 Revision: 01.03.2016

Trade name: diethyl ether

(Contd. of page 7)

Flash point: -40 °C

Flammability (solid, gaseous): Vapour flammability range 1.85-36.50 vol%, atmospheric pressure

Ignition temperature:

Decomposition temperature: Not determined.

Self-igniting: 175 °C (DIN 51794, Godde)

Danger of explosion: May form explosive peroxides.

Explosion limits:

Lower: 1.85 Vol %
Upper: 36.5 Vol %

Vapour pressure at 25 °C: 71.6 kPa (static method)

Density at 20 °C: 0.71 g/cm³
Relative density at 20 °C: 0.7134 g/cm³

Solubility in / Miscibility with water at 20 °C: 64.9 g/l

Partition coefficient (n-octanol/water) at 20 °C: 1.05 log POW

Viscosity:

Dynamic at 20 °C: 0.233 mPas

9.2 Other information

No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity No further relevant information available.

10.2 Chemical stability

Thermal decomposition / conditions to be avoided:

Distils without decomposition at atmospheric pressure.

10.3 Possibility of hazardous reactions

In the presence of light and atmospheric oxygen, the product very quickly tends to form peroxides.
The product may decompose explosively if it is concentrated or heated (e.g. distillation).

10.4 Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

10.5 Incompatible materials: Oxidizing agents, Strong acids

10.6 Hazardous decomposition products:

Hazardous decomposition products formed under fire conditions. - Carbon oxides

(Contd. on page 9)

Page 9/16

INDUSTRIAL SOLVENTS
AND CHEMICALS PVT. LTD.

Safety data sheet
COMMISSION REGULATION (EU) No 2015/830
of 1 June 2015 amending Annex II of
Regulation (EU) No 453/2010

MANUFACTURER OF CHEMICALS AND DYES
101 ATLANTA, 200 HARBAN POINT
HARBAN - 480 001
Tel: 001-200-1106, 2004 1116
Fax: 001-200-1107
E-Mail: info@myanmar.com

Printing date 01.03.2016 Revision: 01.03.2016

Trade name: diethyl ether

(Contd. of page 8)

Additional information:

Do not open or move containers with crystals on the seal. Peroxides (that have formed) may explode.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Harmful if swallowed.

LD₅₀/CS₅₀ values relevant for classification:

Oral LD₅₀ 1600 mg/kg bw (rat)
Dermal LD₅₀ > 20000 mg/kg bw (rabbit (New Zealand White))
Inhalative LC₅₀/4 h 32000 ppm (rat)

Primary irritant effect:

Skin corrosion/irritation

1. in vitro study Adult human-derived epidermal keratinocytes (Epi-200 tissues) (not applicable)

Coverage: None, test article was applied topically to tissues (in vitro), which were then covered with a nylon mesh to ensure sufficient contact (not applicable) OECD guideline draft/proposal for a new guideline, In Vitro Skin Irritation - reliability scoring based on 2009 guideline

Result: not classified.

2. rabbit (New Zealand White)

Coverage: semioclusive(shaved)

Result: not irritating

Erythema score: 0 of max. 4 (mean) (Time point: 24 h) (Not applicable) (None)
0 of max. 4 (mean) (Time point: 48 h) (Not applicable) (None)
0 of max. 4 (mean) (Time point: 72 h) (Not applicable) (None)

Edema score:

0 of max. 4 (mean) (Time point: 24 h) (Not applicable) (None)
0 of max. 4 (mean) (Time point: 48 h) (Not applicable) (None)
0 of max. 4 (mean) (Time point: 72 h) (Not applicable) (None)

Serious eye damage/irritation

1. rabbit (New Zealand White-Not classified)

Cornea score:

0 of max. 4 (mean (-3 animals)) (Time point: 1, 24, 48, and 72 h) (fully reversible)

Iris score:

0 of max. 2 (mean (-3 animals)) (Time point: 1, 24, 48, and 72 h) (fully reversible)

Conjunctivae score:

2 of max. 3 (animal 1) (Time point: 1 h) (fully reversible within: 72 h)
1 of max. 3 (mean (-Animals 2 and 3)) (Time point: 1 h) (fully reversible within: 48 h)
1 of max. 3 (mean (-Animals 1 and 2)) (Time point: 24 h) (fully reversible within: 72 h)
0 of max. 3 (animal 3) (Time point: 24 h) (fully reversible within: 48 h)
1 of max. 3 (mean (-Animals 2 and 3)) (Time point: 1 h) (fully reversible within: 24 h) : 0 of max. 3 (mean (-3 animals)) (Time point: 24, 48, and 72 h) (fully reversible within: 24 h)

(Contd. on page 10)

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Page 10/16

INDUSTRIAL SOLVENTS
AND CHEMICALS PVT. LTD.

Safety data sheet
COMMISSION REGULATION (EU) No 2015/830
of 1 June 2015 amending Annex II of
Regulation (EU) No 453/2010

MANUFACTURER OF CHEMICALS AND DYES
101 ATLANTA, 200 HANNAH POINT
HAWAII, 96811, USA 1176
Phone: +862-2287 1921
Fax: +862-2287 1922
E-mail: info@myanmar-asia.com

Printing date 01.03.2016 Revision: 01.03.2016

Trade name: diethyl ether

(Contd. of page 9)

1 of max. 3 (mean (-Animals 1 and 3)) (Time point: 1 h) (fully reversible within: 24 h)
2 of max. 3 (animal 2) (Time point: 1 h) (fully reversible within: 24 h)
3 of max. 3 (mean (-3 animals)) (Time point: 24, 48, and 72 h) (fully reversible within: 24 h)
4 of max. 3 (animal 1) (Time point: 48 h) (fully reversible within: 72 h)
5 of max. 3 (mean (-Animals 2 and 3)) (Time point: 48 and 72 h) (fully reversible within: 48 h)

Chemosis score:
1 of max. 4 (mean (-3 animals)) (Time point: 1 h) (fully reversible within: 24 h)
2 of max. 4 (mean (-3 animals)) (Time point: 24, 48, and 72 h) (fully reversible within: 24 h)
3 of max. 3 (animal 1) (Time point: 1 h) (fully reversible within: 24 h)

Respiratory or skin sensitisation
mouse (CBA) female Local lymph node assay-Result not sensitising
Stimulation index: Control - 1.0
25 - 0.45
50 - 0.66
100 - 0.54

No deaths occurred during the study period. No symptoms of local toxicity at the ears of the animals and no systemic findings were observed during the study period. The body weights of animals, recorded prior to the first application and prior to treatment with 3HtR, was within the range commonly recorded for animals of this strain and age.

Toxicokinetics, metabolism and distribution
Absorption
Diethyl ether is absorbed by inhalation, passing the alveolar wall and into the blood. Absorption can occur by ingestion through the mucous membranes of the gastrointestinal tract. Dermal absorption is possible, though expected to be limited.

Distribution
Diethyl ether is distributed between the blood, central nervous system, fat and connective tissue. Concentrations in muscle remain lower than in the brain or fatty tissue.

Metabolism
In humans, approximately 8% of diethyl ether is metabolised by glucuronidation and eliminated via the kidneys. A further 2% is metabolised to carbon dioxide and water. (Price, H. L., General Anesthetics, In The Pharmacological Basis of Therapeutics, 5th Ed, 1975, McMillan, p89-96). Acetaldehyde and ethanol were identified as metabolites in radiolabelled animal studies.

Elimination
Over 90% of diethyl ether is expired via the lungs. 1-2% is excreted in urine. Concentrations of diethyl ether in fatty tissue remain high until blood levels have dropped significantly. Diethyl ether is expected to be relatively rapidly eliminated from the body. No significant bioaccumulation is expected.

Repeated dose toxicity
1 Repeated dose toxicity: oral
Method-rat male/female
subchronic (oral gavage)
500 mg/kg bw (actual ingested)
2000 mg/kg bw (actual ingested)
3500 mg/kg bw (actual ingested)
Exposure: 13 weeks (Daily gavage)

(Contd. on page 11)

Page 11/16

INDUSTRIAL SOLVENTS
AND CHEMICALS PVT. LTD.

Safety data sheet
COMMISSION REGULATION (EU) No 2015/830
of 1 June 2015 amending Annex II of
Regulation (EU) No 453/2010

MANUFACTURER OF CHEMICALS AND DYES
101 ATLANTA, 200 HANNAH POINT
HAWAII, 96811, USA 1176
Phone: +862-2287 1921
Fax: +862-2287 1922
E-mail: info@myanmar-asia.com

Printing date 01.03.2016 Revision: 01.03.2016

Trade name: diethyl ether

(Contd. of page 10)

Results-NOAEL: 500 mg/kg bw/day (nominal) (male/female)
LOAEL: 2000 mg/kg bw/day (nominal) (male) (significant body weight depression)

2. Repeated dose toxicity: inhalation
Method-rat (Sprague-Dawley) male/female subacute (inhalation: vapour) (whole body)
0.1 v/v/v (1000ppm) (nominal conc.) 1 v/v/v (10000ppm) (nominal conc.)
Vehicle: unchanged (no vehicle) Exposure: 35 days exposure (Exposure to diethyl ether was continuous. The test chamber was opened twice per week (and no more than once per day) for cleaning, food and water replenishment, and weighing of animals. The chamber was opened for no more than 2 hours.)
Results-NOAEC: 10000 ppm (male/female) (Increased liver body weight ratio was indicated, however, value not reported. NOAEC assigned by registrant.)
NOEC: 1000 ppm (male/female) (NOEC assigned by registrant.)
3. Repeated dose toxicity: dermal
Justification: In accordance with column 2 of REACH Annex VIII, the repeated dose toxicity by dermal exposure study (required in section 8.6.1) does not need to be conducted as inhalation exposure is the most relevant route of exposure.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
Gem cell mutagenicity
Mutagenicity-In vitro data
Mammalian cell gene mutation assay (gene mutation)
Mouse lymphoma L5178Y cells (met. act.: with and without)
Doses: Toxicity experiment (experiment I): 0.156, 0.312, 0.625, 1.25, 2.5, or 5 µL/mL (± S9)
Results-Evaluation of results: negative with metabolic activation negative without metabolic activation
Test results: negative for mouse lymphoma L5178Y cells (all strains/cell types tested); met. act.: with and without; cytotoxicity: no, but tested up to limit concentrations
In vivo data-micronucleus assay (chromosome aberration)
mouse (NMR) male/female intraperitoneal
400, 1000, 2000 mg/kg body weight (actual injected)
Evaluation of results: negative
Test results: negative

Genotoxicity: negative (male/female); toxicity: yes (- In the 2000 mg/kg body weight dose group, ataxia and constricted abdomen were noted in 5 males and 5 females between 2 and 30 minutes).

Carcinogenicity
Carcinogenicity-No data available
Justification: In accordance with column 2 of REACH (REGULATION (EC) No 1907/2006) Annex X, the carcinogenicity study (required in section 8.8.1) does not need to be conducted as the test substance is not classified as a mutagen and the repeated dose studies do not indicate that the test substance induces hyperplasia or pre-neoplastic lesions.

Reproductive toxicity
Toxicity for reproduction:
rat (Wistar) male fertility
inhalation: vapour (whole body)-Result-no NOAEC identified (Only a single dose was used)
Justification: In accordance with column 2 REACH (REGULATION (EC) No 1907/2006) Annex VIII, the screening for reproductive/developmental toxicity study (required in section 8.8.2) does not need to be conducted as the test substance is not classified as a reproductive toxicant.

(Contd. on page 12)

Page 12/16

INDUSTRIAL SOLVENTS
AND CHEMICALS PVT. LTD.

Safety data sheet
COMMISSION REGULATION (EU) No 2015/830
of 1 June 2015 amending Annex II of
Regulation (EU) No 453/2010

MANUFACTURER OF CHEMICALS AND DYES
101 ATLANTA, 200 HANNAH POINT
HAWAII, 96811, USA 1176
Phone: +862-2287 1921
Fax: +862-2287 1922
E-mail: info@myanmar-asia.com

Printing date 01.03.2016 Revision: 01.03.2016

Trade name: diethyl ether

(Contd. of page 11)

8.7.1) does not need to be conducted as a pre-natal developmental toxicity study (Annex IX, 8.7.2) is available.
Developmental toxicity-rat (Sprague-Dawley) inhalation: vapour (whole body)
430, 3095, or 6745 ppm (1800, 12940, or 28200 mg/m3) (analytical conc.)
no NOAEC identified (developmental toxicity); (A transient decrease in the rate of maternal weight gain was associated only with an increased incidence of rudimentary 14th ribs at 3095 and 6745 ppm.)

STOT-single exposure
May cause drowsiness or dizziness.

STOT-repeated exposure No data available

Aspiration hazard No data available

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

EC50 (24 h) 165 mg/L (Daphnia magna)
EC50 (72 h) > 100 mg/L (Desmodium subspicatus)
LC50 (48 h) 1380 mg/L (Daphnia magna)
LC50 (14 d) 2138 mg/L (Poecilia reticulata)
LC50 (48 h) 2640 mg/L (Leuciscus idus)
LC50 (96 h) 2560 mg/L (Fish Pimephales promelas)
NOEC (21 d) 100 mg/L (Daphnia magna)

12.2 Persistence and degradability
Biodegradation in water:
Test type: ready biodegradability
Inoculum: activated sludge, non-adapted
Test type: equivalent or similar to OECD Guideline 301 C (Ready Biodegradability: Modified MTI Test (II))
Result:
Under test conditions no biodegradation observed
% Degradation of test substance: 0 after 240 h (O2 consumption)

Biodegradation in water and sediment.
Justification: In accordance with column 1 of REACH (REGULATION (EC) No 1907/2006) Annex IX, the sediment simulation testing (required in section 9.2.1.4) does not need to be conducted as the substance does not have a high potential for adsorption to sediment. This is supported by the n-octanol/water partition coefficient information indicating that diethyl ether has a Log Kow <3 (-1.05).

Biodegradation in soil:
In accordance with column 1 of REACH (REGULATION (EC) No 1907/2006) Annex IX, the Soil simulation testing (required in section 9.2.1.3) does not need to be conducted as the

(Contd. on page 13)

Page 13/16

INDUSTRIAL SOLVENTS
AND CHEMICALS PVT. LTD.

Safety data sheet
COMMISSION REGULATION (EU) No 2015/830
of 1 June 2015 amending Annex II of
Regulation (EU) No 453/2010

MANUFACTURER OF CHEMICALS AND DYES
101 ATLANTA, 200 HANNAH POINT
HAWAII, 96811, USA 1176
Phone: +862-2287 1921
Fax: +862-2287 1922
E-mail: info@myanmar-asia.com

Printing date 01.03.2016 Revision: 01.03.2016

Trade name: diethyl ether

(Contd. of page 12)

substance does not have a high potential for adsorption to soil. This is supported by the n-octanol/water partition coefficient information indicating that diethyl ether has a Log Kow <3 (-1.05).

12.3 Bioaccumulative potential
The substance in non-bioaccumulative.
Aquatic bioaccumulation-BCF: 2 (whole body w.w. (L/kg)) (QSAR Calculation) (CAESAR, v1.0.0.11)

12.4 Mobility in soil
Adsorption coefficient: Koc: 9.7 log Koc: 0.99
Justification: Diethyl ether has a LogKow <3 (-1.05), is not an ionisable substance, and is not surface active. A supporting QSAR prediction reported a LogKoc <3 (0.99). As a result, the substance meets the criteria forwaiving as outlined in Guidance on Information Requirements and Chemical Safety Assessment Chapter R.7a: Endpoint Specific Guidance, R.7.1.15.5. Based on the physicochemical properties of the substance, and the QSAR prediction, the substance is expected to have a low potential for adsorption, and thus according to Regulation (EC) No. 1907/2006, Annex VIII, 9.3.1, column 2, the study does not have to be conducted.

Additional ecological information:
General notes:
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

12.5 Results of PBT and vPvB assessment
Diethyl ether is not readily biodegradable, but does not fulfil the screening criteria for persistence, bioaccumulation or toxicity, and hence is not a PBT or vPvB.

PBT:
According to Regulation (EC) No 1907/2006 (REACH) ANNEX XIII and the Guidance on information requirements and chemical safety assessment, Chapter R.11 (PBT Assessment, May 2008), the substance does fulfil the screening criterion 'persistence (P)'.
According to Annex XIII of Regulation (EC) No 1907/2006 and to the Guidance on information requirements and chemical safety assessment Chapter R.11 (PBT Assessment, May 2008), a substance does not fulfil the criterion 'bioaccumulative (B)' if the BCF is below 2000 and 5000, respectively, or the log Kow is below 4.5.
The screening criteria for toxicity (<0.1 mg/L for acute, < 0.01 mg/L for chronic) was not fulfilled. Therefore, it can be concluded that the substance does not fulfil the toxicity criteria.

vPvB:
According to Regulation (EC) No 1907/2006 (REACH) ANNEX XIII and the Guidance on information requirements and chemical safety assessment, Chapter R.11 (PBT Assessment, May 2008), the substance does fulfil the screening criterion 'persistence (P)' and 'very persistent (vP)'.
According to Annex XIII of Regulation (EC) No 1907/2006 and to the Guidance on information requirements and chemical safety assessment Chapter R.11 (PBT Assessment, May 2008), a substance does not fulfil the criterion 'bioaccumulative (B)' or 'very bioaccumulative (vB)' if the BCF is below 2000 and 5000, respectively, or the log Kow is below 4.5.

(Contd. on page 14)

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Page 14/16
INDUSTRIAL SOLVENTS AND CHEMICALS PVT. LTD. Safety data sheet
COMMISSION REGULATION (EU) No 2015/830
of 1 June 2015 amending Annex II of
Regulation (EU) No 453/2010
Manufactured by: MANUFACTURER OF CHEMICALS AND DYES
Address: 101, Aungmye, 101, Myanmar Point
Phone: +95-9-2287 1170, 2287 1171
Fax: +95-9-2287 1172
E-mail: info@myanmarpoint.com

Printing date 01.03.2016 Revision: 01.03.2016

Trade name: diethyl ether

(Contd. of page 13)

12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations


13.1 Waste treatment methods
Recommendation
Following pre-treatment and observing the regulations for hazardous wastes, it must be taken to a permitted hazardous wastes landfill or hazardous wastes incinerator.
European waste catalogue 13 07: Wastes of liquid fuels
Uncleaned packaging:
Recommendation:
Disposal must be made according to official regulations.
Contaminated packaging:
Contaminated packaging should be emptied optimally and after being suitably cleaned returned for re-use.

SECTION 14: Transport information

14.1 UN-Number
ADR, IMDG, IATA UN1155

14.2 UN proper shipping name
ADR, IMDG, IATA 1155 DIETHYL ETHER (ETHYL ETHER)
DIETHYL ETHER (ETHYL ETHER)

14.3 Transport hazard class(es)
ADR, IMDG, IATA



Class 3 Flammable liquids.
Label 3

14.4 Packing group
ADR, IMDG, IATA I

14.5 Environmental hazards:
Marine pollutant: No

14.6 Special precautions for user
Warning: Flammable liquids.
Danger code (Kemler): 33
EMS Number: F-E, S-D

(Contd. on page 15)

Page 15/16
INDUSTRIAL SOLVENTS AND CHEMICALS PVT. LTD. Safety data sheet
COMMISSION REGULATION (EU) No 2015/830
of 1 June 2015 amending Annex II of
Regulation (EU) No 453/2010
Manufactured by: MANUFACTURER OF CHEMICALS AND DYES
Address: 101, Aungmye, 101, Myanmar Point
Phone: +95-9-2287 1170, 2287 1171
Fax: +95-9-2287 1172
E-mail: info@myanmarpoint.com

Printing date 01.03.2016 Revision: 01.03.2016



Trade name: diethyl ether

(Contd. of page 14)

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.

Transport/Additional information:
ADR
Limited quantities (LQ) 0
Transport category 1
Tunnel restriction code D/E
UN "Model Regulation": UN1155, DIETHYL ETHER (ETHYL ETHER), 3, I

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Labelling according to Regulation (EC) No 1272/2008
The substance is classified and labelled according to the CLP regulation.
Hazard pictograms

GHS02 GHS07
Signal word Danger
Hazard statements
H224 Extremely flammable liquid and vapour.
H302 Harmful if swallowed.
H336 May cause drowsiness or dizziness.
Precautionary statements
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 Use explosion-proof electrical/ventilating/fighting/equipment.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
National regulations:
Other regulations, limitations and prohibitive regulations
User to follow national laws and regulations.

(Contd. on page 16)

Page 16/16
INDUSTRIAL SOLVENTS AND CHEMICALS PVT. LTD. Safety data sheet
COMMISSION REGULATION (EU) No 2015/830
of 1 June 2015 amending Annex II of
Regulation (EU) No 453/2010
Manufactured by: MANUFACTURER OF CHEMICALS AND DYES
Address: 101, Aungmye, 101, Myanmar Point
Phone: +95-9-2287 1170, 2287 1171
Fax: +95-9-2287 1172
E-mail: info@myanmarpoint.com

Printing date 01.03.2016 Revision: 01.03.2016

Trade name: diethyl ether

(Contd. of page 15)

Substances of very high concern (SVHC) according to REACH, Article 57
The substance is not listed as SVHC.
15.2 Chemical safety assessment:
A Chemical Safety Assessment has been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS: Product safety department.
Contact: Mr. P. R. Rao / Mr. Hilen P. Shah
Abbreviations and acronyms:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Flem. Lig. 1: Flammable liquids, Hazard Category 1
Acute Tox. 4: Acute toxicity, Hazard Category 4
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Sources
• REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
• Data from Chemical Safety Report (CSR) of CAS: 80-29-7
• Data from ECHA website for Registered substances
http://echa.europa.eu/registration-dossier/-/registered-dossier/14887
• Data compared to the previous version altered.

Section 3: Composition information on ingredients
Section 4: First-aid measures
Section 5: Fire-fighting measures
Section 6: Accidental Release measures
Section 7: Handling and storage
Section 8: Exposure Controls/Personal protection
Section 9: Physical and Chemical properties
Section 10: Stability and Reactivity
Section 11: Toxicological information
Section 12: Ecological information

Material Safety Data Sheet
nittoku
Nihon Tokushu Toryo Co., Ltd.
5-16-7 Oji, Kita-Ku, Tokyo, Japan 114-8584
Tel: 03-3913-6131 Fax: 03-3914-1082

Name of the product: EPOLLA #2000, Black, A liquid
General Description: Classification: Main component of epoxy resin coating
Main Application: Purpose: for optical equipment

Section 1 - General Information about Manufacturer

Manufacturer's name	
Emergency Telephone Number	03 (3913) 6131
Telephone Number for Information	03 (3913) 6131
Address	5-16-7 Oji, Kita-Ku, Tokyo, Japan 114-8584
Date prepared	Revised on June 11, 2007
The date of issue	Sept. 6, 2007
Prepared by	S.Higashide / K.Nomi

Section 2 - Hazardous Ingredients/Identity Information

Hazardous Component	CAS Number	Content (%)	PKTR
Carbon black	1333-86-4	1 ~ 5	
Toluene	108-88-3	26.1	Class 1-227
Methyl isobutyl ketone	108-10-1	10 ~ 20	
Ethylene glycol mono butyl ether	111-76-2	1 ~ 5	
Epoxy resin (solid)	25068-38-6	40 ~ 60	

Classification by the Japanese Law for Prevention and Extinction of Fires:
It is classified as flammable liquid, acute poisoning material and other harmful material.

- It is extremely flammable liquid and may explode if vapor stands still.
- It may cause organic solvent poisoning.
- It may cause sensitization by skin contact.
- It contains a substance that may cause cancer.

MSDS for EPOLLA 2000, Black, A liquid
Page 1

nittoku

Section 3 - Emergency & First Aid Procedure

Eye Contact	* Immediately flush eyes and back side of eyelids with plenty of water for at least 15 minutes. Take medical examination and treatment as soon as possible.
Skin Contact	* Wipe off the attachment with cloth. * Wash away with plenty of water with soap or detergent for skin completely. Do not use solvent nor thinner. * In the case of abnormal appearance or pain, take medical examination and treatment.
Inhalation	* When much vapor, gas, etc. are inhaled, remove the victim to fresh air and keep the victim warm and quiet. When breathing is weak, irregular, or has stopped, administer artificial respiration. * Do not get vomit ingested. Take medical examination and treatment as soon as possible. * When the victim feels sick by inhaling vapor, gas, etc., remove the victim to fresh air and keep the victim quite. Take medical examination and treatment.
Ingestion	* When ingested by mistake, keep the victim quiet and take medical examination and treatment as soon as possible. * Do not get vomit ingested. * Do not induce vomiting without doctor's instruction.

Section 4 - Fire and Explosion Hazard Data

Extinguishing Media	CO ₂ , foam, powder
Extinguishing Method	* Do not use water as an extinguishing media. * Wear appropriate protective device (such as heat-resistant cloth, etc.) * Remove immediately combustible material in neighborhood. * Use specified extinguishing media. * Cool closed containers that are exposed to extreme heat by sprinkling water. * Extinguish a fire from windward.

MSDS for EPOLLA 2000, Black, A liquid
Page 2

nittoku

Section 5 - Steps to be Taken in the Case of Spills

- Keep away from source of ignition, combustible, and material which might become high temperature immediately.
- Prepare appropriate extinguishing media just in case of catching fire.
- At operation, wear appropriate protective device (gloves, protective mask, apron, goggles, etc.).
- For collecting spills, absorb with dry sand, earth, or other nonflammable materials. In the case of large amount, prevent outflow with dike.
- Collect with spark-free tools to prevent spark caused by shock and static electricity.
- Do not flush into waterway or rivers, etc. to keep environment intact.
- Collect spills into closeable containers and transfer to safe places.
- Dispose of contaminated materials and waste in accordance with the related regulations.

Section 6 - Precautions for Handling and Storing

Handling	* Use only at well-ventilated area. * Close containers each after use. * Prevent flame, spark, use of material which becomes high temperature. * To prevent static electricity, earth all equipment. Electric machine should be explosion-proof type. * Tools should be spark-free type. * Wear static-electricity preventive cloth and shoes during operation. * Wear appropriate protective device to prevent contact with skin, mucous membrane and cloths. * Waste which are already used, waste coating and spray dust should be put in water until they are disposed of. * Within a closed area, wear appropriate protective devices and set a local exhausting equipment. * After handling, wash hands, faces and others completely. Do not bring contaminated protective device such as gloves to resting rooms.
Storing	* Avoid direct sun-shine. * Store in the area well ventilated. * Keep away from flame, heat-source, etc.

MSDS for EPOLLA 2000, Black, A liquid
Page 3

nittoku

Section 7 - Control Measures

7-1 Exposure control on equipment

- Use explosion-proof type applying equipment.
- Set exhausting equipment so that vapors can not stand still.
- Take earth for applying equipment used for such as transportation, pump-up and agitation.
- Arrange facility location so that this product can be handled away from high temperature or objects which might become source of ignition.
- In the case of indoor application, arrange facility so that operators cannot be exposed. For example, install automatic application equipment, conduct full local ventilation system, etc.
- Especially when application work is conducted within a closed area such as tank, install local exhausting equipment that works completely to the bottom of the tank.

7-2 Personal protective equipment:

Respiratory protection device	* It is required. * Wear poison-proof mask for organic gas.
Eye protection	* It is required. * Use safety glasses.
Protective gloves	* It is required. * Wear gloves which are impervious to organic solvent or chemical products.
Others	* In the case of electrostatic application, wear electro-conductive shoes.

Section 8 - Physical/Chemical Characteristics

Appearance and Odor	Black liquid with solvent odor
Boiling Point	110.6 ~ 117.0 °C
Vapor Pressure (mmHg)	4,893 Pa (30°C)
Specific Gravity (H ₂ O = 1)	1.24 ~ 1.34 gr./cm ³
Other data	--

MSDS for EPOLLA 2000, Black, A liquid
Page 4

nittoku

Section 9 - Reactivity Data

Characteristics of the product

Flash Point (Method Used)	7.0 °C
Ignition Point	460 °C
Explosion Limits	LEL: 1.2 % UEL: 8.0 %

Reactivity and stability data

Reactive condition (temperature, light, etc.)	--
Dangerous material by contact	Oxidizing agent
Generation of toxic gas at incineration, etc.	It may generate toxic gas such as CO, etc.
Other reactive information:	It reacts with amine type, organic, acid type, etc.
Other dangerous information	No data available

Section 10 - Information about Hazard

Material name	Control of concentration	ACGIH (TLV)	IARC Class	Other hazardous information
Carbon black	--	3.5 mg/m ³	2B	LD ₅₀ (Oral): >15,400 mg/kg (rat)
Toluene	50 ppm	50 ppm	--	LD ₅₀ (Oral): 636 mg/kg (rat)
Methyl isobutyl ketone	50 ppm	50 ppm	--	LD ₅₀ (Oral): 2,080 mg/kg (rat)
Ethylene glycol mono butyl ether	25 ppm	20 ppm	--	LD ₅₀ (Oral): 530 mg/kg (rat)
Epoxy resin (solid)	--	--	--	LD ₅₀ (Oral): >2,000 mg/kg (rat)

10-1 Hazardous information about the above listed hazardous material

- Epoxy resin:
It might cause sensitive dermatitis for some people.


10-2 Information about toxicity of this product

We have not tested safety of this product.

MSDS for EPOLLA 2000, Black, A liquid
Page 5

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited



Section 11 - Ecological Information

- Follow precautions of section 5 and section 12 in the case of leaking and disposing.
- Please handle with care so that this material and water which is used at washing do not enter into ground, rivers, waterways, etc.

Section 12 - Waste Disposal Method

- Entrust authorized industrial waste contractor to dispose of waste and waste container.
- Do not flush water which is used at cleaning containers and equipment on the ground or into sewerage.
- Regarding waste generated at liquid waste treatment or at incineration, dispose of them in accordance with relevant regulations or entrust authorized industrial waste contractors.
- At incinerating industrial waste, absorb with diatomaceous earth and incinerate little by little with incinerator.

Section 13 - Precautions for Transportation



Please refer to the precautions for handling and storing (Section 6).


- Confirm that the containers have no leaking and load them in a way to avoid tumbling, falling, damage, etc.
- Surface transportation:
 - When Law for Prevention and Extinction of Fires, Industrial Safety & Health Law, Poisonous & Deleterious Substance Control Law are applicable, follow instruction.
- Transportation by air: Follow the Aeronautics Law
- Transportation by boat: Follow the Port Regulation Law.
- Hazard Class: 3
- UN Number: 1263
- Packing Group: II
- Label: Flammable liquid

Section 14 - Applicable Regulations

- Industrial Safety and Health Law
- Law for Prevention and Extinction of Fires
- The Port Regulation Law

MSDS for EPOLLA 2000, Black, A liquid
Page 6




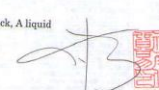



Section 15 - Reference

- Data Base for raw materials/substances issued by Japan Paints Manufacturers Association
- Solvent pocket book
- Manual for prevention of danger and disaster
- International Chemical Safety Cards

Note: We prepared this MSDS to the best of our knowledge. Information about toxicity and hazards is our estimation on the basis of the information available about each raw material. Final determination of suitability of any material is the sole responsibility of the user with referring to the above information. This MSDS would be revised without any prior notice whenever any new finding on the material is available.

MSDS for EPOLLA 2000, Black, A liquid
Page 7





Material Safety Data Sheet

Nihon Tokushu Toryo Co., Ltd.
5-16-7 Oji, Kita-Ku, Tokyo, Japan 114-8584
Tel: 03-3913-6131 Fax: 03-3914-1082

Name of the product	EPOLLA #2000, SM, B liquid
General Description	Classification: Hardener of epoxy resin coating
Main Application	Purpose: for optical equipment

Section 1 - General Information about Manufacturer

Manufacturer's name	Nihon Tokushu Toryo Co., Ltd.
Emergency Telephone Number	03 (3913) 6131
Telephone Number for Information	03 (3913) 6131
Address	5-16-7 Oji, Kita-Ku, Tokyo, Japan 114-8584
Date prepared	Revised on June 11, 2007
The date of issue	Sept. 6, 2007
Prepared by	S.Higashide / K.Nomi



Section 2 - Hazardous Ingredients/Identity Information


Hazardous Component	CAS Number	Content (%)	PRTR
Xylene	1330-20-7	15	Class 1-63
Ethyl benzene	100-41-4	10	Class 1-40
n-butyl alcohol	71-86-3	20 ~ 30	
Polyamide resin	64754-99-0	30 ~ 40	

Classification by the Japanese Law for Prevention and Extinction of Fires:
It is classified as flammable liquid, acute poisoning material and other harmful material.

- It is extremely flammable liquid and may explode if vapor stands still.
- It may cause organic solvent poisoning.
- It may cause dermatitis by skin contact.

MSDS for EPOLLA 2000, SM, B liquid
Page 1






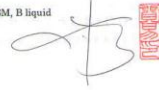
Section 3 - Emergency & First Aid Procedure

Eye Contact	* Immediately flush eyes and back side of eyelids with plenty of water for at least 15 minutes. Take medical examination and treatment as soon as possible.
Skin Contact	* Wipe off the attachment with cloth. * Wash away with plenty of water with soap or detergent for skin completely. Do not use solvent nor thinner. * In the case of abnormal appearance or pain, take medical examination and treatment.
Inhalation	* When much vapor, gas, etc. are inhaled, remove the victim to fresh air and keep the victim warm and quiet. When breathing is weak, irregular, or has stopped, administer artificial respiration. * Do not get vomit ingested. Take medical examination and treatment as soon as possible. * When the victim feels sick by inhaling vapor, gas, etc., remove the victim to fresh air and keep the victim quite. Take medical examination and treatment.
Ingested	* When ingested by mistake, keep the victim quiet and take medical examination and treatment as soon as possible. * Do not get vomit ingested. * Do not induce vomiting without doctor's instruction.

Section 4 - Fire and Explosion Hazard Data


Extinguishing Media	CO ₂ , foam, powder
Extinguishing Method	* Do not use water as an extinguishing media. * Wear appropriate protective device (such as heat-resistant cloth, etc.) * Remove immediately combustible material in neighborhood. * Use specified extinguishing media. * Cool closed containers that are exposed to extreme heat by sprinkling water. * Extinguish a fire from windward.

MSDS for EPOLLA 2000, SM, B liquid
Page 2



Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited




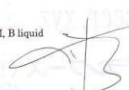
Section 5 · Steps to be Taken in the Case of Spills


- Keep away from source of ignition, combustible, and material which might become high temperature immediately.
- Prepare appropriate extinguishing media just in case of catching fire.
- At operation, wear appropriate protective device (gloves, protective mask, apron, goggles, etc.).
- For collecting spills, absorb with dry sand, earth, or other nonflammable materials. In the case of large amount, prevent outflow with dike.
- Collect with spark-free tools to prevent spark caused by shock and static electricity.
- Do not flush into waterway or rivers, etc. to keep environment intact.
- Collect spills into closeable containers and transfer to safe places.
- Dispose of contaminated materials and waste in accordance with the related regulations.

Section 6 · Precautions for Handling and Storing

Handling	
	<ul style="list-style-type: none">* Use only at well-ventilated area.* Close containers each after use.* Prevent flame, spark, use of material which becomes high temperature.* To prevent static electricity, earth all equipment. Electric machine should be explosion-proof type.* Tools should be spark-free type.* Wear static-electricity preventive cloth and shoes during operation.* Wear appropriate protective device to prevent contact with skin, mucous membrane and cloths.* Waste which are already used, waste coating and spray dust should be put in water until they are disposed of.* Within a closed area, wear appropriate protective devices and set a local exhausting equipment.* After handling, wash hands, faces and others completely. Do not bring contaminated protective device such as gloves to resting rooms.
Storing	<ul style="list-style-type: none">* Avoid direct sun-shine.* Store in the area well ventilated.* Keep away from flame, heat-source, etc.

MSDS for EPOLLA 2000, SM, B liquid
Page 3





Section 7 · Control Measures

7-1 Exposure control on equipment

- Use explosion-proof type applying equipment.
- Set exhausting equipment so that vapors can not stand still.
- Take earth for applying equipment used for such as transportation, pump-up and agitation.
- Arrange facility location so that this product can be handled away from high temperature or objects which might become source of ignition.
- In the case of indoor application, arrange facility so that operators cannot be exposed. For example, install automatic application equipment, conduct full local ventilation system, etc.
- Especially when application work is conducted within a closed area such as tank, install local exhausting equipment that works completely to the bottom of the tank.


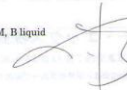
7-2 Personal protective equipment:


Respiratory protection device	<ul style="list-style-type: none">* It is required.* Wear poison-proof mask for organic gas.* Use airline respirators at operation in enclosed area.
Eye protection	<ul style="list-style-type: none">* It is required.* Use safety glasses.
Protective gloves	<ul style="list-style-type: none">* It is required.* Wear gloves which are impervious to organic solvent or chemical products.
Others	<ul style="list-style-type: none">* In the case of electrostatic application, wear electro-conductive shoes.

Section 8 · Physical/Chemical Characteristics

Appearance and Odor	Milky white with solvent odor
Boiling Point	117.7 ~ 144.4 °C
Vapor Pressure (mmHg)	1, 333 Pa (32°C)
Specific Gravity (H ₂ O = 1)	0.90 ~ 1.10 gr./cm ³
Other data	--

MSDS for EPOLLA 2000, SM, B liquid
Page 4





Section 9 · Reactivity Data

Characteristics of the product

Flash Point (Method Used)	28.0 °C
Ignition Point	367 °C
Explosion Limits	LEL: 1.1 %
LEL & UEL	UEL: 11.25 %

Reactivity and stability data

Reactive condition (temperature, light, etc.)	--
Dangerous material by contact	Acid, oxidized agent, isocyanate
Generation of toxic gas at incineration, etc.	It may generate toxic gas such as CO, NOx, etc.
Other reactive information:	--
Other dangerous information	No data available

Section 10 · Information about Hazard

Material name	Control of concentration	ACGIH (TLV)	IARC Class	Other hazardous information
Xylene	100 ppm	100 ppm	--	LD ₅₀ (Oral): 4,300 mg/kg (rat)
Ethyl benzene	--	100ppm	--	LD ₅₀ (Oral): 3,500 mg/kg (rat)
n-butyl alcohol	25 ppm	25 ppm (Ceiling Value)	--	LD ₅₀ (Oral): 790 mg/kg (rat)
Polyamide resin	--	--	--	It may cause dermatitis by skin contact.


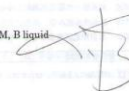
10-1 Hazardous information about the above listed hazardous material


Especially we do not have the information.

10-2 Information about toxicity of this product

We have not tested safety of this product.

MSDS for EPOLLA 2000, SM, B liquid
Page 5





Section 11 · Ecological Information

- Follow precautions of section 5 and section 12 in the case of leaking and disposing.
- Please handle with care so that this material and water which is used at washing do not enter into ground, rivers, waterways, etc.

Section 12 · Waste Disposal Method

- Entrust authorized industrial waste contractor to dispose of waste and waste container.
- Do not flush water which is used at cleaning containers and equipment on the ground or into sewerage.
- Regarding waste generated at liquid waste treatment or at incineration, dispose of them in accordance with relevant regulations or entrust authorized industrial waste contractors.
- At incinerating industrial waste, absorb with diatomaceous earth and incinerate little by little with incinerator.

Section 13 · Precautions for Transportation


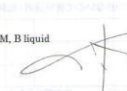
Please refer to the precautions for handling and storing (Section 6).

- Confirm that the containers have no leaking and load them in a way to avoid tumbling, falling, damage, etc.
- Surface transportation:
When Law for Prevention and Extinction of Fires, Industrial Safety & Health Law, Poisonous & Deleterious Substance Control Law are applicable, follow instruction.
- Transportation by air: Follow the Aeronautics Law
- Transportation by boat: Follow the Port Regulation Law.
- Hazard Class: 3
- UN Number: 1263
- Packing Group: III
- Label: Flammable liquid

Section 14 · Applicable Regulations


- Industrial Safety and Health Law
- Law for Prevention and Extinction of Fires
- The Port Regulation Law

MSDS for EPOLLA 2000, SM, B liquid
Page 6



Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited






Section 15 - Reference

- Data Base for raw materials/substances issued by Japan Paints
- Manufacturers Association
- Solvent pocket book
- Manual for prevention of danger and disaster
- International Chemical Safety Cards

Note: We prepared this MSDS to the best of our knowledge. Information about toxicity and hazards is our estimation on the basis of the information available about each raw material. Final determination of suitability of any material is the sole responsibility of the user with referring to the above information. This MSDS would be revised without any prior notice whenever any new finding on the material is available.

MSDS for EPOLLA 2000, SM, B liquid
Page 7



Material Safety Data Sheet

Nihon Tokushu Toryo Co., Ltd.
5-16-7 Oji, Kita-Ku, Tokyo, Japan 114-8584
Tel: 03-3913-6131 Fax: 03-3914-1082

Name of the product	EPOLLA #2000 Thinner
General Description	Thinner for epoxy resin coating
Main Application	Thinner for cleaning and diluent

Section 1 - General Information about Manufacturer

Manufacturer's name	Nihon Tokushu Toryo Co., Ltd.
Emergency Telephone Number	03 (3913) 6131
Telephone Number for Information	03 (3913) 6131
Address	5-16-7 Oji, Kita-Ku, Tokyo, Japan 114
Date prepared	Revised on June 11, 2007
The date of issue	Sept. 6, 2007
Prepared by	S.Higashide / K. Nomi

Section 2 - Hazardous Ingredients/Identity Information

Hazardous Component	CAS Number	Content (%)	PRTR
Xylene	1330-20-7	22	Class 1-63
Ethyl benzene	100-41-4	14	Class 1-40
Toluene	108-88-3	31	Class 1-227
Methyl isobutyl ketone	108-10-1	10 ~ 20	-
Cellosolve acetate	111-15-9	8.2	Class 1-101
Butyl acetate	123-86-4	5 ~ 10	-
Cyclohexanone	108-94-1	1 ~ 5	-
n-butyl alcohol	71-36-3	1 ~ 5	-

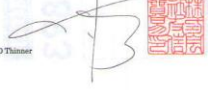

Classification by the Japanese Law for Prevention and Extinction of Fires:


It is classified as flammable liquid, acute poisoning material and other harmful material.

Comments about hazardous component:

- It is extremely flammable liquid.
- It might cause organic solvent poisoning.
- It irritates eyes or might cause conjunctivitis in contact with eyes.
- It contains a substance which has effects on reproductive system.

MSDS for EPOLLA #2000 Thinner
Page 1



Section 3 - Emergency & First Aid Procedure

Eye Contact	Immediately flush eyes and back side of eyelids with plenty of water for at least 15 minutes. Take medical examination and treatment as soon as possible.
Skin Contact	Wipe off the attachment with cloth. Wash away with plenty of water with soap or detergent for skin completely. Do not use solvent nor thinner. In the case of abnormal appearance or pain, take medical treatment.
Inhalation	When much vapor, gas, etc. are inhaled or the victim feels sick by inhaling vapor/gas, remove the victim to fresh air and keep the victim warm and quiet. See a doctor. When breathing is weak, irregular, or has stopped, administer artificial respiration. Do not get vomit ingested. Take medical treatment immediately.
Ingestion	When ingested by mistake, keep the victim quiet and take medical treatment immediately. Do not get vomit ingested.



Section 4 - Fire and Explosion Hazard Data


Extinguishing Media	CO ₂ , foam, powder, dry sand
Extinguishing Method	Do not use water as an extinguishing media. Wear appropriate protective device (such as heat-resistant cloth, etc.) Remove immediately combustible material in neighborhood. Use specified extinguishing media.

Section 5 - Steps be Taken in the Case of Spills

- * Keep away from source of ignition and material which might become high temperature immediately.
- * Prepare powder or foam type extinguisher just in case of catching fire.
- * At operation, wear appropriate protective device (gloves, protective mask, apron, goggles, etc.).
- * For collecting spills, absorb with dry sand, earth or other non-inflammable materials.
- * In the case of large amount, prevent outflow with dike.
- * Use spark-free plastic shovels, etc.
- * Do not flush into water way or rivers, etc. to keep environment intact.
- * Collect spills into closeable containers and transfer to safe places.
- * Dispose of contaminated materials and waste in accordance with the related regulations.

MSDS for EPOLLA #2000 Thinner
Page 2



Section 6 - Precautions for Handling and Storing

Handling	Use only at well-ventilated area. Close containers each after use. Prevent flame, spark, use of material which becomes high temperature. Prevent build-up of electrostatic charges. Electric machines should be explosion-proof type. Tools should be spark-free type. Do not flush into sewerage system because this product generates flammable gas. Wear appropriate protective device to prevent contacting with skin, mucous membrane and eyes. Waste, waste coating and spray dust which are already used should be put in water until they are disposed of.
Storing	Avoid direct sun-shine. Keep the area well ventilated so that vapor can not stand still. Keep away from flame, heat-source, etc.

Section 7 - Control Measures

7-1 Exposure control on equipment

In the case of indoor application, apply under full local ventilation and take exposure-proof measures such as application with automatic applicators.

Especially when application work is conducted within a closed area such as tank, handle only with local exhausting equipment.

When application work is conducted at high place, be careful not to fall down due to organic solvent poisoning.

Use explosion-proof type applying equipment.



Take earth for applying equipment and prevent static electricity from building up in neighborhood by scattering water, etc.

Arrange facility location so that this product can be handled away from high temperature or objects which might become source of ignition.

7-2 Personal protective equipment:

Respiratory protection device	Wear poison-proof mask for organic gas. Use airline respirators at operation in enclosed area.
Eye protection	Use safety glass.
Protective gloves	Wear gloves which are impervious to organic solvent or chemical products.
Protective clothing	

MSDS for EPOLLA #2000 Thinner
Page 3

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

nittoku

Section 8 - Physical/Chemical Characteristics

Appearance and Odor	No color, transparent liquid with smell of solvent
Boiling Point	111.0 ~ 156.0 °C
Vapor Pressure (mmHg)	4893 Pa (30°C)
Density	0.80 ~ 0.90 gr./cm ³
pH value	Unknown
Other data	

Section 9 - Reactivity Data

Characteristics of the product

Flash Point (Method Used)	5.0°C
Ignition Point	380 °C
Explosion Limits	LEL: 1.1 UEL: 8.0
LEL & UEL (%)	

Reactivity and stability data

Dangerous material by contact	We do not have information specially.
Generation of toxic gas at incineration, etc.	CO, etc.
Other reactive information	We do not have information specially.

Section 10 - Information about Hazard

Material name	Control of concentration (TLV)	ACGIH Class	IARC Class	Other hazardous information
Xylene	100 ppm	100 ppm	--	LD ₅₀ (Oral): 4,300 mg/kg(rat)
Ethyl benzene	--	100 ppm	--	LD ₅₀ (Oral): 3,500 mg/kg(rat)
Toluene	50 ppm	50 ppm	--	LD ₅₀ (Oral): 636 mg/kg(rat)
Methyl isobutyl ketone	50 ppm	50 ppm	--	LD ₅₀ (Oral): 2,080 mg/kg(rat)
Cellosolve acetate	5 ppm	5 ppm	--	LD ₅₀ (Oral): 2,700 mg/kg(rat)
Butyl acetate	150 ppm	150 ppm	--	LD ₅₀ (Oral): 10,788 mg/kg(rat)
Cyclohexanon	25 ppm	25 ppm	--	LD ₅₀ (Oral): 1,620 μg/kg(rat)
n-butyl alcohol	25 ppm	25 ppm	--	LD ₅₀ (Oral): 790 mg/kg(rat)

10-1 Hazardous information about the above listed hazardous material

Cellosolve acetate: It has effects on the reproductive system.

10-2 Information about toxicity of this product

We have not tested safety of this product.

MSDS for EPOLLA #0000 Thinner
Page 4

nittoku

Section 11 - Ecological Information

Follow precautions of section 5 and section 12 in the case of leaking and disposing, because it contains organic solvent.

Section 12 - Waste Disposal Method

Entrust authorized industrial waste contractor to dispose of waste and waste container.

Dispose of and clean waste in accordance with relevant regulations.

Do not flush water which is used at cleaning containers & equipment on the ground or into sewerage.

Section 13 - Precautions for Transportation

Please refer to the precautions for handling and storing (Section 6).

In the case of shipment by boat and aircraft, it is necessary to use UN marked containers.

Surface transportation:
When Law for Prevention and Extinction of Fires, Industrial Safety & Health Law, Poisonous & Deleterious Substance Control Law are applicable, follow instruction.

Transportation by boat: Follow the Port Regulation Law.

Transportation by air: Follow the Aeronautics Law

·UN Number: 1263

·Hazard Class: 3

·Packing Group: II

·Label: Flammable liquid

Section 14 - Applicable Regulations

Industrial Safety and Health Law.
Law for Prevention and Extinction of Fires
Port Regulation Law

Section 15 - Reference

- Data Base for raw materials/substances issued by Japan Paints Manufacturers Association
- Solvent pocket book
- Manual for prevention of danger and disaster
- International Chemical Safety Cards

MSDS for EPOLLA #0000 Thinner
Page 5

nittoku

Note: We prepared this MSDS to the best of our knowledge. Information about toxicity and hazards is our estimation on the basis of the information available about each raw material. Final determination of suitability of any material is the sole responsibility of the user with referring to the above information. This MSDS would be revised without any prior notice whenever any new finding on the material is available.

MSDS for EPOLLA #0000 Thinner
Page 6

MATERIAL SAFETY DATA SHEET (MSDS) Page 1/5

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: ETHANOL(DENATURED ETHANOL)
(ETHANOL DENATURED WITH TERT- BUTYL ALCOHOL AND SUCROSE OCTAACETATE)

Supplier: Shih Sheng Industry Co., Ltd.
Address: 4F, 221 Lane 423, Yuen Shan RD., Zhonghe Dist., New Taipei City, Taiwan
Telephone: +886-2-29570002
Fax: +886-2-29570117

SECTION 2: HAZARDS INFORMATION

Hazard Category: Flammable liquid. Material can burn with little or no visible flame. May be irritating to the eyes, skin, and respiratory system. May cause central nervous system depression.

Risk Statement

Signal word: DANGER

Hazard statement:
Highly flammable liquid and vapour
Cause skin irritation
Cause eye irritation
May cause respiratory irritation

Safety Statement

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing seek medical attention.
IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water. Keep away from heat, sparks, open flames and hot surface. No smoking.
Store in a well-ventilated place. Keep cool.
Take precautionary measures against static discharge.
Use only non-sparking tools.
Wash hands thoroughly after handling.
Wear protective gloves and eye and face protection.

SECTION 3: COMPOSITION, INFORMATION ON INGREDIENTS

Common name/ Synonym: Denatured ethanol
(ETHANOL DENATURED WITH TERT- BUTYL ALCOHOL AND SUCROSE OCTAACETATE)

Material	CAS
Ethyl alcohol	64-17-5
Sucrose Octaacetate	126-14-7
Tert- butyl Alcohol	75-65-0

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

MATERIAL SAFETY DATA SHEET (MSDS)

Page 2/5

Health Effects

Acute – Swallowed Unlikely under normal exposure, but swallowing may cause harmful central nervous system effects.
Acute – Eye Irritant, liquid may damage eyes.
Acute – Skin May cause irritation.
Acute – Inhaled May cause respiratory irritation, headache, nausea.

SECTION 4: FIRST AID MEASURES

Swallowed Induce vomiting. Give plenty of water.
Eye Wash eye with copious amounts of water for 15 minutes. Seek medical advice.
Skin Wash affected area well with water.
Inhaled Remove to fresh air. Seek medical attention if irritation persists.

Advice to Doctor Treat symptomatically; gastric lavage may be indicated if digested.

SECTION 5: FIRE FIGHTING MEASURES

Specific Hazards: Highly flammable liquid and vapour. Burns with a colourless flame. The vapour is heavier than air and may travel along the ground; distant ignition and flash back are possible. All vessels must be earthed to avoid static charges when agitating or transferring solvents.

Extinguishing Media: Use water fog (or if available fine water spray), dry chemical, carbon dioxide or alcohol stable foam.

Fire Fighting Procedure: Use water to cool exposed containers. Heating may cause expansion or decomposition leading to violent rupture of containers. Spills and leaks may be washed away with copious volumes of water, fog or spray. For major fires or where atmosphere is either oxygen deficient or contains unacceptable levels of combustion products, fire fighters must wear self-contained apparatus with full face and protective clothing.

Hazardous Decomposition Products: Burning can produce carbon monoxide and/or carbon dioxide.

SECTION 6: ACCIDENTAL SPILL AND RELEASE MEASURES

In event of a spill eliminate all sources of ignition and take measures to prevent static discharge – no smoking. Stop and contain the spill for salvage or absorb in inert absorbent material for disposal by an approved method. Prevent run-off into drains and waterways. Spills can be converted to non-flammable mixtures by dilution with water.

SECTION 7: HANDLING AND STORAGE

Handling: Use in well ventilated areas away from all ignition sources. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion proof electrical equipment.

Condition for safe Storage including any incompatibilities:

Keep container tightly closed in a cool, dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Consult local fire codes for additional storage information.

MATERIAL SAFETY DATA SHEET (MSDS)

Page 3/5

SECTION 8: EXPOSURE CONTROL AND PERSONAL PROTECTION

Exposure Standards:

Ethanol TWA – 1000 ppm (1880 mg/m³) time weight average
STEL – None allocated
Carcinogen Category – None allocated
Sucrose Octaacetate No exposure limit
Tert-Butyl alcohol STEL – 150 ppm
Tert-Butyl alcohol TWA – 100 ppm, 300 mg/m³

Engineering Controls: General exhaust is recommended. Fire Hazards. All electrical equipment, including lighting, should be installed according to wiring rules.

Personal Protection

Protective Equipment: The use of respirator, eye protection and PVC or neoprene gloves is recommended as appropriate for the location (eg confined space).

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance Clear colourless liquid
Melting Point -117°C
Specific Gravity 0.79 – 0.81
Flash Point 13 °C
Solubility in Water Complete
Vapour Density 1.59 to 1.62
Evaporation rate 3.3 (butyl acetate=1)
Molecular weight 46.08
Autoignition temperature 363°C
Formula (Ethanol) C₂H₅OH
Formula (Sucrose Octaacetate) C₂₈H₃₈O₁₉
Formula (Tert-Butyl Alcohol) C₄H₁₀O

SECTION 10: STABILITY AND REACTIVITY

Chemical stability: Stable under recommended storage conditions.
Possibility of hazardous reactions: Vapor may form explosive mixture with air.
Conditions to avoid (e.g., static discharge shock or vibration): heat, flames and sparks. Extreme temperatures and direct sunlight.
Incompatible materials: Alkali metals, Ammonia, Oxidizing agents, Peroxides, Strong inorganic Acids.

SECTION 11: TOXICOLOGICAL INFORMATION

Ethyl alcohol

Product summary: ethanol is not toxic by OSHA standards. Coingestion of sedative hypnotics or tranquilizers can increase the toxic effects of ethanol. No data available to designate the product as causing specific target organ toxicity through repeated exposure. No data available as an aspiration hazard.

MATERIAL SAFETY DATA SHEET (MSDS)

Page 4/5

Acute Toxicity: Acute oral toxicity (LD50): 3450 mg/kg (Mouse) (Ethanol)

Eye: Vapours may irritate the eyes.

Skin: Contact with skin may result in slight irritation and redness. Prolonged or repeated contact may lead to irritant contact dermatitis.

Inhaled: Vapour is moderately irritating to mucous membranes and respiratory tract. Inhalation of the vapour may result in drunkenness or headache, nausea, incoordination, narcosis, and vomiting.

Long Term Effects: Long term exposure by swallowing or repeated inhalation, may cause degenerative changes in the liver, kidneys, gastrointestinal tract and heart muscle.

Tert-Butyl Alcohol

Product summary: 1-Butanol is a known animal carcinogen. It has no confirmed teratogenic, mutagenic, or reproductive effects in humans. No data available to designate product as an aspiration hazard or to cause specific target organ toxicity through repeated exposure.

Acute Toxicity: Acute oral toxicity (LD50): 2,743 mg/kg (Mouse)

Other Hazard:

Eyes: Irritating to the eyes.

Ingestion: Harmful if ingested.

Inhalation: Can be harmful if inhaled, irritating to the respiratory tract.

Skin: Harmful if absorbed through skin. Irritating to skin.

Sucrose Octaacetate:

Product summary: No data available for the teratogenic, mutagenic, or reproductive toxicity effects of this product. No data available to designate the product as causing specific target organ toxicity through single or repeated exposure. No data available to designate product as an aspiration hazard.

Acute Toxicity: Acute oral toxicity (LD50): >6,000 mg/kg (Mouse)

Other Hazard:

Eyes: Can be irritating to the eyes.

Ingestion: Can be harmful if ingested.

Inhalation: Can be harmful if inhaled. Can cause irritating to the respiratory tract.

Skin: Can be harmful if absorbed through skin. Can be irritating to skin.

SECTION 12: ECOLOGICAL INFORMATION

Ethyl alcohol

Ecotoxicity: Practically non-toxic to aquatic organisms.

Persistence and degradability: This product is readily biodegradable.

Tert-Butyl Alcohol: no data available

Sucrose Octaacetate: no data available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste should be disposed of in accordance with local environmental regulations.

MATERIAL SAFETY DATA SHEET (MSDS)

Page 5/5

SECTION 14: TRANSPORTATION INFORMATION

UN Number 1170
Class 3 flammable liquid
Subsidiary Risk None allocated
Packaging Group II
Hazchem Code 2
Proper Shipping Name ETHANOL (ETHYL ALCOHOL)

SECTION 15: REGULATORY INFORMATION

Classification:

Hazardous according to criteria of NOHSC.

Poisons Schedule: Not scheduled.

SECTION 16: OTHER INFORMATION

Disclaimer

We believe that the information on this MSDS was obtained from reliable sources. However, the information is provided without any warranty, express or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or method of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use or disposal of this product. If the product is used as a component in another product, this MSDS information may not be applicable. Information is correct to the best of our knowledge at the date of the MSDS publication.



Responsible Department	Name: Shih Sheng Industry Co., Ltd.
	Address: Tel. 41, 22, Lane 423, Yuan Shan RD, Zhonghe Dist., New Taipei City, Taiwan / +886-2-29570002
Date	2016.01.27
Note	This MSDS version is intended for reference only.



Kuo Jung Tse

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

通創檢測 TJTest Technology Co., Ltd.		Film-Stripping Agent	SDS NO.:T180817025A
			
<h2>Safety Data Sheet</h2> <h3>(SDS)</h3> <p>Creation Date: 2018/08/17 Revision Date: 2018/08/17 Version: 20180817 Prepared according to UN GHS (the 7th revised edition)</p> <p>Product Name:Film-stripping agent Model: FC-71</p> <p>Company Name: FoShan FangXi Technology Co., Ltd</p> <p>Written by TJTest Technology Co., Ltd.</p> <p>TJTest GHS SDS Report(E)-T180817025A 1/ 10 Date: 17-Aug.-18</p>			
			

通創檢測 TJTest Technology Co., Ltd.		Film-Stripping Agent	SDS NO.:T180817025A
1. Identification of the chemical and supplier 1.1 Product identifier Product Name: Film-Stripping Agent Product Model: FC-71 Product Code: T180817025A 1.2 Relevant identified uses of the substance or mixture and uses advised against Relevant identified uses:Cleaning the glass surface Uses advised against:Please consult manufacturer. 1.3 Details of the supplier of the Safety Data Sheet Name of the company:FoShan FangXi Technology Co., Ltd Address of the company: Room602 19th Floor NanYi District,Guicheng HaiSan Road,NanHai FoSh Guangdong Telephone number: +86 (0) 757-86260662 Fax number: --- Zip code: --- mail address:SSH781026@163.COM Emergency phone number: +86 (0) 757-86260662 2. Hazards identification: 2.1 Hazard classification according to GHS: The product is not dangerous. 2.2 Label elements Hazard pictograms : None Signal word : None 2.3 Hazard statements: None 2.4 Precautionary statements 2.4.1 Prevention None 2.4.2 Response None 2.4.3 Storage Not applicable 2.4.4 Disposal P501 Dispose of contents/container in accordance with local/regional/national/international regulations. 2.5 Hazard description 2.5.1 Physical and chemical hazards This product is normally used without hazard. TJTest GHS SDS Report(E)-T180817025A 2/ 10 Date: 17-Aug.-18			

通創檢測 TJTest Technology Co., Ltd.		Film-Stripping Agent	SDS NO.:T180817025A
2.5.2 Health hazards This product is normally used without hazard. 2.5.3 Environmental hazards Please refer to 12th chapter of SDS. 3. Composition/information on ingredients Substance <input type="checkbox"/> Preparation <input checked="" type="checkbox"/> Composition:			
Component	CAS No.	EC No.	Concentration (weight percent, %)
Nonionic surfactant	64422-66-8	---	20
Sodium hydroxide	1310-73-2	215-185-5	20
Others	---	---	60
4. First aid measures 4.1 Description of first aid measures General advice: Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance. Skin contact: During production, take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes and consult a physician if felt uncomfortable. Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if felt uncomfortable. Inhalation: Under normal use conditions, no adverse effects will occur. If contact with decomposition products, irritation occurs.Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately. Intake: Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately. Protecting of first-aiders: Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination. 4.2 Most important symptoms and effects, both acute and delayed 1) Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. 4.3 Indication of any immediate medical attention and special treatment needed 1) Treat symptomatically. 2) Symptoms may be delayed. 5. Firefighting measures 5.1 Extinguishing media 1) Suitable extinguishing media: Dry chemical, carbon dioxide or alcohol-resistant foam. TJTest GHS SDS Report(E)-T180817025A 3/ 10 Date: 17-Aug.-18			

通創檢測 TJTest Technology Co., Ltd.		Film-Stripping Agent	SDS NO.:T180817025A
2) Unsuitable extinguishing media: Do not use a solid water stream as it may scatter or spread fire. 5.2 Specific hazards arising from the substance or mixture 1) Will form explosive mixtures with air. 2) Fire exposed containers may vent contents through pressure relief valves thereby increasing fire intensity and/ or vapour concentration. 3) Vapours may travel to source of ignition and flash back. 4) Liquid and vapour are flammable. 5) May emit poisonous fumes on fire. 6) Containers may explode when heated. 7) Fire exposed containers may vent contents through pressure relief valves. 8) May expansion or decompose explosively when heated or involved in fire. 5.3 Advice for firefighters 1)As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and all protective gear. 2)Fight fire from a safe distance, with adequate cover. 3)Prevent fire extinguishing water from contaminating surface water or the ground water system. 6. Accidental release measures 6.1 Personal precautions, protective equipment and emergency procedures 1) Avoid breathing vapors and contacting with skin and eye. 2) Beware of vapours accumulating to form explosive concentrations. 3) Vapours can accumulate in low areas. 4) Emergency personnel wear positive pressure self-contained breathing apparatus. Wear protective and anti-static clothing. Wear chemical impermeable gloves. 5) Ensure adequate ventilation. Remove all sources of ignition. 6) Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. 7) Use personal protective equipment. Avoid breathing vapours, mist, gas or dust. 6.2 Environmental precautions 1)Prevent further leakage or spillage if safe to do so. 2)Discharge into the environment must be avoided. 6.3Methods and materials for containment and cleaning up 1) Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding. 2) Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations. 3) Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. 7. Handling and storage : 7.1 Precautions for handling: 1) Avoid inhalation of vapors. 2) Use only non-sparking tools. TJTest GHS SDS Report(E)-T180817025A 4/ 10 Date: 17-Aug.-18			

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

通創檢測
Tiftest Technology Co., Ltd.

Film-Stripping Agent SDS NO.:T180817025A

fighting equipment and emergency response treatment equipment of corresponding types and quantities. Before shipping, check whether the packaging container is complete and sealed. On the transportation means, hazard signs and announcements should be posted in accordance with the relevant transportation requirements.

15. Regulatory information:

International chemical inventory

Component	EINECS	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AICS
Nonionic surfactant	Not Listed	Not Listed	Not Listed	Listed	Not Listed	Not Listed	Listed	Not Listed
Sodium hydroxide	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Others	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A

【EINECS】 European Inventory of Existing Commercial Chemical Substances
 【TSCA】 United States Toxic Substances Control Act Inventory
 【DSL】 Canadian Domestic Substances List
 【IECSC】 China Inventory of Existing Chemical Substances
 【NZIoC】 New Zealand Inventory of Chemicals
 【PICCS】 Philippines Inventory of Chemicals and Chemical Substances

16. Others

16.1 Reference :
 [1]IPCS:The International Chemical Safety Cards (ICSC) ,website: <http://www.ilo.org/dyn/icsc/showcard.home>.
 [2]IARC , website: <http://www.iarc.fr/>.
 [3]OECD: The Global Portal to Information on Chemical Substances, website: http://www.chemportal.org/chemportal/index?pageID=0&request_locale=en.
 [4]CAMFO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>.
 [5]NLM.ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>.
 [6]EPA: Integrated Risk Information System, website: <http://cfpub.epa.gov/iris/>.
 [7]U.S. Department of Transportation:ERG, website: <http://www.phmsa.dot.gov/hazmat/library/erg>.
 [8]Germany GESTIS-database on hazard substance, website: <http://gestis-en.itrust.de/>.

16.2 Others:

1)Abbreviations and acronyms
 CAS - Chemical Abstracts Service PC-STEL- Short term exposure limit

Tiftest GHS SDS Report(E)-T180817025A 9/ 10 Date: 17-Aug-18


通創檢測
Tiftest Technology Co., Ltd.

Film-Stripping Agent SDS NO.:T180817025A

DNEL - Derived No Effect Level RPE - Respiratory Protective Equipment
 LC50 - Lethal Concentration 50% NOEC -No Observed Effect Concentration
 PBT - Persistent, Bioaccumulative, Toxic BCF - Bioconcentration factor (BCF)
 IMDG-International Maritime Dangerous Goods UN-The United Nations
 NFPA-National Fire Protection Association
 CMR - Carcinogens, mutagens or substances toxic to reproduction
 PC-TWA - Time Weighted Average/ARC - International Agency for Research on Cancer
 PNEC -Predicted No Effect Concentration LD50 - Lethal Dose 50%
 EC50 - Effective Concentration 50%
 POW - Partition coefficient Octanol:Water vPvB - very Persistent, very Bioaccumulative
 ICAO/IATA-International Civil Aviation Organization/International Air Transportation Association
 ACGIH-American Conference of Governmental Industrial Hygienists
 OECD-Organization for Economic Co-operation and Development

2)Disclaimer
 This Safety Data Sheet (SDS) was prepared according to UN GHS (the 7th revised edition). The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

Photograph of sample



*****END*****

SDS Creation Date: 2018/08/17(valid for one year)

Tiftest GHS SDS Report(E)-T180817025A 10/ 10 Date: 17-Aug-18

Individuals should pay attention to matters : Avoid slipping
 Environmental matters needing attention : Not to be dumped in drains, sewers, water sources
 Cleaning method : Adsorption with inert absorbent for removal of the most effective method

Seventh. Safe disposal and storage method :
 disposal : Avoid skin and repeated long-term exposure, to avoid inhaling the mist
 storage : To avoid freezing, direct sunlight, in the cold and dry and well ventilated environment, when not in use to cover tight lid

Eighth. Exposure prevention measures :
 engineering control : Ventilation equipment, mechanical way to avoid oil exposure, more important than personal protection
 Control parameters :
 * Eight hours hourly average allowable concentration / short time average allowable concentration / maximum allowable concentration (oil mist, vegetable oil) 5ppm/10ppm
 * Biological index:
 Personal protective equipment :
 *Respiratory protection : mask *Hand protection : PVC gloves
 *Eye protection : Safety glasses *Skin and body protection : Plastic apron
 health measure : Clothes need to be cleaned before using contaminated clothing

ninth. Physical and chemical properties :

Material state : transparent liquid	shape : transparent liquid	colour : colourless
smell : Pale taste	boiling range : about 290°C	pH : 5.2
Decomposition temperature : N/A	Flash point : 176°C	v close cup:
Natural temperature : N/A	Test method : Open cup	vapour pressure : <1mmHg 25°C
vapour density : N/A	explosion limit : N/A	solubility : Complete water

Tenth. Stability and reactivity :
 Stability : Under normal circumstances, no polymerization
 Possible adverse reactions under special conditions : No
 Should avoid the situation : Direct sun, the temperature is higher than 35 DEG C
 Substances to be avoided : Strong oxidizing agent
 Hazardous decomposition : No

Eleventh. Toxicity data :
 his product is obtained without toxicity, based on similar products, oral : LD50(rat) 2000 mg/kg Skin : LD50(rabbit) 2000mg/kg
 eye—May stimulate the eyes Skin—May stimulate the eyes inhale—May cause irritation of mucous membranes and upper respiratory tract, especially heat or smoke
 swallow—May stimulate the mouth, esophagus and stomach
 Chronic or chronic toxicity : The long-term or repeated contact may cause skin irritation

Twelfth. Ecological data :
 Environmental assessment : Avoid discharge into sewers, water sources
 *Mobility : Flowing liquid, soluble in water *Persistence and decomposition : Organic ingredients, biodegradable
 *Potential biological accumulation : Is not expected to have biological accumulation *Ecological toxicity : No

Thirteenth. Waste disposal method :
 Waste disposal shall be in compliance with local or national laws
 Unused product : Dispose of it in a licensed place through the local legal waste contractor
 Used or contaminated products : Dispose of it in a licensed place through a local legal waste contractor
 Packaging material : It must be disposed of by the local legal waste contractor, and can also be cleaned and recycled by evaporation

fourteenth. Transportation data :

International transport regulations : This product is not classified as a transportation risk
United Nations number : No
Domestic transport regulations : No
Special transport methods and matters needing attention : No

fifteenth. Regulatory information :


Applicable laws and regulations : In the UK supply, this product is not classified as dangerous EC instruct : Framework Waste Directive 91/56 / EEC Legal document : Health & Safety at Work etc. Act 1974 Consumer Protection Act 1987 Environmental Protection Act 1990 Guide record : Occupational exposure limits (EH 40) Save You skin - Occupational contact Dermatitis 【MS (B) 6 】 Dermatitis - Cautionary notice 【SHW 367 】 The above publications can be obtained from HMSO or HSE

Sixteenth other data :


Issue d by	Name: Glorious Success Holdings Ltd.
Address/Tel :	12/F., Ruttonjee House, 11Duddell Street Central Hong Kong SAR
prepared	title : Technical director name (sign) : huangxisheng
Date	2017.01.10

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

 **通测检测**
TjTest Technology Co., Ltd.

Glue Removing Agent SDS NO.:T180817023A




Safety Data Sheet (SDS)

Creation Date: 2018/08/17
Revision Date: 2018/08/17
Version: 20180817
Prepared according to UN GHS (the 7th revised edition)


Product Name: Glue Removing Agent
Model: TG-05

Company Name: FoShan FangXi Technology Co., Ltd.

Written by TjTest Technology Co., Ltd.



TjTest GHS SDS Report(E)-T180817023A 1/10 Date: 17-Aug-18

 **通测检测**
TjTest Technology Co., Ltd.

Glue Removing Agent SDS NO.:T180817023A

1. Identification of the chemical and supplier

1.1 Product identifier
Product Name: Glue Removing Agent
Product Model: TG-05
Product Code: T180817023A

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses: Cleaning the glass surface
Uses advised against: Please consult manufacturer.

1.3 Details of the supplier of the Safety Data Sheet
Name of the company: FoShan FangXi Technology Co., Ltd.
Address of the company: Room602 19th Floor NanYi District,Guisheng HaiSan Road,NanHai FoShi Guangdong
Telephone number: +86 (0) 757-86260662
Fax number: ---
Zip code: ---
mail address: S5H781026@163.COM
Emergency phone number: +86 (0) 757-86260662

2. Hazards identification:


2.1 Hazard classification according to GHS: The product is not dangerous.
2.2 Label elements
Hazard pictograms : None
Signal word : None
2.3 Hazard statements: None

2.4 Precautionary statements

2.4.1 Prevention
None
2.4.2 Response
None
2.4.3 Storage
Not applicable
2.4.4 Disposal
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.5 Hazard description
2.5.1 Physical and chemical hazards
This product is normally used without hazard.

TjTest GHS SDS Report(E)-T180817023A 2/10 Date: 17-Aug-18

 **通测检测**
TjTest Technology Co., Ltd.

Glue Removing Agent SDS NO.:T180817023A

2.5.2 Health hazards

This product is normally used without hazard.

2.5.3 Environmental hazards

Please refer to 12th chapter of SDS.

3. Composition/information on ingredients

Substance ☐ Preparation ☒

Composition:

Component	CAS No.	EC No.	Concentration (weight percent, %)
Potassium hydroxide	1310-58-3	215-181-3	15
Surfactant	---	---	5
Additive	---	---	80

4. First aid measures

4.1 Description of first aid measures
General advice: Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Skin contact: During production, take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes and consult a physician if felt uncomfortable.
Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if felt uncomfortable.
Inhalation: Under normal use conditions, no adverse effects will occur. If contact with decomposition products, irritation occurs. Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.
Intake: Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.
Protecting of first-aiders:
Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.


4.2 Most important symptoms and effects, both acute and delayed
1) Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

4.3 Indication of any immediate medical attention and special treatment needed
1) Treat symptomatically.
2) Symptoms may be delayed.

5. Firefighting measures

5.1 Extinguishing media
1) Suitable extinguishing media: Dry chemical, carbon dioxide or alcohol-resistant foam.

TjTest GHS SDS Report(E)-T180817023A 3/10 Date: 17-Aug-18

 **通测检测**
TjTest Technology Co., Ltd.

Glue Removing Agent SDS NO.:T180817023A

2) Unsuitable extinguishing media: Do not use a solid water stream as it may scatter or spread fire.

5.2 Specific hazards arising from the substance or mixture

1) Will form explosive mixtures with air.
2) Fire exposed containers may vent contents through pressure relief valves thereby increasing fire intensity and/or vapour concentration.
3) Vapours may travel to source of ignition and flash back.
4) Liquid and vapour are flammable.
5) May emit poisonous fumes on fire.
6) Containers may explode when heated.
7) Fire exposed containers may vent contents through pressure relief valves.
8) May expand or decompose explosively when heated or involved in fire.

5.3 Advice for firefighters

1) As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and all protective gear.
2) Fight fire from a safe distance, with adequate cover.
3) Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
1) Avoid breathing vapors and contacting with skin and eye.
2) Beware of vapours accumulating to form explosive concentrations.
3) Vapours can accumulate in low areas.
4) Emergency personnel wear positive pressure self-contained breathing apparatus. Wear protective and anti-static clothing. Wear chemical impermeable gloves.
5) Ensure adequate ventilation. Remove all sources of ignition.
6) Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
7) Use personal protective equipment. Avoid breathing vapours, mist, gas or dust.

6.2 Environmental precautions
1) Prevent further leakage or spillage if safe to do so.
2) Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
1) Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.
2) Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.
3) Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. Handling and storage:

7.1 Precautions for handling:
1) Avoid inhalation of vapors.
2) Use only non-sparking tools.

TjTest GHS SDS Report(E)-T180817023A 4/10 Date: 17-Aug-18

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited



Glue Removing Agent

SDS NO: T180817023A

- 3) To prevent fire caused by electrostatic discharge steam, equipment on all metal parts should be grounded.
- 4) Use explosion proof equipment.
- 5) Handling is performed in a well ventilated place.
- 6) Wear suitable protective equipment.
- 7) Avoid contact with skin and eyes.
- 8) Keep away from heat/sparks/open flames/ hot surfaces.
- 9) Take precautionary measures against static discharges.

7.2 Precautions for storage:

- 1) Store in a cool, ventilated warehouse.
- 2) Store temperature should not exceed 37 °C, away from fire and heat sources.
- 3) Keep the container sealed.
- 4) Should be stored separately from oxidants, reducing agents, halogens, etc. Avoid mixing.
- 5) Use explosion-proof lighting and ventilation facilities.
- 6) It is forbidden to use mechanical equipment and tools that easily produce sparks.
- 7) The storage area should be equipped with leakage emergency treatment equipment and suitable containment materials.

8. Exposure controls/personal protection

8.1 Control Parameters

8.1.1 Occupational exposure limits

Occupational Exposure limit values

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m ³	ppm	mg/m ³
All components	USA - OSHA	Unspecified	Unspecified	Unspecified	Unspecified
	South Korea	Unspecified	Unspecified	Unspecified	Unspecified
	Ireland	Unspecified	Unspecified	Unspecified	Unspecified
	Germany (AGS)	Unspecified	Unspecified	Unspecified	Unspecified
	Denmark	Unspecified	Unspecified	Unspecified	Unspecified
	Australia	Unspecified	Unspecified	Unspecified	Unspecified
	South Korea	Unspecified	Unspecified	Unspecified	Unspecified
	Ireland	Unspecified	Unspecified	Unspecified	Unspecified
	Germany (AGS)	Unspecified	Unspecified	Unspecified	Unspecified
	Denmark	Unspecified	Unspecified	Unspecified	Unspecified
	Australia	Unspecified	Unspecified	Unspecified	Unspecified

8.1.2 Biological limit values

Biological limit values: No information available

8.1.3 Monitoring methods

1. EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

TTTest GHS SDS Report(E)-T180817023A

5/10

Date: 17-Aug-18



Glue Removing Agent

SDS NO: T180817023A

2. GBZ/T 160.1-GBZ/T 160.81-2004 Determination of toxic substances in workplace air (Series standard).

8.2 Engineering controls

1. Ensure adequate ventilation, especially in confined areas.
2. Ensure that eyewash stations and safety showers are close to the workstation location.
3. Use explosion-proof electrical/ventilating/lighting/equipment.
4. Set up emergency exit and necessary risk-elimination area.

8.3 Personal protection equipment

General requirement:



Eye protection: Tightly fitting safety goggles (approved by EN 166(EU) or NIOSH (US)).

Hand protection: Wear protective gloves (such as butyl rubber), passing the tests according to EN 374(EU), US F739 or AS/NZS 2161.1 standard.

Respiratory protection: If exposure limits are exceeded or if irritation or other symptoms are experienced, use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges.

Skin and body protection: Wear fire/ flame resistant/retardant clothing and antistatic boots.

Other protection: Smoking, eating and drinking are forbidden on the job site. Maintain good hygiene habits.

9. Physical and chemical properties:

Appearance: Yellow Oil

Odor: Weak odor.

Odor threshold: No data available.

pH value: 13.

Melting point/freezing point (°C): No data available.

Initial boiling point and boiling range (°C): 85.

Flash point (closed cup, °C): 95.

Evaporation rate: No data available.

Flammability (solid or gas): No data available.

Explosion upper/lower limit [% (v/v)]: No data available.

Vapor pressure (kPa): No data available.

Vapor density (air = 1): No data available.

Relative density (water = 1): No data available.

Solubility (mg/L): No data available.

Octanol/water partition coefficient: No data available.

Auto-ignition temperature (°C): No data available.

TTTest GHS SDS Report(E)-T180817023A

6/10

Date: 17-Aug-18



Glue Removing Agent

SDS NO: T180817023A

Decomposition temperature (°C):

Decomposition temperature (°C): No data available.

Viscosity: No data available.

Others: No data available.

10. Stability and Reactivity:

Reactivity: Contact with incompatible materials can cause decomposition or other chemical reactions.

Chemical stability: Stable under the correct conditions of use and storage.

Possibility of hazardous reactions: No data available.

Conditions to avoid: Incompatible materials, static electricity, heat, humidity, etc.

Incompatible materials: Strong oxides, strong acids, strong bases.

Hazardous decomposition products: No data available.

11. Toxicological information:

11.1 Acute toxicity

Component	LD ₅₀ (oral)	LD ₅₀ (Transcutaneous)	LC ₅₀ (inhalation, 4h)
All components	No data available	No data available	No data available

11.2 Carcinogenicity:

Component	IARC	NTP
All components	Not Listed	Not Listed

11.3 Others

Component	Corrosive skin/irritation	Serious eye damage/irritation	Skin sensitization	Respiratory sensitization	Reproductive toxicity	Specific target organ toxicity - single exposure	Specific target organ toxicity - repeated exposure	Aspiration hazard	Genetic toxicity	Reproductive toxicity
All components	No data available.	No data available.	No data available.	No data available.	No data available.	No data available.	No data available.	No data available.	No data available.	No data available.

12. Ecological information:

12.1 Acute aquatic toxicity

Component	Fish	Crustaceans	Algae
All components	No data available.	No data available.	No data available.

TTTest GHS SDS Report(E)-T180817023A

7/10

Date: 17-Aug-18



Glue Removing Agent

SDS NO: T180817023A

12.2 Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae
All components	No data available.	No data available.	No data available.

12.3 Others

Component	Persistence and degradability	Bioaccumulation or bioconcentration	Soil mobility	Evaluation of PBT and vPvB results
All components	No data available.	No data available.	No data available.	No data available.

13. Disposal considerations

Disposal considerations:

Waste chemicals: If you need medical advice: Please carry product containers or labels.

Contaminated packaging: Residual hazards may still exist after the contents of the packaging are emptied. Keep away from heat and sources of ignition. If possible, recycle them to the supplier for recycling.

Disposal considerations: Refer to the "Disposal" section.

14. Transportation information:

United Nations Dangerous Goods Number (UN No.): The product is not dangerous.

UN proper shipping name: None

UN Risk Classification: None

Packing Category: None

Packaging label: None

Marine Pollutants (Yes/No): No

Packing method: Pack according to the manufacturer's recommendations, for example: open drums, Ampoule bottle outside the ordinary wooden box. Threaded glass bottles, iron lids, glass bottles, plastic bottles or metal drums (cans) outside the ordinary wooden boxes.

Transportation Note: It is strictly prohibited to mix and transport with acids, alkalis, oxidants, foods and food additives. The exhaust pipe of the vehicle carrying this item must be equipped with a fire-retardant device, which prohibits the use of mechanical equipment and tools that generate sparks. Avoid exposure, rain, and high temperature during transportation. The tank (tank) used for transportation shall have a grounding chain, and a hole partition may be arranged in the tank to reduce the static electricity generated by the vibration.

It is strictly prohibited to mix and transport with oxidants, acids, foods and food additives. It is strictly forbidden to use wooden boats and cement ships for bulk transportation. Avoid exposure, rain, and high temperature during transportation. Transportation vehicles shall be equipped with fire

TTTest GHS SDS Report(E)-T180817023A

8/10

Date: 17-Aug-18

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited



Glue Removing Agent

SDS NO.:T180817023A

fighting equipment and emergency response treatment equipment of corresponding types and quantities. Before shipping, check whether the packaging container is complete and sealed. On the transportation means, hazard signs and announcements should be posted in accordance with the relevant transportation requirements.

15. Regulatory information:

International chemical inventory

Component	EINECS	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AICS
Potassium hydroxide	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Surfactant	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
Additive	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A

【EINECS】 European Inventory of Existing Chemical Substances

【TSCA】 United States Toxic Substances Control Act Inventory

【DSL】 Canadian Domestic Substances List

【IECSC】 China Inventory of Existing Chemical Substances

【NZIoC】 New Zealand Inventory of Chemicals

【PICCS】 Philippines Inventory of Chemicals and Chemical Substances

16. Others

16.1 Reference :

- [1] IPCS: The International Chemical Safety Cards (ICSC) ,website: <http://www.ilo.org/dyn/icsc/showcard.home>.
- [2] IARC , website: <http://www.iarc.fr/>.
- [3] OECD: The Global Portal to Information on Chemical Substances, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en.
- [4] CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>.
- [5] NLM-ChemIDplus, website: <http://chem.nlm.nih.gov/chemidplus/chemidfile.jsp>.
- [6] EPA: Integrated Risk Information System, website: <http://cfpub.epa.gov/iris/>.
- [7] U.S. Department of Transportation:ERG, website: <http://www.phmsa.dot.gov/hazmat/library/erg>.
- [8] Germany GESTIS-database on hazard substance, website: <http://gestis-en.itrust.de/>.

16.2 Others:

Abbreviations and acronyms

CAS - Chemical Abstracts Service
DNEL - Derived No Effect Level
LC50 - Lethal Concentration 50%
PBT - Persistent, Bioaccumulative, Toxic

PC-STEL - Short term exposure limit
RPE - Respiratory Protective Equipment
NOEC - No Observed Effect Concentration
BCF - Bioconcentration factor (BCF)

TTFest GHS SDS Report(E)-T180817023A

9/ 10

Date: 17-Aug-18



Glue Removing Agent

SDS NO.:T180817023A

IMDG-International Maritime Dangerous Goods UN-The United Nations
NFPA-National Fire Protection Association
CMR - Carcinogens, mutagens or substances toxic to reproduction
PC-TWA - Time Weighted Average IARC - International Agency for Research on Cancer
PNEC - Predicted No Effect Concentration LD50 - Lethal Dose 50%
EC50 - Effective Concentration 50%
POW - Partition coefficient Octanol: Water
vPvB - very Persistent, very Bioaccumulative
ICAO/IATA-International Civil Aviation Organization/International Air Transportation Association
ACGIH-American Conference of Governmental Industrial Hygienists
OECD-Organization for Economic Co-operation and Development

2)Disclaimer

This Safety Data Sheet (SDS) was prepared according to UN GHS (the 7th revised edition). The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

Photograph of sample



SDS Creation Date: 2018/08/17(valid for one year)

TTFest GHS SDS Report(E)-T180817023A

10/ 10

Date: 17-Aug-18

Material Safety Data Sheet (MSDS)

GF7-BB Canon Chemicals, Inc.
File No. 13-0460-0119
May 17, 2013 Revision No. 01/16

Product name and company information	Product name Company name Address Supervising department Telephone number Fax number Emergency contact number	Hazards (GHS 7 B B) Canon Chemicals Inc. Headquarters/Ibaraki Office 1888-2 Kakizaki, Tsukuba City, Ibaraki Prefecture Products Marketing Promotion Dept. +81-29-876-2111 (General) +81-29-876-5338 +81-29-876-6063
Hazards identification	GHS classification	<p>Physicochemical hazard</p> <ul style="list-style-type: none"> Category 3 Flammable Liquid <p>Health hazards</p> <ul style="list-style-type: none"> Category 4 Acute Toxicity (oral) Cannot be classified for Acute Toxicity (dermal) Not applicable to classification for Acute Toxicity (inhalation, gas) Cannot be classified for Acute Toxicity (inhalation, vapor) Cannot be classified for Acute Toxicity (inhalation, dust and mist) Category 1 Skin Corrosion/Irritation Category 1 Serious Eye Damage/Eye Irritation Respiratory or Skin Sensitization: Respiration—Cannot be classified Skin—Cannot be classified Cannot be classified for Germ Cell Mutagenicity Cannot be classified for Carcinogenicity Cannot be classified for Reproductive Toxicology Specific Target Organ Toxicity (Single Exposure) Cannot be classified Specific Target Organ Toxicity (Repeated Exposure) Cannot be classified for Cannot be classified for Aspiration Toxicity <p>Environmental hazards</p> <ul style="list-style-type: none"> Cannot be classified for Acute aquatic toxicity Cannot be classified for Chronic aquatic toxicity
GHS label elements	Pictorial display or signal symbols	
Signal word	Danger	
Hazards information		<ul style="list-style-type: none"> Flammable liquid and vapor Harmful if swallowed Causes serious skin medicine wound and eye irritation Causes serious eye irritation

May 17, 2013 /chem/sds/01-01

Hazards identification	Precautionary statements	Safety measures
		<ul style="list-style-type: none"> Do not handle until all safety precautions have been read and understood. Keep container tightly closed. Keep away from flames. Wear protective gloves/protective clothing/eye protection/face protection. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use precautionary equipment to prevent static discharge. Use only outdoors or in a well-ventilated area. Avoid breathing gas/vapors. Wash hands thoroughly after handling. Avoid release to the environment. <p>Emergency measures</p> <p>IF INHALED</p> <ul style="list-style-type: none"> Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a doctor/physician if you feel unwell. <p>IF ON SKIN</p> <ul style="list-style-type: none"> Wash with plenty of soap and water. If skin irritation or a rash appears, receive a diagnosis/treatment from a physician. <p>IF IN EYES</p> <ul style="list-style-type: none"> Carefully wash the affected eye with water. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation continues, receive a diagnosis/treatment from a doctor/physician. <p>IF SWALLOWED</p> <ul style="list-style-type: none"> Rinse mouth. Call a doctor/physician if you feel unwell. <p>Storage</p> <ul style="list-style-type: none"> Close the container tightly and store in a warehouse (for hazardous materials (as based on the Fire Service Act) or a cold, dark space with ventilation equipment while avoiding high temperatures, fire, humidity, heat, humidity, water leaks, and direct sunlight). <p>Disposal</p> <ul style="list-style-type: none"> Dispose of the product in accordance with the Waste Disposal and Public Cleansing Act and related regulations, or by consigning to a waste disposal service.

Composition / information on ingredients	Categories for chemical substances and compounds: Compound (part)	Chemical name or general name: Modified aromatic polyamine																								
		Components and their content																								
	Ingredient	<table> <tr> <th>Ingredient</th><th>CAS No.</th><th>Content (%)</th><th>Other names (IUPAC name, trade name, etc.)</th><th>Use for PPE and Promotion of Chemical Substances and Regulation of Their Manufacture, etc.</th><th>Use for PPE and Promotion of Chemical Substances and Regulation of Their Manufacture, etc.</th></tr> <tr> <td>Modified aliphatic polyamine</td><td>Not disclosed</td><td>82 ~ 90</td><td>Not disclosed</td><td>Not applicable</td><td>Not applicable</td></tr> <tr> <td>Aromatic aliphatic</td><td>Not disclosed</td><td>8 ~ 14</td><td>Not disclosed</td><td>Not applicable</td><td>Not applicable</td></tr> <tr> <td>Phenylene glycol-bis(4-methoxyphenyl ether acetate</td><td>Not disclosed</td><td>2 ~ 5</td><td>Not disclosed</td><td>Not applicable</td><td>Not applicable</td></tr> </table>	Ingredient	CAS No.	Content (%)	Other names (IUPAC name, trade name, etc.)	Use for PPE and Promotion of Chemical Substances and Regulation of Their Manufacture, etc.	Use for PPE and Promotion of Chemical Substances and Regulation of Their Manufacture, etc.	Modified aliphatic polyamine	Not disclosed	82 ~ 90	Not disclosed	Not applicable	Not applicable	Aromatic aliphatic	Not disclosed	8 ~ 14	Not disclosed	Not applicable	Not applicable	Phenylene glycol-bis(4-methoxyphenyl ether acetate	Not disclosed	2 ~ 5	Not disclosed	Not applicable	Not applicable
Ingredient	CAS No.	Content (%)	Other names (IUPAC name, trade name, etc.)	Use for PPE and Promotion of Chemical Substances and Regulation of Their Manufacture, etc.	Use for PPE and Promotion of Chemical Substances and Regulation of Their Manufacture, etc.																					
Modified aliphatic polyamine	Not disclosed	82 ~ 90	Not disclosed	Not applicable	Not applicable																					
Aromatic aliphatic	Not disclosed	8 ~ 14	Not disclosed	Not applicable	Not applicable																					
Phenylene glycol-bis(4-methoxyphenyl ether acetate	Not disclosed	2 ~ 5	Not disclosed	Not applicable	Not applicable																					

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

GTE T B Canon Chemicals, Inc. File No. 13-0440-0189 May 17, 2013 Revision No. 01.5.6		
First-aid measures	<p>IF INHALED</p> <p>Inhalation of highly-concentrated solvent gas may cause headache and nausea. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a doctor/physician if you feel unwell.</p> <p>IF ON SKIN</p> <p>If the product adheres to the skin and is left as is, thickness and eczema may occur. Wash with plenty of water and soap. If you develop skin irritation or rashes, receive diagnosis/treatment from a doctor/physician.</p> <p>IF IN EYES</p> <p>Rinse carefully with water. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation continues, receive a diagnosis/treatment from a doctor/physician.</p> <p>IF SWALLOWED</p> <p>Rinse mouth. Call a doctor/physician if you feel unwell. Keep quiet, and immediately see a doctor/physician. (Do not induce vomiting.)</p> <p>Protection of person administering first-aid treatment</p> <p>Rescuers must wear protective gear.</p> <p>Special precautions for doctor/physicians</p> <p>Present the MSDS or precautions regarding the container to the doctor/physician.</p>	
Fire-fighting measures	<p>Extinguishing media</p> <p>Powder, carbon dioxide gas, halides, foam extinguishers, and drying sand.</p> <p>Extinguishing media that must not be used</p> <p>Red-like water</p> <p>Typical hazards during fires</p> <p>Harmful gases such as CO, NOX, etc. may occur as combustion gas.</p> <p>Typical extinguishing method</p> <p>Use powder, carbon dioxide gas, drying sand, etc. for initial fires. For large-scale fires, use foam extinguishers, etc. to block out the air. Remove flammable items from the surroundings promptly. Cool closed containers that are exposed to high temperatures using water.</p> <p>Protection for person carrying out extinguishing activities</p> <p>Wear appropriate protective gear (heat-resistant clothing, self-contained breathing apparatus, etc.).</p>	
Accidental release measures	<p>Precautions, protective gear and emergency measures related to the human body</p> <p>Ventilate the area immediately, prohibit use of fire, and wear appropriate protective gear (gloves, protective mask, protective goggles, protective footwear, work uniform, etc.).</p> <p>Precautions for the environment</p> <p>Take measures to prevent discharge to drainage channels.</p> <p>Method/equipment for sealing and cleaning</p> <p>For small amounts, wipe with a rag or other incombustible material, etc., and wash using wash oil, etc. Process extraneous matter and waste based on relevant regulations. For large amounts, prevent further release by using soil enhancers, etc., and handle after gading to a safe location.</p> <p>Measures to prevent secondary disasters</p> <p>Immediately remove any items from the surrounding areas that may cause ignition, and prepare extinguishing media. Use safe equipment that does not generate static electricity or sparks.</p>	

GTE T B Canon Chemicals, Inc.
 File No. 13-0440-0189
 May 17, 2013 Revision No. 01.6.6

Handling and storage	Handling	<p>Technical measures</p> <ul style="list-style-type: none"> Handle in an area with good ventilation. Prohibit the use of fire in the handling area. Carry out work in a way such that dispersion is suppressed as much as possible, so that there are no leaks, overflows, or scattering. Close containers tightly each time when handling. Wear appropriate protective gear (gloves, protective mask, protective eyewear, protective footwear, work uniforms, etc.) when handling. As a countermeasure against static electricity, use antistatic work uniforms and protective footwear, and use explosion-proof electrical equipment. <p>Local ventilation / Overall ventilation</p> <ul style="list-style-type: none"> When handling, handle in a location with local ventilation or overall ventilation facilities. <p>Precautions</p> <ul style="list-style-type: none"> Carry out work by wearing the appropriate protective gear as necessary so that you do not swallow the product, and so that the product does not come in contact with the eyes or skin. After handling the product, wash your hands, face, etc. thoroughly, and make sure not to bring tainted protective gear such as gloves into resting areas, etc. <p>Precautions for safe handling</p> <ul style="list-style-type: none"> Avoid flames, sparks, contact with high-temperature items, and heating. Equipment must be of an explosion-proof construction, and antistatic measures must be carried out for facilities. 																		
	Storage	<p>Technical measures</p> <ul style="list-style-type: none"> Make sure to follow relevant laws such as the Fire Service Act, Industrial Safety and Health Act, etc. Store the product in a warehouse for hazardous materials (as based on the Fire Service Act) or a cold, dark place with ventilation equipment. <p>Appropriate storage conditions</p> <ul style="list-style-type: none"> Close containers tightly, and avoid leaks, high temperatures, fire and high humidity. <p>Safe container and packaging materials</p> <ul style="list-style-type: none"> Store in the container used for this product. 																		
Exposure control	<p>Measures for facilities</p> <p>Install local ventilation equipment. Set up a wash room and eye wash fountain near the location where the product is to be handled, and post signs that clearly indicate their location.</p> <p>Control concentration / Allowable concentration</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Substance name</th><th style="text-align: center;">Control concentration</th><th style="text-align: center;">Allowable concentration based on Occupational Health</th><th style="text-align: center;">Allowable concentration ACGIH TWA</th></tr> </thead> <tbody> <tr> <td>Modified aliphatic polyamine</td><td style="text-align: center;">Not set</td><td style="text-align: center;">Not set</td><td style="text-align: center;">Not set</td></tr> <tr> <td>Benzyl alcohol</td><td style="text-align: center;">Not set</td><td style="text-align: center;">Not set</td><td style="text-align: center;">Not set</td></tr> <tr> <td>Propylene glycol-1-monomethyl ether acetate</td><td style="text-align: center;">Not set</td><td style="text-align: center;">Not set</td><td style="text-align: center;">Not set</td></tr> </tbody> </table>	Substance name	Control concentration	Allowable concentration based on Occupational Health	Allowable concentration ACGIH TWA	Modified aliphatic polyamine	Not set	Not set	Not set	Benzyl alcohol	Not set	Not set	Not set	Propylene glycol-1-monomethyl ether acetate	Not set	Not set	Not set			
Substance name	Control concentration	Allowable concentration based on Occupational Health	Allowable concentration ACGIH TWA																	
Modified aliphatic polyamine	Not set	Not set	Not set																	
Benzyl alcohol	Not set	Not set	Not set																	
Propylene glycol-1-monomethyl ether acetate	Not set	Not set	Not set																	

GTE T B Canon Chemicals, Inc. File No. 13-0440-0189 May 17, 2013 Revision No. 01.5.6		
Exposure control	<p>Protective gear</p> <ul style="list-style-type: none"> Protective gear for the respiratory system Wear a gas mask for organic gas. Check to make sure that a canister that is appropriate for the applicable gas is attached. Protective gear for the hands Wear gloves made of materials that do not allow for the permeation of organic solvents and chemical agents. Protective gear for the eyes Wear protective goggles. Protective gear for the skin and body Wear an apron, etc. made of a material that does not allow for the permeation of chemical agents. Wear long-sleeved clothing and safety shoes that do not directly expose the skin. <p>Appropriate sanitary measures</p> <p>Replace absorbent material such as masks regularly or after each use.</p>	
Physical and chemical properties	<p>Appearance</p> <p>Pale yellow, opaque, viscous liquid</p> <p>Odor</p> <p>Amino odor</p> <p>pH</p> <p>No data</p> <p>Melting point/freezing point</p> <p>No data</p> <p>Boiling point/initial boiling point/boiling range</p> <p>No data</p> <p>Flash point</p> <p>55.1°C (Pensky-Martens closed cup method)</p> <p>Spontaneous ignition point</p> <p>No data</p> <p>Combustion/explosion range</p> <p>No data</p> <p>Vapor pressure</p> <p>No data</p> <p>Vapor density</p> <p>No data</p> <p>Specific gravity</p> <p>0.991 g/cm³ (22°C)</p> <p>Solubility</p> <p>Insoluble in water Easily soluble in organic solvent</p> <p>Octanol-water partition coefficient</p> <p>No data</p> <p>Decomposition temperature</p> <p>No data</p>	
Stability and reactivity	<p>Safety</p> <p>Stable at ordinary temperatures and ordinary pressures.</p> <p>Possibility of hazardous reaction</p> <p>Oxidizing agent, acidic substance (May intensely produce heat)</p> <p>Conditions to avoid</p> <p>High temperatures</p> <p>Mixed hazardous substance</p> <p>Material that is soluble in solvent</p> <p>Harmful gases such as CO, NOX, etc. may occur due to combustion, etc.</p> <p>Ammonia</p> <p>Other</p> <p>Reacts with peroxide, oxides, isocyanate, and epoxy</p>	
Toxicological information	<p>Acute toxicity</p> <p>Benzyl alcohol Animal studies, etc.: LD₅₀ (oral): 1230 mg/kg (rats)</p> <p>Propylene glycol-1-monomethyl ether acetate Animal studies, etc.: LD₅₀ (dermal): 8352 mg/kg (rats)</p> <p>Skin corrosion/irritation</p> <p>Modified aliphatic polyamine Causes serious skin medicine wound and eye irritation</p> <p>Severe eye damage/irritation</p> <p>Modified aliphatic polyamine Causes serious eye irritation</p> <p>Specific target organ toxicity, single exposure</p> <p>Benzyl alcohol Irritates the eyes and skin. May affect the nervous system</p>	

GTE T B Canon Chemicals, Inc. File No. 13-0440-0189 May 17, 2013 Revision No. 01.6.6		
Toxicological information	<p>Specific target organ toxicity, repeated exposure</p> <p>Benzyl alcohol May cause skin sensitization.</p>	
Ecological information	<p>Ecological toxicity</p> <p>No data</p> <p>Persistence/degradability</p> <p>Modified aliphatic polyamine: No degradability. Benzyl alcohol: Good degradability based on microorganisms.</p> <p>Mobility to soil</p> <p>Based on its physicochemical properties, this product has the possibility of transferring to the atmosphere, water areas, and soil environment.</p>	
Disposal considerations	<p>Dispose of waste, such as residual product, containers, etc., by consigning disposal to a licensed industrial waste processor. Do not let fluid used for cleaning containers and equipment flow directly onto the ground or into drainage channels. Process waste generated by wastewater treatment, incineration, etc. by following the Waste Disposal and Public Cleansing Act and related regulations, or consign to a waste disposal service. If processing waste products, etc. through incineration, adsorb the waste into diatomaceous earth, and incinerate in small amounts using an open-type incinerator.</p>	
Transport information	<p>• UN Category: 8 (corrosive substance) • UN Number: 3470 • Name: Amines or polyamines • Packing Group: 3</p> <p>Check to make sure that the containers are not damaged and that there are no leaks. Prevent collapse of cargo by loading and unloading containers so that they are not jolted, do not tip over, fall, or become damaged. In addition, be careful of cargo shifting during transport. Follow the standards for transporting hazardous goods as specified in the Fire Service Act and the Road Traffic Act.</p>	
Regulatory information	<p>Fire Service Act: Hazardous Material Group 4, First Petroleum Group, Insoluble Liquid Danger Class III</p> <p>Ship Safety Act: Hazardous substance as specified in Appendix Table 8 of Danger Regulations</p> <p>Waste Management and Public Cleansing Act</p>	
Other information	<p>Reference literature</p> <ul style="list-style-type: none"> GHS Implementation Guidelines, Japan Chemical Industry Association Kagaku Jiyiten (Dictionary of Chemistry), Kyoritsu Shuppan Co., Ltd. Shobo Kankei Hoki-shu (Collection of Laws Related to Fire Service), Gendai Shobosha Regulations for the Carriage and Storage of Dangerous Goods in Ships, Kabunko 	

*This "Material Safety Data Sheet" has been created based on the materials, information, and data that could be obtained at the present point in time, and may be revised due to revisions of laws and new findings. When handling this product, refer to the contents described on this MSDS, and take safety measures that are appropriate for the actual conditions based on the responsibility of the user. This MSDS is a not a guarantee or standard for safety and quality. This "Material Safety Data Sheet" is created based on Japanese laws. When exporting the product to foreign products, please note that the product will be regulated based on the laws of the respective country.

Revision History
April 24, 2013 Revision No. 01 issued (Supervising Department: Products Marketing Promotion Dept.)
May 17, 2013 Revision No. 01 issued (Supervising Department: Products Marketing Promotion Dept.)

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

ISU	Material Safety Data Sheet (MSDS)		Rev.No	0
	I/A (Isopropyl alcohol)	DATE	2018.10.01	PAGE 1/6

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1) Product identifier: I/A (Isopropyl alcohol)

2) Relevant identified uses of the substance or mixture and uses advised against:

- Relevant identified uses: Cleaning/washing agents, Solvents
- Uses advised against: No data available

3) Manufacture/Supplier/Distributor information:

○ Manufacture information:

Company name: ISU CHEMICAL CO., LTD

Address: 8, Seoldang-gil, Onsan-eup, Ulsu-gun, Ulsan, Korea

Emergency telephone number: Tel. 052-231-5561

2. HAZARD IDENTIFICATION

1) Hazard classification: Flammable Liquids Cat.2

Serious eye damage/eye irritation Cat.2

Specific Target Organ Toxicity Single Exposure Cat.3

Aspiration Hazard Cat.2

2) Allocation label elements including precautionary statements

○ Hazard pictograms:

○ Signal word: Danger

○ Hazard statements

- H225: Highly Flammable liquid and vapour.
- H305: May be fatal if swallowed and enters airways.
- H319: Causes serious eye irritation.
- H336: May cause drowsiness or dizziness.

○ Precautionary statements

- Prevention:

- P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P231: Keep container tightly closed.
- P240: Ground/bond container and receiving equipment.
- P241: Use explosion-proof electrical/lighting/.../ equipment.
- P242: Use only non-sparking tools.
- P243: Take precautionary measures against static discharge.
- P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264: Wash ... thoroughly after handling.
- P271: Use only outdoors or in a well-ventilated area.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.

PA
ISU CHEMICAL CO., LTD
A4(210×297mm)

ISU	Material Safety Data Sheet (MSDS)		Rev.No	0
	I/A (Isopropyl alcohol)	DATE	2018.10.01	PAGE 2/6

- Response:

- P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P312: Call a POISON CENTER or doctor/physician you feel unwell.
- P331: Do not induce vomiting.
- P337+P313: If eye irritation persists: Get medical advice/attention.
- P370+P378: In case of fire: Use ... for extinction.

- Storage:

- P403+P233: Store in a well-ventilated place. Keep container tightly closed.
- P403+P235: Store in a well-ventilated place. Keep cool.
- P405: Store locked up.

- Disposal:

- P501: Dispose of contents/container to (in accordance with local/regional/national/ international regulations.)

3) Other hazards:

- NFPA Grade: Health 1, Flammability 3, Reactivity 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	Common name	CAS No.	Concentration(wt%)
2-Propanol	Propan-2-ol	67-63-0	100

4. FIRST AID MEASURES

1) Following eye contact:

- F IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.

2) Following skin contact:

- F ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- Call 911 or emergency medical service.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at

PA
ISU CHEMICAL CO., LTD
A4(210×297mm)

ISU	Material Safety Data Sheet (MSDS)		Rev.No	0
	I/A (Isopropyl alcohol)	DATE	2018.10.01	PAGE 3/6

least 20 minutes.

- Wash skin with soap and water.

3) Following inhalation:

- Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.

4) Following ingestion:

- Get medical aid immediately.
- Do NOT induce vomiting.
- If there is no reflexive vomit caused by depression, convulsion and damage, induce victim to vomit using an ipecac and seek immediate medical attention.

5) Advice to Physician:

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

5. FIRE FIGHTING MEASURES

1) Suitable (and unsuitable) extinguishing media:

- Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.
- Use dry sand or earth to smother fire.

2) Special hazards arising from the substance or mixture:

- During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
- Highly Flammable liquid and vapour.
- Violent reaction may cause fire and explosion.
- Containers may explode when heated.
- Runoff may create fire or explosion hazard.
- Vapor explosion hazard indoors, outdoors or in sewers.

3) Special protective equipment for firefighters:

- Rescuers should put on appropriate protective gear.
- Evacuate area and fight fire from a safe distance.
- Move containers from fire area if you can do it without risk.
- Fire involving Tanks: Do not spray directly exposure and safety equipment because of freezing.
- Fire involving Tanks: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Fire involving Tanks: Cool containers with flooding quantities of water until well after fire is out.
- Fire involving Tanks: Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- Fire involving Tanks: ALWAYS stay away from tanks engulfed in fire.

PA
ISU CHEMICAL CO., LTD
A4(210×297mm)

ISU	Material Safety Data Sheet (MSDS)		Rev.No	0
	I/A (Isopropyl alcohol)	DATE	2018.10.01	PAGE 4/6

- Fire involving Tanks: For massive fire, use unmanned hose holders or monitor nozzles: if this is impossible, withdraw from area and let fire burn.

6. ACCIDENTAL RELEASE MEASURES

1) Health considerations and protective equipment:

- Do not breathe dust/fume/gas/mist/vapours/spray.
- Remove all ignition sources because microscopic particles can cause fire or explosion.
- Clean up spills immediately, observing precautions in Protective Equipment section.
- Do not touch or walk through spilled material.
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Stop leak if you can do it without risk.
- Please note that materials and conditions to be avoided.

2) Environmental precautions:

- Runoff may cause pollution.
- Prevent entry into waterways, sewers, basements of confined areas.

3) For cleaning up:

- Build a dike and collect the water for the fire extinguishing.
- Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container.
- Absorb the liquid and scrub the area with detergent and water.
- Large Spill: Dike far ahead of liquid spill for later disposal.
- Use clean non-sparking tools to collect absorbed material.

7. HANDLING AND STORAGE

1) Precautions for safe handling:

- Do not expose the ignition source, heat, static electricity.
- Follow all MSDS/label precautions even after container is emptied because they may retain product residues.
- Please note that materials and conditions to be avoided.
- Handling refer to engineering control/personal protection section.
- Loosen closure cautiously before opening.
- Use care in handling/storage.
- All equipment used when handling the product must be grounded.
- Avoid breathing dust/fume/gas/mist/vapours/spray.
- Use only outdoors or in a well-ventilated area.

2) Conditions for safe storage (including any incompatibilities):

- Empty drums should be completely drained, properly bunged, and promptly returned to the drum reconditioners or properly placed.
- Please note that materials and conditions to be avoided.

PA
ISU CHEMICAL CO., LTD
A4(210×297mm)

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

ISU	Material Safety Data Sheet (MSDS)	Rev.No		0	
	IPA (Isopropyl alcohol)	DATE	2018.10.01	PAGE	6/6

- Avoid ignition source(heat, spark, flame)
- Store in a dry place. Store in a closed container.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

1) Chemical exposure limits, Biological exposure standard:

Components	Occupational exposure limits (Domestic)	ACGH	Biological limit values
2-Propanol	TWA = 200ppm, 480mg/m ³ STEL = 400ppm, 960mg/m ³	TWA = 200ppm, STEL = 400ppm	No data available

2) Appropriate engineering controls:

- Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

3) Personal protection equipment

○ Respiratory protection:

- Under conditions of frequent use or heavy exposure, respiratory protection may be needed.
- Wear breathing protection, which needs a confirmation from the Korea Occupational Safety and Health Agency.

○ Eye protection:

- Wear suitable protective goggles and face shields..
- Provide emergency showers and eyewash.

○ Hand protection:

- Wear suitable protective gloves.

○ Body protection:

- Wear suitable protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

- 1) Appearance(Physical state, color, etc): Clear colorless liquid
- 2) Color: Alcohol-like odor
- 3) Odor threshold: No data available
- 4) pH: Not applicable
- 5) Melting point/freezing point: -89.5℃
- 6) Initial boiling point and boiling range: 82.3℃
- 7) Flash point: 6-18℃
- 8) Evaporation rate: No data available
- 9) Flammability(solid, gas): Not applicable

PA ISU CHEMICAL CO., LTD A4(210×297mm)

ISU	Material Safety Data Sheet (MSDS)	Rev.No		0	
	IPA (Isopropyl alcohol)	DATE	2018.10.01	PAGE	6/6

- 10) Upper/lower flammability or explosive limits: Lower explosion limit = 2%, Upper explosion limit = 13%

- 11) Vapour pressure: 60.2 at 25℃
- 12) Solubility(ies): Miscible
- 13) Vapour density: 2.1 (air=1)
- 14) Relative density: 0.78508 at 25℃
- 15) n-octanol/water partition coefficient: 0.05 at 25℃
- 16) Auto ignition temperature: 399℃
- 17) Decomposition temperature: No data available
- 18) Viscosity: 2.038mPa.s at 25℃
- 19) Molecular weight(mass): 60.095

10. STABILITY AND REACTIVITY

1) Stability and hazardous reactivity:

- Explosive mixture may be formed in flash point or more.
- Flammable liquid and vapour

- Violent reaction may cause fire and explosion.

- Containers may explode when heated.

- Runoff may create fire or explosion hazard.

- HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames

- Fire may produce irritating, corrosive and/or toxic gases.

2) Conditions to avoid:

- Ignition source(heat, spark, flame)

3) Incompatible materials:

- No data available

4) Hazardous decomposition products:

- During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

11. TOXICOLOGICAL INFORMATION

1) Exposure route information

- No data available

2) Health hazard information

○ Acute toxicity:

- Oral: LD50 = 5840mg/kg (Rat)

- Dermal: LD50 = 12870mg/kg

- Inhalation(Gas): No data available

- Inhalation(Vapor): LC50 > 10000 ppm/6h

- Inhalation(Dust, mist): No data available

PA ISU CHEMICAL CO., LTD A4(210×297mm)

ISU	Material Safety Data Sheet (MSDS)	Rev.No		0	
	IPA (Isopropyl alcohol)	DATE	2018.10.01	PAGE	7/6

○ Skin corrosion/irritation:

- Not irritating (Rabbit)

○ Serious eye damage/irritation:

- Serious Irritating (Rabbit)

○ Respiratory sensitization:

- No data available

○ Skin sensitization:

- Not sensitising (Guinea pig)

○ Carcinogenicity:

- IARC Group 3

○ Germ cell mutagenicity:

- In vivo - Mouse: Negative (Micronucleus assay, OECD TG 474, GLP)

- In vitro - *Salmonella typhimurium*: Negative (Ames test, OECD TG 471, Metabolic activation: with and without)

- Chinese hamster Ovary Cell: Negative (Mammalian cell gene mutation assay, OECD TG 476, GLP)

○ Reproductive toxicity:

- Severe malformation in the F1 generation associated with exposure was not observed. (Rat, OECD TG 415, GLP)

○ Specific target organ toxicity (single exposure):

- Prostration, severe failure of muscular coordination, reduced arousal, slow or unnatural breathing, hypothermia and loss of reflexes are observed in group exposed in the concentration of 100ppm (Rat, OECD TG 403, GLP)

○ Specific target organ toxicity (repeated exposure):

- There is no damage due to exposure to backbone and peripheral nervous system of rats. (Rat, OECD TG 413, GLP)

○ Aspiration hazard:

- Aspiration pneumonia: generally kidney and liver dysfunction can be observed temporarily, cause serious kidney disorder. (Human)

12. ECOLOGICAL INFORMATION

1) Aquatic toxicity:

- Fish: LC50= 10000 mg/L (*Pimephales promelas*, OECD TG 203, GLP, 96h)

- Crustacean: LC50> 10000 mg/L (*Daphnia magna*, OECD TG 202, GLP, 24h)

2) Persistence and degradation: log Kow= 0.05 (Calculated).

BOD=98%/14d, OECD TG 301 F, GLP

3) Bioaccumulative potential: BCF= 3(Calculated)

4) Mobility in soil: Koc= 1.5(Calculated)

5) Other adverse effects: No data available

PA ISU CHEMICAL CO., LTD A4(210×297mm)

ISU	Material Safety Data Sheet (MSDS)	Rev.No		0	
	IPA (Isopropyl alcohol)	DATE	2018.10.01	PAGE	6/6

13. DISPOSAL CONSIDERATIONS

1) Disposal methods:

- Dispose of contents/container to the waste control act.

2) Precautions (including disposal of contaminated container or package):

- Regulations precautions indicated in Waste Management Act should be considered.

14. TRANSPORT INFORMATION

1) UN No.: UN 1219

2) Proper shipping name: ISOPROPANOL(Isopropyl alcohol)

3) Class or division: Class 3

4) Packing group: II

5) Marine pollutant: Not listed

6) Special safety response for transportation or transportation measure:

- Emergency measures in case of fire : F-E

- Emergency measures in the effluent : S-D

15. REGULATORY INFORMATION

1) Occupational Safety and Health Act in Korea:

- Work environment monitoring substance(measurement period:6month)

- Substance for administration

- Special medical examination substance(examination period:12month)

- Exposure standard established

2) Chemicals Control Act in Korea: Not applicable

3) Safety Control of Dangerous Substances Act in Korea: Class 4 alcohol 400f

4) Wastes Control Act in Korea: Designated waste

5) Other regulations in KOREA and Abroad regulations:

- Other regulation (Domestic):

- Persistent Organic Pollutants (POPs) Control Act: Not applicable

- National regulations:

- U.S.A. management information(OSHA regulation): Not applicable

- U.S.A. management information(CERCLA regulation): Not applicable

- U.S.A. management information(EPCRA 302 regulation): Not applicable

- U.S.A. management information(EPCRA 313 regulation): Not applicable

- U.S.A. management information(Rotterdam Convention on Substances): Not applicable

- U.S.A. management information(Stockholm Convention on Substances): Not applicable

- U.S.A. management information(Montreal Protocol on Substances): Not applicable

PA ISU CHEMICAL CO., LTD A4(210×297mm)

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

ISU	Material Safety Data Sheet (MSDS)		Rev No		0	
	ZFA (Isopropyl alcohol)		DATE	2018.10.01	PAGE	0/0
<p>- EU Classification (Classification): F+ R11 Xi R38 R67 - EU Classification (Risk Phrases): R11, R38, R67 - EU Classification (Safety Phrases): S2, S7, S16, S24, S25, S26</p>						
16. OTHER INFORMATION						
<p>1) Reference:</p> <ul style="list-style-type: none">• Korea Occupational Safety & Health Agency MSDS• OECD SDS• ChemWATCH• IUCLD• HSCB• IARC• ECOTOX• NITE• Recommendations on the transport of dangerous goods• NCIS• Emergency response guide book• ECHOBAR• OGBAR• EU RAR• The Chemical Database• ICSC• RTECS• NIOSH Pocket guide• EHS• ECHA CHEM• HPVIS <p>2) Print date: 2015. 10. 01 3) Number of revised/Date of last revision: 4) Other:</p>						
PA ISU CHEMICAL CO., LTD A4(210×297mm)						

MSDS-MgF₂(E)-P1

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: MAGNESIUM FLUORIDE (MGF2)

SECTION 1 COMPANY IDENTIFICATION
MANUFACTURER: OHYO KOKEN KOGYO CO.,LTD.
ADDRESS (HEAD OFFICE): 1642-26 KUMAGAWA, FUSSA CITY
TOKYO 197-0003, JAPAN
CHARGE SECTION: CRYSTAL OPTICS DEPARTMENT
ADDRESS: 88-77 SHINGOU, HIGASHI-MATUYAMA CITY
SAITAMA PREF, 355-0071, JAPAN
PHONE NUMBER: +81-493-23-9515
FAX NUMBER: +81-493-23-9516
EMERGENCY TELEPHONE: +81-493-23-9515
REVISION DATE: June-27-2012

SECTION 2 INGREDIENTS INFORMATION
PRODUCT NAME: MAGNESIUM FLUORIDE
COMPOSITION: MgF₂ 99.99%
CHEMICAL FORMULA: MgF₂
MOLECULAR WEIGHT: 62.32
CAS NO.: 7783-40-6
EINECS: 231-995-1

SECTION 3 HAZARDS IDENTIFICATION
INHALATION: MAY BECOME HARMFUL WHEN INOCULATE IT ABUNDANTLY.
SKIN CONTACT: ACRIDITY
EYE CONTACT: ACRIDITY
INGESTION: MAY BECOME HARMFUL WHEN INOCULATE IT ABUNDANTLY.

MSDS-MgF₂(E)-P2

SECTION 4 FIRST AID MEASURES
INHALATION: MOVE TO THE PLACE OF FRESH AIR AND GARGLE. IF NECESSARY, SEEK MEDICAL ADVICE.
SKIN CONTACT: WASH ADHESION DEPARTMENT OR CONTACT DEPARTMENT WITH SOAPY WATER AND WASH IT AWAY WITH A LARGE QUANTITY OF WATER.
EYE CONTACT: WASH IT AWAY WITH A LARGE QUANTITY OF WATER PROMPTLY MORE THAN 15 MINUTES. IF NECESSARY, SEEK MEDICAL ADVICE.
INGESTION: WASH IT IN MOUTH WITH WATER WELL PROMPTLY. WHEN POSSIBLE, THROAT DISCHARGE A FINGER, AND LET YOU SPIT IT OUT. IF NECESSARY, SEEK MEDICAL ADVICE.

SECTION 5 FIRE-FIGHTING MEASURES
DIGESTION METHOD: NONINFLAMMABILITY
EXTINGUISHANT: NONINFLAMMABILITY

SECTION 6 ACCIDENTAL RELEASE MEASURES
• THE SCATTERING THING COLLECTS IT IN AN EMPTY CONTAINER AS MUCH AS POSSIBLE.
• WASH AWAY COLLECTION WITH A LARGE QUANTITY OF WATER AFTERWARD.
• WEAR A TOOL FOR PROTECTION AT THE TIME OF THE COLLECTION WORK.

SECTION 7 HANDLING AND STORAGE
HANDLING: WEAR A TOOL FOR APPROPRIATE PROTECTION TO AVOID INHALATION OR CONTACT. HANDLE IT AND WASH WITH WATER WITH A FACE, A HAND, A MOUTH AFTERWARD. PAY ATTENTION TO THE VENTILATION.
STORAGE: AVOID A HIGH TEMPERATURE AND HIGH HUMIDITY AND SEAL IT UP IN THE COOL AND DARK SPACE AND KEEP IT. DO NOT PUT IT IN THE GROUND DIRECTLY.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION
EXPOSURE LIMIT: ACGIH: TWa2.5mg (F) /m3
JAPAN SOCIETY FOR OCCUPATIONAL HEALTH: NOT APPLICABLE
FACILITIES: ESTABLISH VENTILATION FACILITIES AND THE WASH PLANT IN THE WORK PLACE.
TOOL FOR PROTECTION: DUST PROTECTIVE MASK FOR BREATHING
SAFE GLASSES FOR THE EYES
RUBBER GLOVES FOR THE CONTACT

MSDS-MgF₂(E)-P3

SECTION 9 PHYSICAL/CHEMICAL PROPERTIES
APPEARANCE: WHITE GRANULES
MELTING POINT: 1260 °C
BOILING POINT: 2260 °C
SPECIFIC GRAVITY: 3.148
ABSORBENCY: NONE
SOLUBILITY IN WATER: 0.0087g/100gH₂O (18 °C)

SECTION 10 STABILITY AND REACTIVITY
IGNITION POINT: NONINFLAMMABILITY
EXPLOSION LIMIT: NONINFLAMMABILITY
COMBUSTIBILITY: NONE
IGNITION CHARACTERISTICS: NONE
OXIDATION CHARACTERISTICS: NONE
SELF-REACTION: NONE
EXPLOSIVENESS: NONE
STABILITY / REACTIVITY: PRODUCE HYDROGEN FLUORIDE IN RESPONSE TO NITRIC ACID. NOT DISSOLVE IN ETHANOL.

SECTION 11 TOXICOLOGICAL INFORMATION
PUNGENCY (SKIN / EYES): STIMULATE SKIN, AND INFLAMMATION MAY BE CAUSED.
TOXICITY DATA: MARMOT (ORAL) LD50 1000mg/kg

SECTION 12 ECOLOGICAL INFORMATION
• THERE IS NO KNOWLEDGE

SECTION 13 DISPOSAL CONSIDERATIONS
• ENTRUST A SPECIALIZED SUPPLIER.
• PUT IT IN THE CONTAINER WHICH THE WATER WAS IN, AND ADD CALCIUM HYDROXIDE. 24HOURS LATER, THE TOP LIQUID LIQUID IS NEUTRALIZED WITH HYDROCHLORIC ACID, AND IT AWAY WITH LARGE EXCESSIVE WATER. THE DEPOSITION FILLS IT UP AS "NOTHING PLANE-RELATED GRIME" AND DISPOSES.

SECTION 14 TRANSPORT INFORMATION
• PERFORM AN APPROPRIATE STEP SO THAT A CONTAINER IS NOT DAMAGED.
• IN ADDITION, IT IS THE Q.V. OF "HANDLING AND STORAGE" AND "ACCIDENTAL RELEASE MEASURES".

SECTION 15 REGULATORY INFORMATION
• NOT APPLICABLE (JAPANESE LAWS AND ORDINANCES)

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

MSDS-MgF2(E)-P4

SECTION 16 OTHER INFORMATION

REFERENCES CITED (Japan)

- ・「製品安全データシートの作成指針」 (社)日本化学工業協会/1992
- ・The Sigma Aldrich Library of Chemical Safety Data EDITION II VOL.1. Robert E.Lenga 編/1988
- ・許容濃度の勧告 日本産業衛生学会/1998
- ・A C G I H (1998 年度用) (社)日本作業環境測定協会/1998
- ・「既存化学物質データ集覧」 海外技術資料研究所/1974
- ・「化学大事典」 化学大辞典編集委員会/1964

- ・ Values such as content, the physics or chemical property are not guarantee values among this MSDS mention contents.
- ・ Because the instructions are things for the handling that is it usually-like, We ask for consideration in the case of the special handling.
- ・ Because we cannot always say enough to handle it, please warn the evaluation such as the danger hazardous property information after having had you understand it about the properties of matter.

LIENHE Corp

Unit 3A03, Building G, City One, 48 Huan-Jia-Du-Xi-Li Beijing 100102, China
Tel: (86-10)51657899 (or 64787059) Fax: (86-10)64787060
www.lienhe.com.cn, Email: xf-lin@263.net

MATERIAL SAFETY DATA SHEET
For information or emergency: Telephone 609-395-1966
Date prepared January 20, 2015

1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

TRADE NAME: Norland Optical Adhesive 61
TRADE CODE: NOA61
PRODUCT USE: Ultraviolet Curing Adhesive
COMPANY: Norland Products Inc

2540 Route 130, Bldg. 100
Cranbury, NJ 08512 USA
Telephone (609) 395-1966
Telefax (609) 395-9006

2. HAZARDS IDENTIFICATION

Mercapto Ester • I Health R22/R36/R43
Benzophenone • I Flammability
Tetrahydrofurfuryl Methacrylate • I Reactivity

• Hazard Rating

Health risks:
• 0 Minimal
• 1 Slight
• 2 Moderate
• 3 Serious
• 4 Extreme

• B Protective equipment

R22 Harmful if in contact with skin or if swallowed.
R36 Irritating to eyes.
R38 Irritating to skin.
R43 May cause sensitization by skin contact

• B Glove and Eye protection

Pictogram(s)

特告知通
电话: 010-51657899, 64787059, 64787215 传真: 010-64787060
北京市朝阳区花家地西里金隅国际 G 座 3A03 单元 邮编: 100102

LIENHE Corp

Unit 3A03, Building G, City One, 48 Huan-Jia-Du-Xi-Li Beijing 100102, China
Tel: (86-10)51657899 (or 64787059) Fax: (86-10)64787060
www.lienhe.com.cn, Email: xf-lin@263.net

Signal Word: Warning

3. COMPOSITION INFORMATION ON INGREDIENTS

Chemical Nature: Urethane related based formulation

COMPONENTS	CAS#	EINECS#	CONCENTRATION
Mercapto-ester*	Trade Secret *	Trade Secret*	50-65%
Triallyl isocyanurate	H25-15-6	213-824-7	20-55%

* The specific chemical identity and concentration is being withheld from this data sheet as a Trade Secret. None of the ingredients are listed as carcinogen in NTP, IARC, OSHA, RoHS, REACH or any state's list of chemicals known to cause reproductive toxicity.

4. FIRST AID MEASURES

In case of inhalation: If tightness in the chest, irritation or coughing occurs, remove to fresh air. Get medical attention if symptoms persist.

In case of splashes in eye: If the material gets in the eyes, immediately wash the eyes with copious amounts of water, occasionally lifting the lower and upper eyelids. Continue for 15 minutes and get medical attention immediately.

In case of skin contact: If the material gets on the skin, immediately wash the area with soap and water and flush with water. If irritation develops, get medical attention.

In case of clothing spattering: Discard or wash contaminated clothing before reuse.

In case of ingestion: If the material has been swallowed, dilute with milk or water if the victim is alert. See doctor as soon as possible.

5. FIRE-FIGHTING MEASURES

Extinguishing Media recommended: Carbon Dioxide, foam, dry chemical
Extinguishing Media inadvisable: Water. Jets of water from fire hose.
Special Hazards: None.

Hazardous decomposition/combustion products: Could generate carbon monoxide, carbon dioxide, sulfur dioxide or hydrogen sulfide.

特告知通
电话: 010-51657899, 64787059, 64787215 传真: 010-64787060
北京市朝阳区花家地西里金隅国际 G 座 3A03 单元 邮编: 100102

LIENHE Corp

Unit 3A03, Building G, City One, 48 Huan-Jia-Du-Xi-Li Beijing 100102, China
Tel: (86-10)51657899 (or 64787059) Fax: (86-10)64787060
www.lienhe.com.cn, Email: xf-lin@263.net

Special protective equipment: A self-contained breathing apparatus.

Explosion Data:
Sensitivity to Impact: None
Sensitivity to Static Discharge: None

6. ACCIDENTAL RELEASE MEASURES

Measures for personal safety:
GLOVES: Use gloves made from an impervious material, e.g. nitrile, butyl or latex rubber. Latex rubber may soften and become pervious if also exposed to organic solvents.

RESPIRATOR: Not required under normal operating conditions. Respiratory protection may be needed in unusual circumstances where significant exposure to fumes or mists can occur. A NIOSH approved air purifying respirator with an organic vapor cartridge would then be recommended. Use must comply with OSHA (29 CFR 1910.134) and other regulatory standards.

EYE: Wear safety glasses.

FOOTWEAR: Impervious shoes, e.g. leather, not cloth or sandals.

Ventilation Requirements:
A fume hood is not generally required. The room should have adequate ventilation to avoid potential for concentration of mist or vapors.

Environmental measures:
Stop the product from entering the drainage system and the natural environment. Limit leakage with earth.
Cleaning methods:
Recovery: Absorb material with paper towel or other absorbent. Place in container for disposal. If possible, expose absorbed resin to UV light or sunlight to solidify the resin.
Cleaning/decontamination: Clean up with soap and water.
Elimination: Eliminate according to local and national regulations.

7. HANDLING AND STORAGE

Handling:
Technical measures: Do not reuse container. This product is for industrial use only. Practice good housekeeping and vigorous personal hygiene to minimize contact with material.
Precautions to take: Avoid contact with skin and eyes.

Storage: Store at 5°C to 25°C. Keep away from sunlight.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

特告知通
电话: 010-51657899, 64787059, 64787215 传真: 010-64787060
北京市朝阳区花家地西里金隅国际 G 座 3A03 单元 邮编: 100102

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

LIENHE Corp
Unit 3A03, Building G, City One, 48 Hua-Jie-Du-Xi-Li Beijing 100102, China
Tel: (86-10)51657899 (or 64787059) Fax: (86-10)64787060
www.lienhe.com.cn, Email: x-f-lin@263.net

Precautionary Measure: None.
Exposure limits: None.
Protective personal equipment:
Respiratory protection: Not needed with normal use.
Protection for hands: Use gloves made from an impervious material, e.g. nitrile, butyl or latex rubber. Latex rubber may soften and become pervious if also exposed to organic solvents. Eye Protection: Wear safety glasses.
Protection from skin: Wear clothing that provides protection to skin.

9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:
Color: Translucent paste
Odor: Slight sulfur odor
pH: Not applicable
Melting point: Not applicable
Boiling point: Not applicable
Decomposition temperature: >300°C
Flash point: 175°C
Auto ignition temperature: Not applicable
Explosive properties: None
Oxidizing properties: None
Vapor pressure: <0.1 @ 20°C
Density: >1
Solubility/Miscibility:
Solubility in water: Not miscible
Viscosity: 465,000-515,000 cps @ 25°C

10: STABILITY AND REACTIVITY

Conditions to avoid: Keep away from UV and sunlight. Temperatures above 65°C may cause exothermic nonhazardous polymerization.
Substances to avoid: None
Hazardous decomposition products: None

11: TOXICOLOGICAL INFORMATION

Acute toxicity:

电话: 010-51657899, 64787059, 64787215 传真: 010-64787060
北京市朝阳区花家地西里金隅国际 G 座 3A03 单元 邮编: 100102

LIENHE Corp
Unit 3A03, Building G, City One, 48 Hua-Jie-Du-Xi-Li Beijing 100102, China
Tel: (86-10)51657899 (or 64787059) Fax: (86-10)64787060
www.lienhe.com.cn, Email: x-f-lin@263.net

Ingestion: LD50: >5 g/kg (rats)
Inhalation: LC50: >2.5 mg/l/hr
Local effects:
On skin: slight irritating to skin.
On eyes: irritating to eyes.
Long term toxicity:
Skin contact: May cause sensitization by skin contact.

12: ECOLOGICAL INFORMATION

Ecotoxicity: No data available.
Mobility: Cured adhesives are immobile.
General ecological: Do not empty liquid into drains or ground water.

13: DISPOSAL CONSIDERATION

Disposal Methods for product and waste: Send to authorized disposal plants or for incineration under controlled conditions.
Disposal methods for contaminated packaging: Do not reuse package. Send to authorized disposal plants or for incineration under controlled conditions.
You should comply with the local and national regulations in force when disposing.

14: TRANSPORTATION INFORMATION

Land transport (ADR/RID)
Not classified as dangerous in the meaning of land transport regulations (ADR/RID).
Shipping transport (IMDG)
Not classified as dangerous in the meaning of shipping transport regulations (IMDG).
Air transport (IATA)
Not classified as dangerous in the meaning of air transport regulations (IATA).

15: REGULATORY INFORMATION

Symbols: Xi Irritant
R phrases:
R22 Harmful in contact with skin and if swallowed.
R36 Irritating to eyes.
R38 Irritating to skin.
R43 May cause sensitization by skin contact.

电话: 010-51657899, 64787059, 64787215 传真: 010-64787060
北京市朝阳区花家地西里金隅国际 G 座 3A03 单元 邮编: 100102

LIENHE Corp
Unit 3A03, Building G, City One, 48 Hua-Jie-Du-Xi-Li Beijing 100102, China
Tel: (86-10)51657899 (or 64787059) Fax: (86-10)64787060
www.lienhe.com.cn, Email: x-f-lin@263.net

S phrases:
S24 Avoid contact with skin.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical attention.
S37 Wear suitable gloves.

Contains:
Urethane related adhesives.
US Federal Regulations:
Unless otherwise noted, this product is in compliance with the inventory listing of the countries shown below.
Europe (EINECS/ELINCS) Listed/registered
USA (TSCA) Listed/registered
Canada (DSL) Listed/registered
Australia (AICS) Listed/registered
Japan (MITI) Listed/registered
Korea (TCCL) Listed/registered
Philippines (PICCS) Listed/registered
China Listed/registered

16: OTHER INFORMATION

Full text of R phrases indicated by codes in the material safety data sheet are as follows:
R22 Harmful in contact with skin and if swallowed
R36 Irritating to eyes.
R38 Irritating to skin.
R43 May cause sensitization by skin contact.

Custom Situation: Harmonized System (HTS/Schedule B) 35.06.91.0000
All components of this product are in compliance with the Toxic Substances Control Act (TSCA) inventory.

The information included in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

电话: 010-51657899, 64787059, 64787215 传真: 010-64787060
北京市朝阳区花家地西里金隅国际 G 座 3A03 单元 邮编: 100102

GT-7 E A Canon Chemicals, Inc.
File No. 13-0660-0186
April 24, 2013 Revision No. 00 1/9

Material Safety Data Sheet (MSDS)

Product name and company information	Product name Company name Address Supervising department Telephone number Fax number Emergency contact number	Print (GT-7 E A) Canon Chemicals Inc. Headquarters/Ibaraki Office 1888-2 Kuzukaki, Tsukuba City, Ibaraki Prefecture Products Marketing Promotion Dept. +81-29-876-2111 (General) +81-29-876-5338 +81-29-876-6063
Hazards identification	GHS classification	Physicochemical hazard • Category 2 Flammable Liquid Health hazards • Category 4 Acute Toxicity (oral) • Cannot be classified for Acute Toxicity (dermal) • Not applicable to classification for Acute Toxicity (inhalation, gas) • Cannot be classified for Acute Toxicity (inhalation, vapor) • Cannot be classified for Acute Toxicity (inhalation, dust and mist) • Category 2 Skin Corrosion/Irritation • Category 1 Serious Eye Damage/Eye Irritation • Respiratory or Skin Sensitization: Respiration—Cannot be classified Skin—Category 1 • Category 2 Germ Cell Mutagenicity • Category 1A Carcinogenicity • Cannot be classified for Reproductive Toxicology • Target Organ Systemic Toxicity (Single Exposure) Category 1 (Central nerves) Category 2 (Anesthetic action, airway irritation) • Target Organ Systemic Toxicity (Repeated Exposure) Cannot be classified for Target Organ Systemic Toxicity • Category 1 Aspiration Toxicity Environmental hazards • Category 2 Acute aquatic toxicity • Category 2 Chronic aquatic toxicity
GHS label elements	Pictorial display	
Signal word	Danger	

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

<p>GT-7 E A Canon Chemicals, Inc. File No. 13-0460-0186 April 24, 2013 Revision No. 00.2/9</p>		
Hazards identification	Hazards information	<ul style="list-style-type: none"> Highly flammable liquid and vapor Harmful if swallowed Causes skin irritation Causes serious eye irritation May cause an allergic skin reaction Suspected of causing genetic defects May cause cancer May cause respiratory irritation May cause drowsiness or dizziness Causes damage to organs (central nerve) May be fatal if swallowed and enters airways Very toxic to aquatic life Toxic to aquatic life with long lasting effects
	Precautionary statements	<p>Safety measures</p> <ul style="list-style-type: none"> Do not handle until all safety precautions have been read and understood. Keep away from flames. Wear protective gloves/protective clothing/eye protection/face protection. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge. Use only outdoors or in a well-ventilated area. Avoid breathing gas/vapors. Wash hands thoroughly after handling. Avoid release to the environment. <p>Emergency measures</p> <p>IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a doctor/physician if you feel unwell.</p> <p>IF ON SKIN: Wash with plenty of soap and water. If skin irritation or a rash arises, receive a diagnosis/treatment from a physician.</p> <p>IF IN EYES: Carefully wash the affected eye with water. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor/physician.</p> <p>IF SWALLOWED: Rinse mouth. Call a doctor/physician if you feel unwell.</p> <p>Storage Close the container tightly, and store in a warehouse for hazardous materials (as based on the Fire Service Act) or a cold, dark space with ventilation equipment while avoiding high temperatures, fire, humidity, heat, humidity, water leaks, and direct sunlight.</p> <p>Disposal Dispose of the product in accordance with the Waste Disposal and Public Cleaning Act and related regulations, or by consigning to a waste disposal service.</p>

GT-7 E A Canon Chemicals, Inc.
File No. 13-0460-0186
April 24, 2013 Revision No. 00.2/9

Composition / information on ingredients	Categories for chemical substances and compounds: Compound (paint) Chemical name or general name: Bisphenol A liquid epoxy resin mixture					
	Components and their content					
	Ingredient	CAS No.	Content (%)	Official generic name (IUPAC name)	Law for PESTs and Prevention of Chemical Substances and Regulation of Their Manufacture (etc.)	Industrial Safety and Health Act
	Bisphenol A liquid epoxy resin	7585-38-6	11 ~ 17	2,2-bis(4-epoxyphenyl)propane	Not applicable	Not applicable
	Diisocyanate	105-60-3	0.08	2,4-TDI	Not applicable	Not applicable
	Propylene glycol dimethyl ether	107-68-2	12 ~ 14	2-404	Not applicable	Not applicable
	Propylene glycol monomethyl ether acetate	108-43-6	10 ~ 14	2-314	Not applicable	Not applicable
	3-glycidyloxypropyl trimethoxysilane	1350-43-6	0 ~ 8	2-207	Not applicable	Not applicable
	Carbonyl	107-25-2	10 ~ 21	9-1741	Not applicable	Not applicable
	Phenoprene	30-20-8	0.2 ~ 0.7	Not applicable	Not applicable	Not applicable
	Naphthalene	91-20-3	2.3	4-231	Not applicable	Not applicable
	Phenol	108-95-2	0.1 ~ 0.4	3-481	Not applicable	Not applicable
	Silica	14828-40-7 7631-86-9 112945-52-5	5 ~ 20	1-548	Not applicable	Not applicable
	Chromium and trivalent chromium compound	Registered	0.2 ~ 0.5	Registered	Not applicable	Not applicable
	2-(4'-thienyl)benzimidazole	148-79-6	1.84	8-420	Not applicable	Not applicable
	Serine	13501-26-2	1 ~ 4	9-1851	Not applicable	Not applicable
	Other	Registered	0.1 ~ 2	Not applicable	Not applicable	Not applicable

First-aid measures	IF INHALED	Inhalation of highly-concentrated solvent gas may cause headache and nausea. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a doctor/physician if you feel unwell.
	IF ON SKIN	If the product adheres to the skin and is left as is, thickness and eczema may occur. Wash with plenty of water and soap. If you develop skin irritation or rashes, receive diagnosis/treatment from a doctor/physician.
	IF IN EYES	Severe pain or inflammation of the mucous membrane of the eye will occur. Rinse carefully with water. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor/physician.
	IF SWALLOWED	Rinse mouth. Call a doctor/physician if you feel unwell.
	Protection of person administering first-aid treatment	Rescuers must wear protective gear.
	Special precautions for doctors/physicians	Present the MSDS or precautions regarding the container to the doctor/physician.

<p>GT-7 E A Canon Chemicals, Inc. File No. 13-0460-0186 April 24, 2013 Revision No. 00.2/9</p>		
Fire-fighting measures	Extinguishing media	<p>Powder, carbon dioxide gas, halides, and foam extinguishers.</p> <p>Water</p> <p>Typical hazard during fire</p> <p>Strongly volatile and flammable.</p> <p>Typical extinguishing method</p> <p>Stop using the extinguishing media at the source of the fire, and carry out fire extinguishing activities from the upwind side.</p> <p>Protection for person carrying out extinguishing activities</p> <p>Wear appropriate protective gear (heat-resistant clothing, self-contained breathing apparatus, etc.).</p>
Accidental release measures	Precautions, protective gear and emergency measures related to the human body	<p>Evacuate the area immediately, prohibit use of fire, and wear appropriate protective gear (gloves, protective mask, protective goggles, protective footwear, work uniform, etc.).</p> <p>Precautions for the environment</p> <p>Take measures to prevent discharge to drainage channels.</p> <p>For small amounts, wipe with a rag or other incombustible material, etc., and wash using wash oil, etc. Process extraneous matter and waste based on relevant regulations. For large amounts, prevent further release by using self-extinguishers, etc., and handle with grinding to a safe location.</p> <p>Measures to prevent secondary disasters</p> <p>Immediately remove any items from the surrounding areas that may cause ignition, and prepare extinguishing media. Use safe equipment that does not generate static electricity or sparks.</p>
Handling and storage	Handling	<p>Technical measures</p> <ul style="list-style-type: none"> Handle in an area with good ventilation. Prohibit the use of fire in the handling area. Carry out work in a way such that depressive is suppressed as much as possible, so that there are no leaks, overflow, or scattering. Close containers tightly each time when handling. Wear appropriate protective gear (gloves, protective mask, protective eyewear, protective footwear, work uniform, etc.) when handling. As a countermeasure against static electricity, use antistatic work uniform and protective footwear, and use explosion-proof electrical equipment. <p>Local ventilation / Overall ventilation</p> <ul style="list-style-type: none"> When handling, handle in a location with local ventilation or overall ventilation facilities. <p>Precautions</p> <ul style="list-style-type: none"> Carry out work by wearing the appropriate protective gear as necessary so that you do not swallow the product, and so that the product does not come in contact with the eyes or skin. After handling the product, wash your hands, face, etc. thoroughly, and make sure not to bring unclean protective gear such as gloves into resting areas, etc. <p>Precautions for safe handling</p> <ul style="list-style-type: none"> Avoid flames, sparks, contact with high-temperature items, and heating. Equipment must be of an explosion-proof construction, and antistatic measures must be carried out for facilities.

GT-7 E A Canon Chemicals, Inc.
File No. 13-0460-0186
April 24, 2013 Revision No. 00.2/9

Handling and storage	Storage	<p>Technical measures</p> <ul style="list-style-type: none"> Make sure to follow relevant laws such as the Fire Service Act, Industrial Safety and Health Act, etc. Store the product in a warehouse for hazardous materials (as based on the Fire Service Act) or a cold, dark place with ventilation equipment. <p>Appropriate storage conditions</p> <ul style="list-style-type: none"> Close containers tightly, and avoid leaks, high temperatures, fire and high humidity. As the product reacts with amines and organic acids, do not place the product near such items. <p>Safe container and packaging materials</p> <ul style="list-style-type: none"> Store in the container used for this product. <p>Measures for facilities</p> <p>Install local ventilation equipment.</p> <ul style="list-style-type: none"> Set up a wash room and eye wash fountain near the location where the product is to be handled, and post signs that clearly indicate the location. 																																																
Exposure control	Control concentration / Allowable concentration	<table border="1"> <thead> <tr> <th>Substance name</th><th>Control concentration</th><th>Allowable concentration (OEL) Japan Society for Occupational Health</th><th>Allowable concentration (OEL) ACGIH</th></tr> </thead> <tbody> <tr> <td>Toluene</td><td>20ppm</td><td>50ppm (18mg/m³)</td><td>TWA: 20ppm, 75mg/m³ STEL: 100ppm</td></tr> <tr> <td>Propylene glycol dimethyl ether</td><td>Not set</td><td>Not set</td><td>Not set</td></tr> <tr> <td>Propylene glycol monomethyl ether acetate</td><td>Not set</td><td>Not set</td><td>Not set</td></tr> <tr> <td>Carbonyl</td><td>0.2mg/m³ As benzene-soluble component</td><td>Not set</td><td>TWA: 0.2mg/m³ As benzene-soluble component</td></tr> <tr> <td>Phenoprene</td><td>Not set</td><td>Not set</td><td>Not set</td></tr> <tr> <td>Naphthalene</td><td>Not set</td><td>Not set</td><td>TWA: 10ppm, 52 mg/m³ STEL: 15ppm, 79 mg/m³</td></tr> <tr> <td>Phenol</td><td>Not set</td><td>5ppm (16mg/m³)</td><td>TWA: 5ppm, 19 mg/m³ STEL: 10ppm, 38 mg/m³</td></tr> <tr> <td>Silicon dioxide</td><td>Not set</td><td>Type 3 dust Total dust Inhalant dust 2mg/m³</td><td>TWA: 10 mg/m³ STEL: 15 mg/m³</td></tr> <tr> <td>Crystalline silica</td><td>0.025mg/m³</td><td>Inhalant Crystalline silica 0.025mg/m³</td><td>Silica (crystalline) TWA 0.025 mg/m³ Inhalant dust</td></tr> <tr> <td>Chromium and trivalent chromium compound</td><td>Not set</td><td>0.5mg/m³</td><td>Not set</td></tr> <tr> <td>Serine</td><td>Not set</td><td>Type 3 dust Total dust Inhalant dust 2mg/m³</td><td>TWA: 3 mg/m³ (inhalant dust)</td></tr> </tbody> </table>	Substance name	Control concentration	Allowable concentration (OEL) Japan Society for Occupational Health	Allowable concentration (OEL) ACGIH	Toluene	20ppm	50ppm (18mg/m ³)	TWA: 20ppm, 75mg/m ³ STEL: 100ppm	Propylene glycol dimethyl ether	Not set	Not set	Not set	Propylene glycol monomethyl ether acetate	Not set	Not set	Not set	Carbonyl	0.2mg/m ³ As benzene-soluble component	Not set	TWA: 0.2mg/m ³ As benzene-soluble component	Phenoprene	Not set	Not set	Not set	Naphthalene	Not set	Not set	TWA: 10ppm, 52 mg/m ³ STEL: 15ppm, 79 mg/m ³	Phenol	Not set	5ppm (16mg/m ³)	TWA: 5ppm, 19 mg/m ³ STEL: 10ppm, 38 mg/m ³	Silicon dioxide	Not set	Type 3 dust Total dust Inhalant dust 2mg/m ³	TWA: 10 mg/m ³ STEL: 15 mg/m ³	Crystalline silica	0.025mg/m ³	Inhalant Crystalline silica 0.025mg/m ³	Silica (crystalline) TWA 0.025 mg/m ³ Inhalant dust	Chromium and trivalent chromium compound	Not set	0.5mg/m ³	Not set	Serine	Not set	Type 3 dust Total dust Inhalant dust 2mg/m ³	TWA: 3 mg/m ³ (inhalant dust)
Substance name	Control concentration	Allowable concentration (OEL) Japan Society for Occupational Health	Allowable concentration (OEL) ACGIH																																															
Toluene	20ppm	50ppm (18mg/m ³)	TWA: 20ppm, 75mg/m ³ STEL: 100ppm																																															
Propylene glycol dimethyl ether	Not set	Not set	Not set																																															
Propylene glycol monomethyl ether acetate	Not set	Not set	Not set																																															
Carbonyl	0.2mg/m ³ As benzene-soluble component	Not set	TWA: 0.2mg/m ³ As benzene-soluble component																																															
Phenoprene	Not set	Not set	Not set																																															
Naphthalene	Not set	Not set	TWA: 10ppm, 52 mg/m ³ STEL: 15ppm, 79 mg/m ³																																															
Phenol	Not set	5ppm (16mg/m ³)	TWA: 5ppm, 19 mg/m ³ STEL: 10ppm, 38 mg/m ³																																															
Silicon dioxide	Not set	Type 3 dust Total dust Inhalant dust 2mg/m ³	TWA: 10 mg/m ³ STEL: 15 mg/m ³																																															
Crystalline silica	0.025mg/m ³	Inhalant Crystalline silica 0.025mg/m ³	Silica (crystalline) TWA 0.025 mg/m ³ Inhalant dust																																															
Chromium and trivalent chromium compound	Not set	0.5mg/m ³	Not set																																															
Serine	Not set	Type 3 dust Total dust Inhalant dust 2mg/m ³	TWA: 3 mg/m ³ (inhalant dust)																																															

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

GE7 E A Canon Chemicals, Inc.
File No. 13-0460-0186
April 24, 2013 Revision No. 00.6/9

Exposure control	Protective gear	<p>Protective gear for the respiratory system Wear a gas mask for organic gas. Check to make sure that a respirator that is appropriate for the applicable gas is attached.</p> <p>Protective gear for the hands Wear gloves made of materials that do not allow for the permeation of organic solvents and chemical agents.</p> <p>Protective gear for the eyes Wear protective goggles.</p> <p>Protective gear for the skin and body Wear an apron, etc. made of a material that does not allow for the permeation of chemical agents. Wear long-sleeved clothing and safety shoes that do not directly expose the skin. Replace absorbent material such as masks regularly re after each use.</p> <p>Appropriate sanitary measures</p>
Physical and chemical properties	<p>Appearance</p> <p>Odor</p> <p>pH</p> <p>Melting point/Freezing point</p> <p>Boiling point/Initial boiling point/Boiling range</p> <p>Flash point</p> <p>Spontaneous ignition point</p> <p>Combustion/explosion range</p> <p>Vapor pressure</p> <p>Vapor density</p> <p>Specific gravity</p> <p>Solubility</p> <p>Octanol/water partition coefficient</p> <p>Decomposition temperature</p>	<p>Black liquid</p> <p>Aromatic odor</p> <p>No data</p> <p>No data</p> <p>No data</p> <p>15.3°C (Tag, closed-cup method)</p> <p>No data</p> <p>No data</p> <p>No data</p> <p>No data</p> <p>1.115 (22°C)</p> <p>Soluble in organic solvent</p> <p>Insoluble in water</p> <p>No data</p> <p>No data</p>
Stability and reactivity	<p>Safety</p> <p>Reactivity/hazardous reaction</p> <p>Conditions to avoid</p> <p>Mixed hazardous substance</p> <p>Hazardous reaction component</p> <p>Other</p>	<p>Stable at ordinary temperatures and ordinary pressures.</p> <p>Oxidizing agent</p> <p>High temperatures</p> <p>Material that is soluble in solvent</p> <p>Harmful gases such as CO, NOX, etc. may occur due to combustion, etc.</p> <p>Reacts with amines and organic acids.</p>

GE7 E A Canon Chemicals, Inc.
File No. 13-0460-0186
April 24, 2013 Revision No. 00.7/9

Toxicological information	Acute toxicity	Toluene Animal studies, etc.: LD ₅₀ (oral): 636 mg/kg (rats) LC ₅₀ (inhalation): 49000 mg/m ³ /4H (rats)											
		Coal tar Animal studies, etc.: LD ₅₀ (oral): 1700 mg/kg (rats)											
		Naphthalene Animal studies, etc.: LD ₅₀ (oral): 1800 mg/kg (rats)											
	Skin corrosion/irritation	Bisphenol A liquid epoxy resin/toluene/ethylene glycol monomethyl ether/ethylene glycol monomethyl ether/sylene Irritates skin.											
	Severe eye damage/irritation	Bisphenol A liquid epoxy resin/toluene/ethylene glycol monomethyl ether/ethylene glycol monomethyl ether/sylene Irritates eyes.											
		Coal tar Causes conjunctivitis after coming in contact with the eyes.											
	Respiratory sensitization/skin sensitization	Toluene/ Irritates the air passage.											
		Coal tar If skin to which coal tar has adhered is directly exposed to sunlight, stinging pain, burning pain, and stiffening occur, and with time, erythema occurs.											
	Germ cell mutagenicity	Coal tar May cause genetic disorders.											
	Carcinogenicity	<table border="1"> <thead> <tr> <th>Substance name</th> <th>Carcinogen category</th> </tr> </thead> <tbody> <tr> <td>Toluene</td> <td>IARC 3</td> </tr> <tr> <td>Coal tar</td> <td>IARC 1, ACGIH A1, Japan Society for Occupational Health Group 1</td> </tr> <tr> <td>Naphthalene</td> <td>IARC 2B</td> </tr> <tr> <td>Benzopyrene</td> <td>IARC 1, ACGIH A2, Japan Society for Occupational Health Group 2A</td> </tr> <tr> <td>Crystallized silica</td> <td>IARC 1, ACGIH A2</td> </tr> </tbody> </table>	Substance name	Carcinogen category	Toluene	IARC 3	Coal tar	IARC 1, ACGIH A1, Japan Society for Occupational Health Group 1	Naphthalene	IARC 2B	Benzopyrene	IARC 1, ACGIH A2, Japan Society for Occupational Health Group 2A	Crystallized silica
Substance name	Carcinogen category												
Toluene	IARC 3												
Coal tar	IARC 1, ACGIH A1, Japan Society for Occupational Health Group 1												
Naphthalene	IARC 2B												
Benzopyrene	IARC 1, ACGIH A2, Japan Society for Occupational Health Group 2A												
Crystallized silica	IARC 1, ACGIH A2												
Specific target organ toxicity, single exposure	Toluene May affect the central nerves. In high concentrations, may cause abnormal cardiac rhythm and lapse of consciousness. Has the possibility of causing chemical pneumonia.												
Specific target organ toxicity, repeated exposure	Propylene glycol monomethyl ether May cause drowsiness or dizziness.												
Aspiration Toxicity	Toluene Causes defatting of the skin.												
	Toluene May be fatal if swallowed and enters airways.												

GE7 E A Canon Chemicals, Inc.
File No. 13-0460-0186
April 24, 2013 Revision No. 00.8/9

Ecological information	<p>Ecological toxicity</p> <p>Persistence/degradability</p> <p>Mobility to soil</p>	<p>Toxic to aquatic life</p> <p>Bisphenol A liquid epoxy resin: No rapid degradability. Toluene, Propylene glycol monomethyl ether : Good degradability by microorganisms, etc.</p> <p>Based on its physicochemical properties, this product has the possibility of transferring to the atmosphere, water areas, and soil environment</p>
Disposal considerations	<p>Dispose of waste, such as residual product, containers, etc., by consigning disposal to a licensed industrial waste processor.</p> <p>Do not let fluid used for cleaning containers and equipment flow directly onto the ground or into drainage channels.</p> <p>Process waste generated by wastewater treatment, incineration, etc. by following the Waste Disposal and Public Cleansing Act and related regulations, or consign to a waste disposal service.</p> <p>If processing waste products, etc. through incineration, adsorb the waste into diatomaceous earth, and incinerate in small amounts using an open-type incinerator.</p>	
Transport information	<p>• UN Category: 3 (Flammable liquid)</p> <p>• UN Number: 1263</p> <p>• Name: Paint</p> <p>• Packing Group: 2</p> <p>Check to make sure that the containers are not damaged and that there are no leaks. Prevent collapse of cargo by loading and unloading containers so that they are not jolted, do not tip over, fall, or become damaged. In addition, be careful of cargo shifting during transport.</p> <p>Follow the standards for transporting hazardous goods as specified in the Fire Service Act and the Road Traffic Act.</p>	
Regulatory information	<p>Fire Service Act: Hazardous Material Group 4, First Petroleum Group, Insoluble Liquid Danger Class II</p> <p>Industrial Safety and Health Act:</p> <ul style="list-style-type: none"> • Standards for working environments Article 65-2 (1)(Toluene) • Second-class Organic Solvent as prescribed in the Ordinance on Prevention of Organic Solvent Poisoning (Toluene) • Hazardous material (flammable object), Order for Enforcement, Appended Table 1 (4) • Substance subject to labeling, Article 57 (1) Order for Enforcement Article 18 (Toluene, coal tar, phenol) • Substance subject to notification, Article 57-2 Order for Enforcement Article 18-2 Appended Table 9 (Toluene [Government Ordinance No. 407], Propylene glycol monomethyl ether [Government Ordinance No. 496], coal tar [Government Ordinance No. 174], benzopyrene [Government Ordinance No. 534], naphthalene [Government Ordinance No. 408], methyl isobutyl ketone [Government Ordinance No. 569], phenol [Government Ordinance No. 471], silica [Government Ordinance No. 312], chromium and trivalent chromium compound [Government Ordinance No. 142]) • Existing chemical substance recognized as being mutagenic (Article 57-5)(Bisphenol A liquid epoxy resin) • Ordinance on Prevention of Hazard Due to Specified Chemical Substances Class 2 substance, specially-managed substance (Coal tar) <p>Labor Standards Act:</p> <ul style="list-style-type: none"> • Pathological chemical substance Article 75 (2); Ordinance for Enforcement Article 35, Appended Table 1-2 (4) (1) (Bisphenol A liquid epoxy resin) • Substance possessing sensitizing properties, Article 75 (2); Ordinance for Enforcement Article 35, Appended Table 1-2 (4) (Bisphenol A liquid epoxy resin) 	

GE7 E A Canon Chemicals, Inc.
File No. 13-0460-0186
April 24, 2013 Revision No. 00.9/9

Regulatory information	<p>Law for PRTR and Promotion of Chemical Management:</p> <ul style="list-style-type: none"> • Class 1 Specified Chemical Substance (Toluene [Government Ordinance No. 300 9.08%], naphthalene [Government Ordinance No. 302 2.3%]) • Class 2 Specified Chemical Substance (2,4-dinitroazobenzene [Government Ordinance No. 55 1.04%]) <p>Ship Safety Act: Flammable liquid (medium flash point)</p> <p>Waste Management and Public Cleansing Act</p>
Other information	<p>Reference literature</p> <ul style="list-style-type: none"> • GHS Implementation Guidelines, Japan Chemical Industry Association • <i>Kagaku Daijiten</i> (Dictionary of Chemistry), Kyoritsu Shuppan Co., Ltd. • <i>Shobo Kansai Hoki-shu</i> (Collection of Laws Related to Fire Service), Gendai Shobosha • Regulations for the Carriage and Storage of Dangerous Goods in Ships, Kaibundo <p>*This "Material Safety Data Sheet" has been created based on the materials, information, and data that could be obtained at the present point in time, and may be revised due to revisions of laws and new findings.</p> <p>When handling this product, refer to the contents described on this MSDS, and take safety measures that are appropriate for the actual conditions based on the responsibility of the user.</p> <p>This MSDS is not a guarantee or standard for safety and quality.</p> <p>This "Material Safety Data Sheet" is created based on Japanese laws. When exporting the product to foreign products, please note that the product will be regulated based on the laws of the respective country.</p> <p>Revision History</p> <p>April 24, 2013 Revision No. 00 issued (Supervising Department: Products Marketing Promotion Dept.)</p>

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Ohashi Chemical Industries Ltd. K16005600
Approval Date May/09/2016

Safety Data Sheet

1 Product & Identification
Product name PAINT-FASTITE No.1400N TL1 BLACK
Product explanation Kind Polyester-amine resin figure paint
Use Paint for Metals
Manufacturer Ohashi Chemical Industries Ltd.
Address 6-21, Hoshinaka-cho, Iwata, Chiba, Japan
Telephone number +81-48-533-2328
Fax number +81-48-533-2328
Emergency telephone number +81-48-533-2328

2 Hazards Identification
GHS label element
Signal word Danger

3 Hazards Identification
GHS classification
Flammable liquids 3 Flammable liquid and vapour
Health hazards
Acute toxicity Oral 4 Harmful if swallowed
Inhalation 4 Harmful in contact with skin
Inhalation/Gases 3 Toxic if inhaled
Inhalation/Vapours 3 Toxic if inhaled
Skin corrosion/irritation 2 Causes skin irritation
Serious eye damage/irritation 2 Causes serious eye irritation
Respiratory sensitization 1 May cause asthma
Skin sensitization 1 May cause asthma
Germ cell mutagenicity 1 May cause cancer
Carcinogenicity 1 May damage fertility or the unborn child
Toxic to reproduction 2 May cause damage to organs
Specific target organ system toxicity (single exposure) 2 May cause damage to organs (Liver, Kidney, Blood, Respiratory, Central nerve system)
Specific target organ system toxicity (repeated exposure) 2 May cause damage to organs through prolonged or repeated exposure (Liver, Kidney, Blood, Respiratory, Central nerve system)
Aspiration hazard 2 May cause damage to organs through prolonged or repeated exposure (Liver, Kidney, Blood, Respiratory, Central nerve system)
Environmental hazards
Aquatic toxicity (acute) 3 Harmful to aquatic life with long lasting effects
Aquatic toxicity (chronic) 3 Harmful to aquatic life with long lasting effects
Hazardous to the ozone layer 3 Classification not possible

1/8

Ohashi Chemical Industries Ltd. K16005600
Approval Date May/09/2016

Precautionary statement
Prevention measures
 - Obtain special instructions before use.
 - Do not handle until all safety precautions have been read and understood.
 - Keep away from heat/open flames/hot surfaces. - No smoking.
 - Keep container tightly closed.
 - Ground/Bond container and receiving equipment.
 - Use explosion-proof electrical/ventilating/lighting equipment.
 - Use only non-sparking tools.
 - Take precautionary measures against static discharge.
 - Do not breathe dust/fume/gas/mist/vapours/spray.
 - Avoid breathing dust/fume/gas/mist/vapours/spray.
 - Wash hands well after handling.
 - Do not eat, drink or smoke when using this product.
 - Use only outdoors or in a well-ventilated area.
 - Avoid release to the environment.
 - Wear protective gloves/protective clothing/eye protection/face protection.
First-aid measure
 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
 - IF ON SKIN: Wash with plenty of soap and water.
 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - IF exposed: Call a doctor.
 - IF exposed or concerned: Get medical advice/attention.
 - Call a POISON CENTER or doctor/physician.
 - Call a POISON CENTER or doctor/physician if you feel unwell.
 - Get medical advice/attention if you feel unwell.
 - Measures are necessary especially:
 - If skin irritation occurs: Get medical advice/attention.
 - If eye irritation persists: Get medical advice/attention.
 - Take off contaminated clothing and wash it before reuse.
 - In the case of fire: Use appropriate extinguisher.
Storage
 - Store in a well-ventilated place. Keep container tightly closed.
 - Store in a well-ventilated place. Keep cool.
 - Store locked up.
Waste
 - Dispose of contents/container according to the rule of each country.

2/8

Ohashi Chemical Industries Ltd. K16005600
Approval Date May/09/2016

3 Composition / Information on Ingredients
Substance / Mixture

Chemical name	CASNo.	CONC.	Remarks
Tribromobenzene	1317-61-9	8.1%	
Carbon black	1333-88-4	1.9%	
Tyrene	1330-09-7	7.1%	
Phenylacetylene	100-41-4	6.6%	
Methanol	67-58-1	0.1%	
Ethanol	64-17-5	0.2%	
1-Butanol	71-36-3	5.8%	
1-Propanol, 2-methyl-	78-83-1	0.1%	
Butyl acetate	123-86-4	1.1%	
2-Butoxyethanol	111-76-2	3.7%	
Methyl isobutyl ketone	108-10-1	21.9%	
Formaldehyde	50-00-0	0.4%	

4 First-aid measures
Inhalation
 - If a vapor or gas is inhaled in large amounts, immediately move to a clean place for a breath of fresh air and take a rest, keeping yourself warm. In case of asphyxiation, artificial respiration should be practiced. Care should be taken so that anything thrown up may not be swallowed. Medical treatment should be received immediately.
 - If you have inhaled a vapor or gas and feel ill, move to a clean place for a breath of fresh air, keep quiet, and take medical treatment.
Skin contact
 - Immediately wipe the product off your skin with a cloth.
 - Wash away the matter thoroughly with water and soap or with skin cleaning detergent. Do not use a solvent or thinner.
 - If the contacted skin changes in appearance or gives you pain, consult a doctor.
 - To remove all contaminated clothing.
Eye contact
 - Immediately rinse your eyes under clean running water for at least 15 minutes. Even the back sides of the eyelids should be washed thoroughly.
 - See a doctor as soon as possible.
 - Medical treatment should be received immediately.
Ingestion
 - If the product is swallowed by mistake, do not induce vomiting. Take medical treatment.
 - Care should be taken so that anything thrown up may not be swallowed.
 - The person who swallowed the product should not be induced to vomit without directions from a doctor.
Protection of fire-fighters
 - Appropriate protecting equipment (safety glasses, masks, and gloves) to wear. Provide ventilation.

3/8

Ohashi Chemical Industries Ltd. K16005600
Approval Date May/09/2016

5 Fire-fighting measures
Extinguishing media
 - Carbon dioxide, Bubble, Dry sand, Reinforced liquid (Na), halogenide, Powder (the use of phosphates), Powder (the use of hydrogen carbonate).
 - NOT suitable extinguishing media:
 - Reinforced liquid (straight stream), Straight stream water, Water fog.
Protection of fire-fighters
 - Wear appropriate protectors (such as heat-resistant clothes).
 - Move any combustible materials away from the fire.
 - Use a fire extinguishing agent of the specified type.
 - Pour water on any heat-resistant sealed containers to cool them.
 - Fight the fire from the windward side.
6 Accidental release measures
Personal precautions, protective equipment and emergency measures
 - Wear appropriate protectors (such as gloves, protective mask, an apron, goggles).
 - Remove any nearby ignition or heat sources and combustible materials.
 - Keep an appropriate fire extinguisher at the ready to guard against ignition.
 - To prevent secondary disasters by non-participants to hold the place and the area off limits to its location.
 - Provide sufficient ventilation for indoors.
 - As much as possible, work at a windward location for outdoors.
Environmental precautions
 - Be careful so that the leakage may not be discharged into a river or other places to damage the environment.
Method and materials for containing
 - Put the leakage into an airtight container and move it to a safe place.
 - Dispose of any effluents and wastes in accordance with the related laws and regulations.
 - For recovery, use tools made of materials such as would not produce sparks on impact or due to static electricity.
 - Dry sand, earth, we recover what is absorbed into other non-combustible. The outflow of mass enclosed in the embankment to prevent leakage.
7 Handling and storage
Handling
 - Handle the product in a well-ventilated place.
 - Completely seal the container after closing it.
 - Do not use any heat sources or spark-producing devices nearby.
 - To guard against static electricity, short the equipment to ground and use only explosion proof (increased safety type) electric equipment.
 - Use a spark-proof tool.
 - Immerse the used rags and spray cans in water until they are disposed of.
 - Note that this product is flammable if a high temperature.
 - It touches the skin, the mucous membrane or clothes, and so as not to catch one's eye, the protective equipment is worn.
 - After handling, neither the hand nor the face, etc., wash well, and bring the pollution protection tool such as gloves in to the rest room etc.
 - When handling the product in an enclosed space, furnish an appropriate local exhaust and wear an appropriate protectors.
Storage
 - Avoid storing the product in a place exposed to direct sunlight.
 - Store the product in a well-ventilated place.
 - Store the product in a place where there are no heat sources nearby.
 - Keep it locked to prevent theft.
 - Keep away from children.
 - Keep away from acids and alkalis.

4/8

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Ohashi Chemical Industries Ltd.

M/16005600
Approval Date May/09/2016

8 Exposure controls / personal protection

Control parameters, standard concentration		Concentration		Remarks
Chemical name	Standard	ADGIH	100 ppm	
Triphenyl tetrahydride	control	100 ppm		
Carbon black	control	100 ppm		
Xylene	50 ppm	100 ppm		
Ethylbenzene	50 ppm	100 ppm		
Methanol	200 ppm	100 ppm		
Ethanol	200 ppm	100 ppm		
1-Butanol	200 ppm	100 ppm		
2-Propenol, 2-methyl-	200 ppm	100 ppm		
Butyl acetate	150 ppm	100 ppm		
2-Butoxyethanol	150 ppm	100 ppm		
Methyl isobutyl ketone	20 ppm	100 ppm		
Formaldehyde	control	control		

Engineering measures

- Use equipment of the explosion proof type.
- With the exhaust system to prevent vapor accumulation.
- Short any liquid conveying, for ex, an stirring device to ground.
- Do not use any heat sources or spark-producing devices nearby.
- When handling the product indoors, use equipment such as would protect the operator from direct exposure to it or allow him to avoid exposure as by a local exhaust.
- When handling the product in an enclosed space such as the inside of a tank, furnish a ventilator such as can circulate fresh air through the entire workplace.

Respiratory protection

- Wear a gas mask for organic gases.
- When handling the product in an enclosed space, wear a full-face air-supplied respirator.

Hand protection

- Wear gloves made of materials which do not allow penetration of organic solvents of chemicals.

Eye protection

- Wear safety goggles.

Skin and body protection

- Wear clothes such as would protect the skin from direct exposure. It is desirable that the clothes be made of materials which do not allow penetration of chemicals.

Others

- For electrostatic coating, wear conductive shoes.

9 Physical and chemical properties

Form	Liquid
Color	Black
Odor	Organic solvent
PH	Not available
Melting point	Not available
Freezing point	Not available
Boiling point	117.0°C (Reference value)
Boiling range	117.0-117.0°C (Reference value)
Flash point	24°C
Lower explosive limit	1.04 (Reference value)
Upper explosive limit	11.34 (Reference value)
Vapor pressure	84.9 Pa (20°C Reference value)
Specific gravity	Not available
Solubility	Not available
Octanol / water partition coefficient	Not available
Ignition point	347°C (Reference value)

5/8

Ohashi Chemical Industries Ltd.

M/16005600
Approval Date May/09/2016

10 Stability and reactivity

Stability

- No reaction occurs under normal conditions.

- Condition to avoid

- Heating the product may cause a dangerous reaction.

- Incompatible products

- This product could cause a dangerous reaction in contact with strong oxidants.

- Hazardous decomposition products

- Decomposition may release toxic gases.

- Other danger information

- Vapor is flammable, it may cause an explosion.

11 Toxicological information

Acute toxicity

Category	ATC
Oral	Category 4
Skin	Category 4
Inhalation (Gases)	Category 4
Inhalation (Vapors)	Category 2
Inhalation (Dusts)	Category 2

- Others - Not available classification - * Classification not possible

Chemical name	Oral	Skin	Inhalation (Gases)	Inhalation (Vapors)	Inhalation (Dusts)	Eye corrosion	Respiratory irritation	Environmental
Triphenyl tetrahydride	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
Carbon black	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
Xylene	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
Ethylbenzene	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
Methanol	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
Ethanol	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
1-Butanol	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
2-Propenol, 2-methyl-	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
Butyl acetate	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
2-Butoxyethanol	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
Methyl isobutyl ketone	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
Formaldehyde	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4

Chemical name	Respiratory sensitization	Skin sensitization	Gen. mut. category	Reproductive	Toxic to reproduction	Reproductive hazard	ENV.
Triphenyl tetrahydride	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
Carbon black	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
Xylene	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
Ethylbenzene	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
Methanol	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
Ethanol	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
1-Butanol	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
2-Propenol, 2-methyl-	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
Butyl acetate	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
2-Butoxyethanol	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
Methyl isobutyl ketone	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4
Formaldehyde	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4	Category 4

6/8

Ohashi Chemical Industries Ltd.

M/16005600
Approval Date May/09/2016

Chemical name	Specific target organ system toxicity	
	Single exposure	Repeated exposure
Triphenyl tetrahydride	Classification not possible	Classification not possible
Carbon black	Classification not possible	Category 1 (Lung)
Xylene	Category 1 (Liver, Kidney, Respiratory, Central nerve system) Category 2 (Peripheral immune system)	Category 1 (Nerve system, Respiratory)
Ethylbenzene	Category 2 (Central nerve system) Category 2 (Respiratory tract pungency)	Classification not possible
Methanol	Category 1 (Skin as a irritant, High-organ, Central nerve system) Category 2 (Peripheral immune system)	Category 1 (High-organ, Central nerve system) Category 2 (Central nerve system)
Ethanol	Category 2 (Respiratory tract pungency, Peripheral immune system)	Category 1 (Skin) Category 2 (Central nerve system)
1-Butanol	Category 2 (Respiratory tract pungency, Peripheral immune system)	Category 1 (Hearing, Central nerve system)
2-Propenol, 2-methyl-	Category 2 (Respiratory tract pungency, Peripheral immune system)	Classification not possible
Butyl acetate	Category 2 (Respiratory, Central nerve system)	Classification not possible
2-Butoxyethanol	Category 1 (Liver, Kidney, Blood, Central nerve system) Category 2 (Respiratory tract pungency)	Category 2 (Blood)
Methyl isobutyl ketone	Category 2 (Respiratory tract pungency, Peripheral immune system)	Category 1 (Nerve system)
Formaldehyde	Category 1 (Nerve system, Respiratory)	Category 1 (Respiratory, Central nerve system)

12 Ecological information

- Others - Not available classification - *

* Classification not possible.

Chemical name	Aquatic toxicity	
	Acute	Chronic
Triphenyl tetrahydride	Category 4	Category 4
Carbon black	Category 4	Category 4
Xylene	Category 2	Category 2
Ethylbenzene	Category 1	Category 1
Methanol	Category 1	Category 1
Ethanol	Category 1	Category 1
1-Butanol	Category 1	Category 1
2-Propenol, 2-methyl-	Category 1	Category 1
Butyl acetate	Category 1	Category 1
2-Butoxyethanol	Category 1	Category 1
Methyl isobutyl ketone	Category 1	Category 1
Formaldehyde	Category 2	Category 2

General instructions

- When the product leaks or when it is to be disposed, special care should be taken because it may damage the environment.
- In particular, the product or its wash water should never be discharged direct to the ground or to a river or a drain ditch.

Other

- Ecotoxicity
- Not available
- Persistence/degradability
- Not available
- Bioaccumulation
- Not available
- Mobility in soil
- Not available

7/8

Ohashi Chemical Industries Ltd.

M/16005600
Approval Date May/09/2016

13 Disposal considerations

Waste from residues

- The waste should be disposed of under a contract with an authorized industrial waste disposal company.
- Container and apparatus wash water should not be discharged direct to the ground or to a drain ditch.
- The industrial waste disposal trader who obtains permission and the consent contract are done and it processes it because it corresponds to the special management industry waste (twisted oil).
- Follow the relevant laws and local government standards for waste disposal.
- The wastes produced from process of water refining and of incineration should be disposed of in accordance with governmental laws and environmental control regulations or asked to dispose with licensed special company.
- It disposes of an empty container after contents are completely removed.

Contaminated packaging

- It disposes of an empty container after contents are completely removed.
- The waste should be disposed of under a contract with an authorized industrial waste disposal company.

14 Transport information

UN numbers	: 1263
UN name	: Paint related Materials including paint, flammable
UN class	: Class 3 Flammable Liquids
Container grade	: II
Guidance Number	: 128

Special safety measures

Common

- Observe the handling and storage precautions.
- Check the container for leakage, load it with care so that it will not topple over, fall down, or sustain damage, and take adequate measures to prevent load shifting.

Land transportation

- The product should be transported in accordance with Fire Service Law, Industrial Safety and Health Law and the Poisonous and Deleterious Substances Control Law.
- The shipper issues transportation instructions (Yellow-Card) to the transporter.

Marine transportation

- Marine transportation should be in compliance with (Ship Safety Act). Air transportation should be in compliance with the Aviation Act.
- Air transport
- The product should be transported in accordance with the Aviation Act.

15 Regulatory information

- REACH (Annex I): Follow all regulation in your country.

16 Other information

Main references cited

- Japanese Paint Manufacturers Association editing "Database for paint".
- Handbook of solvent.
- Chemical article (Chemical Daily).
- "Guidelines for SDS-label making" which Japan Paint Manufacturers Association edited for GHS (Revised 2nd Edition).
- ACGIH Threshold Limit Values for Chemical substances and Physical Agents.
- NITE (product evaluation technology base mechanism) offer GHS classification result DB.

Limitation of the responsibility

- Safety data sheet what is currently available materials, information, and are prepared in accordance with our data may be revised or amended by new knowledge of laws.
- When handling this product, please take security measures adopted to the reality and responsibility of the user in reference to the contents listed.
- This data sheet is not guarantee of safety and quality.

8/8

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

*12-08-21 12:51 宛先-友信貿易 様 送信元-三枝塗料(株) 岡谷 P0001/0008 T-407 U-247

PRODUCT CODE : 5150910037
ID : 01E00013538

Material Safety Data Sheet

SECTION 1 CHEMICAL PRODUCT & COMPANY IDENTIFICATION


MANUFACTURER'S NAME : ORIGIN ELECTRIC CO., LTD.
NAME OF SECTION : QUALITY ASSURANCE SECTION
ADDRESS : 2-3-11, Nagaoka, Mizuho-machi, Nishitama-gun, Tokyo 190-1232 JPN
TELEPHONE NUMBER : 042-557-4119
FAX NUMBER : 042-557-7555
EMERGENCY PHONE NUMBER : 042-557-4111
DATE PREPARED : 2012/03/07
IDENTITY (As Used On Label) : LENS COATING BLACK B NO.3
EXPLANATION :
TYPE : PAINT
MAIN USE : FOR GLASS

SECTION 2 HAZARDS IDENTIFICATION

CHS CLASSIFICATION

HAZARD CLASS	CLASSIFICATION	HAZARD STATEMENT
FLAMMABLE LIQUID	Category 2	Highly flammable liquid and vapour
FLAMMABLE SOLID	NOT APPLICABLE	
SELF-REACTIVE SUBSTANCE AND MIXTURE	NOT APPLICABLE	
ORGANIC PEROXIDE	NOT APPLICABLE	
CORROSIVE TO METALS	NOT APPLICABLE	
ACUTE TOXICITY ORAL	Category 5	May be harmful if swallowed
ACUTE TOXICITY DERMAL	NOT CLASSIFIED	
ACUTE TOXICITY INHALATION	Category 5	May be harmful if inhaled
SKIN CORROSION/IRRITATION	NOT CLASSIFIED	
SERIOUS EYE DAMAGE / EYE IRRITATION	Category 2A	Causes serious eye irritation
RESPIRATORY SENSITIZATION	Category 1	May cause allergy or asthma symptoms or breathing difficulties if inhaled
SKIN SENSITIZATION	Category 1	May cause an allergic skin reaction
GERM CELL MUTAGENICITY	NOT CLASSIFIED	
CARCINOGENICITY	Category 1A	May cause cancer
REPRODUCTIVE TOXICITY	Category 1A	May damage fertility or the unborn child
SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (SINGLE EXPOSURE)	Category 2	May cause damage to organs
SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (REPEATED EXPOSURE)	Category 2	May cause damage to organs through prolonged or repeated exposure
ASPIRATION HAZARD	NOT CLASSIFIED	
ACUTE HAZARDOUS TO THE AQUATIC ENVIRONMENT	NOT CLASSIFIED	
CHRONIC HAZARDOUS TO THE AQUATIC ENVIRONMENT	Category 3	Harmful to aquatic life with long lasting effects

CHS LABEL ELEMENTS

SYMBOL: 

SIGNAL WORD: Danger

1/8

*12-08-21 12:51 宛先-友信貿易 様 送信元-三枝塗料(株) 岡谷 P0002/0008 T-407 U-247

PRODUCT CODE : 5150910037

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	% by weight	PRTR
Cellulose		1~5	
Alkyd		10~15	
Silicone		1~5	
Melamine		1~5	
carbon black	1333-86-4	1~5	
calcium carbonate	471-34-1	30~35	
xylene	1330-20-7	6.0	I
ethylbenzene	100-41-4	5.7	I
toluene	108-88-3	2.2	I
n-butyl acetate	123-86-4	5~10	
ethyl acetate	141-78-6	1~5	
methyl isobutyl ketone	108-10-1	5~10	
butan-1-ol	71-36-3	1~5	
propan-2-ol	67-53-0	1~5	
diacetonealcohol	123-42-2	1~5	
2-butoxyethanol	111-76-2	1~5	
formaldehyde	50-00-0	0.52	I

Other Limits Recommended

2/8

*12-08-21 12:51 宛先-友信貿易 様 送信元-三枝塗料(株) 岡谷 P0003/0008 T-407 U-247

PRODUCT CODE : 5150910037

SECTION 4 FIRST-AID MEASURES

◇EYE CONTACT
Immediately Flush eyes with large amounts of clean water for at least 15 minutes. Thoroughly wash the back of the eyelids. Consult a doctor as soon as possible.

◇SKIN CONTACT
Remove promptly with a cloth. Wash off thoroughly with copious amounts of water and soap, or dermatological detergent. Do not remove with organic chemicals such as solvents or thin. Consult a doctor if there is a change in appearance or if there is pain.

◇INHALATION
If large amounts of vapor or gas or the like has been inhaled, then promptly move to a place with lots of fresh air, and keep warm and calm. Give artificial respiration if breathing is labored or stopped. Do not allow patient to swallow vomitus. Seek medical attention promptly. If feeling nauseous because of inhalation of mist or gas, then keep calm in a place with lots of fresh air and seek medical attention.

◇INGESTION
Swallowed: Keep calm and seek medical attention if swallowed. Do not allow patient to swallow vomitus. Do not induce vomiting unless instructed to do so by a doctor.

SECTION 5 FIRE-FIGHTING MEASURES

◇EXTINGUISHING MEDIA
Water [] CO2 Gas [Y] Foam [Y] Powder [Y]
Dry Sand [Y] Others []

◇SPECIFIC HAZARDS WITH REGARD TO FIRE-FIGHTING MEASURES
Do Not use water.
Use appropriate protective clothing (such as heat resistant clothing).
Quickly remove flammable material from the vicinity.
Use designated extinguishing media.
Cool sealed containers exposed to high temperatures with water.
Fight fire from upwind side.

3/8

*12-08-21 12:51 宛先-友信貿易 様 送信元-三枝塗料(株) 岡谷 P0004/0008 T-407 U-247

PRODUCT CODE : 5150910037

SECTION 6 ACCIDENTAL RELEASE MEASURES

Use protective clothing during operations (such as gloves, protective mask, apron and goggles). Return spilled material to a sealable container and move to a safe location. Collect by absorbing into dry sand, soil or other non-flammable material. In the case of a large spill, contain spill with bunding material and prevent leakage. Quickly remove ignition sources, high temperature items and flammable material from the vicinity. Prepare appropriate extinguishers in case of ignition. Collect by using tools made of materials that will not generate spark through impact or static electricity. Dispose of contaminated and waste material in accordance with relevant regulations. Take care to prevent environmental impact through discharge to rivers and lakes.

SECTION 7 HANDLING & STORAGE

◇HANDLING
Handle in well ventilated location. Reseal container after each use. Prohibit use of flames, sparks and hot material in the vicinity. Earth all equipment, and use explosion proof-type (safety enhanced) electric devices in order to reduce the risk of static electricity. Use spark proof-type tools. Use anti-static-type work clothes and shoes while working. Soak waste, paint solids, spray dust etc. in water until disposal. When working in an enclosed space, carry out work after providing sufficient ventilating equipment and use appropriate protection. Wear appropriate protective devices such that the paint does not contact skin, membranes or clothing, or enter one's eyes. Wash hands and face well after handling, and do not bring contaminated clothing such as gloves into rest areas or the like.

◇STORAGE
Keep away from direct sun.
Keep in a well ventilated location.
Keep away from ignition and heat sources.

SECTION 8 EXPOSURE CONTROL/PERSONAL PROTECTION

◇CONTROL PARAMETERS
Use explosion proof-type equipment for handling. Install ventilating equipment to ensure no vapor entrapment. Provide earth on equipment for liquid transport, ladling and mixing. Do not allow hot items or ignition sources in the vicinity of the handling area. When painting inside, either use equipment such as an automatic spray-painting machine so that the operator is not directly exposed, or provide equipment such as local ventilation equipment so that the operator can avoid exposure. When working in sealed spaces such as tanks, provide equipment such that ventilation in the sealed space is adequate, particularly near the base.

4/8

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

*12-08-21 12:52 宛先-友信貿易 様 送信元-三枝塗料 (株) 岡谷 P0005/0008 T-407 U-247				
PRODUCT CODE : 5150910037				
Chemical Name	THRESHOLD LIMIT VALUE	ADGIV TLV	IARC	Other Limits Recommended
Cellulose				
Alkyd				
Silicone				
Melamine				
carbon black	3.9mg/m3	3.500mg/m3	3	
calcium carbonate		10.000mg/m3		6450mg/kg (rat)
xylene	50ppm	100.000ppm	3	3500mg/kg (rat)
ethylbenzene		100.000ppm		3500mg/kg (rat)
toluene	20ppm	50.000ppm	3	4800mg/kg (rat)
n-butyl acetate	150ppm	150.000ppm		14130mg/kg (rat)
ethyl acetate	200ppm	400.000ppm		5000mg/kg (rat)
methyl isobutyl ketone	50ppm	50.000ppm		2919mg/kg (rat)
butan-1-ol	25ppm	25.000ppm		1227mg/kg (rat)
propan-2-ol	200ppm	200.000ppm	3	3437mg/kg (rat)
diacetonealcohol		50.000ppm		4000mg/kg (rat)
2-butoxyethanol	25ppm	20.000ppm		1749mg/kg (rat)
formaldehyde		0.300ppm		605mg/kg (rat)
◆PERSONAL PROTECTIVE EQUIPMENT				
◆EYE PROTECTION				
Wear safety goggles during handling				
◆HAND, SKIN AND BODY PROTECTION				
Wear gloves that will not be penetrated by organic solvents or chemicals.				
◆RESPIRATORY PROTECTION				
Wear gas mask that protects against organic gases.				
Wear a respirator when in sealed spaces.				
◆OTHER PROTECTION				
Wear electrically conductive boots during electrostatic painting.				
5/8				

*12-08-21 12:53 宛先-友信貿易 様 送信元-三枝塗料 (株) 岡谷 P0006/0008 T-407 U-247				
PRODUCT CODE : 5150910037				
SECTION 9 PHYSICAL & CHEMICAL PROPERTIES				
◆PHYSICAL STATE, FORM : liquid				
◆COLOR : black				
◆ODOR : Solvent smell				
◆DENSITY : 1.0				
◆BOILING POINT (°C) : 116.2 ~ 144.4				
◆VAPOR PRESSURE : 2120.0000 Pa (21.0°C)				
◆Ph : N/A				
◆SOLUBILITY IN WATER : negligible				
◆OTHER				
None.				
◆FLASH POINT : 10.0 °C				
◆AUTOIGNITION TEMPERATURE : 425.0 °C				
◆UPPER AND LOWER EXPLOSION LIMIT : 1.000 % (g/m3) 7.500 % (g/m3)				
SECTION 10 PHYSICAL HAZARD (STABILITY & REACTIVITY)				
◆STABILITY & REACTIVITY				
None.				
Risk of generating of toxic gases, such as CO and NOx.				
Standard				
SECTION 11 TOXICOLOGICAL INFORMATION				
◆TOXICOLOGICAL INFORMATION				
Tests not performed for safety as a product.				
◆ACUTE TOXICITY				
◆ORAL				
toluene (Category5) / xylene (Category5) / ethylbenzene (Category5) / propan-2-ol (Category5) / butan-1-ol (Category4) / diacetonealcohol (Category5) / 2-butoxyethanol (Category4) / methyl isobutyl ketone (Category5) / formaldehyde (Category4)				
◆INHAL				
propan-2-ol (Category5) / butan-1-ol (Category5) / 2-butoxyethanol (Category2) / methyl isobutyl ketone (Category5) / formaldehyde (Category3)				
◆INHALATION				
◆SKIN CORROSION/IRRITATION				
toluene (Category2) / xylene (Category2) / ethylbenzene (Category3) / butan-1-ol (Category2) / diacetonealcohol (Category2) / n-butyl acetate (Category3) / 2-butoxyethanol (Category2)				
6/8				

*12-08-21 12:53 宛先-友信貿易 様 送信元-三枝塗料 (株) 岡谷 P0007/0008 T-407 U-247				
PRODUCT CODE : 5150910037				
◆SERIOUS EYE DAMAGE/EYE IRRITATION				
toluene (Category2A) / xylene (Category2A) / ethylbenzene (Category2A) / propan-2-ol (Category2A) / butan-1-ol (Category2A) / diacetonealcohol (Category2A) / ethyl acetate (Category2B) / n-butyl acetate (Category2A) / 2-butoxyethanol (Category2A) / methyl isobutyl ketone (NOT CLASSIFIED)				
◆RESPIRATORY SENSITIZATION				
formaldehyde (Category1)				
◆SKIN SENSITIZATION				
formaldehyde (Category1)				
◆GEN TOXICITY				
formaldehyde (Category2)				
◆CARCINOGENICITY				
ethylbenzene (Category2) / formaldehyde (Category1A) / carbon black (Category2)				
◆REPRODUCTIVE TOXICITY				
toluene (Category1A) / xylene (Category1B) / ethylbenzene (Category1B) / propan-2-ol (Category2) / diacetonealcohol (Category2) / 2-butoxyethanol (Category2)				
◆SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY - SINGLE EXPOSURE				
toluene (CLASS1: Central Nervous System) / xylene (CLASS1: respiratory system / Liver / Central Nervous System / kidney) / ethylbenzene (CLASS2: Central Nervous System) / propan-2-ol (CLASS1: Central Nervous System / kidney / systemic toxicity) / diacetonealcohol (CLASS1: respiratory system, CLASS2: Liver) / ethyl acetate (CLASS1: respiratory system) / n-butyl acetate (CLASS1: Central Nervous System, CLASS2: Lung) / 2-butoxyethanol (CLASS1: respiratory system)				
◆SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY - REPEATED EXPOSURE				
toluene (CLASS1: Central Nervous System / kidney / Liver) / xylene (CLASS1: respiratory system / Nervous System) / propan-2-ol (CLASS2: arterial system / Liver / Spleen) / butan-1-ol (CLASS1: Central Nervous System / auditory organ) / diacetonealcohol (CLASS1: kidney) / 2-butoxyethanol (CLASS2: blood) / methyl isobutyl ketone (CLASS1: systemic toxicity)				
◆ASPIRATION HAZARD				
toluene (Category1) / xylene (Category2) / ethylbenzene (Category1) / propan-2-ol (Category2) / butan-1-ol (Category2) / methyl isobutyl ketone (Category2)				
◆OTHER				
toluene (3 (Respiratory irritation), Category 3 (Narcotic effects)), butan-1-ol (3 (Respiratory irritation), Category 3 (Narcotic effects)), methyl isobutyl ketone (3 (Respiratory irritation), Category 3 (Narcotic effects))				
SECTION 12 ECOLOGICAL INFORMATION				
◆TOXICOLOGICAL INFORMATION				
Take precautions to minimize effect on environment during spills and disposal. Particularly ensure that the product and wash water is not directly discharged to the ground, rivers or to water drainage gutters.				
7/8				

*12-08-21 12:54 宛先-友信貿易 様 送信元-三枝塗料 (株) 岡谷 P0008/0008 T-407 U-247				
PRODUCT CODE : 5150910037				
◆ACUTE HAZARDOUS TO THE AQUATIC ENVIRONMENT				
toluene (Category2) / xylene (Category2) / ethylbenzene (Category1) / n-butyl acetate (Category3) / 2-butoxyethanol (Category2) / formaldehyde (Category2)				
◆CHRONIC HAZARDOUS TO THE AQUATIC ENVIRONMENT				
xylene (Category2) / carbon black (Category4)				
TOXICITY				
PERSISTENCE AND DEGRADABILITY				
BIOACCUMULATION POTENTIAL				
MIGRATION IN SOIL				
SECTION 13 DISPOSAL CONSIDERATION				
For waste paint and containers, dispose of through contract with a registered industrial waste disposal operator. Water, such as waste water, generated by washing containers and equipment and the like is not to be disposed on the ground or into water drainage gutters without treatment. Waste material generated by water treatment and incineration, for example, should be processed in accordance with law and regulation relating to the disposal and cleaning of waste material, or should be entrusted to a third party. If disposing waste paint by incineration, absorb onto diatomaceous earth and incinerate in small amounts in an open-type incinerator.				
SECTION 14 TRANSPORT INFORMATION				
Transport in accordance with precautions noted for handling and storage.				
Ensure container does not leak, and load such that the container cannot tip, fall, or break. Ensure that the load will not collapse.				
Follow all regulations in your country.				
◆ UN NUMBER : 1263 ◆ UN CLASS : 3 ◆ PACKING GROUP : II				
SECTION 15 REGULATORY INFORMATION				
Follow all regulations in your country.				
SECTION 16 OTHER INFORMATION				
◆ REFERENCES				
"Raw Material Database", edited by the Japan Paint Manufacturer's Association				
The Solvent Handbook				
Hazard and Disaster Prevention Emergency Handbook				
Chemical Risk Information Platform (CHRIIP) of National Institute of Technology and Evaluation (NITE) Japan				
Other suppliers' SDS				
◆ ATTENTION				
The content of this MSDS has been prepared based on guidance for MSDS content provided by the Japan Paint Manufacturer's Association, however, the hazard and toxicity evaluations may not necessarily be sufficient, so please take ample care when handling.				
8/8				

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Product Name 1/5

MATERIAL SAFETY DATA SHEET

SN SRWM-300C-M090177 prepared on: September 15, 2011
revised (certified): May 11, 2016


1. Identification of the substance or mixture and of the supplier

Product name: **PHOTOBOND150**
Supplier's name: **Sunrise MBI Corporation**
Address: **KITA-HAMA THE BLDG., 1-7-1 DOSHOMACHI, CHUO-KU, OSAKA, 541-0045 JAPAN**
Emergency phone number: **T E L : +81-6-6202-7700**
FAX number and E-mail: **F A X : +81-6-6202-7900 E-mail: msi-ho@sunrise-mpi.co.jp**

Recommended use of the chemical and restrictions on use: **UV curing adhesive for glass**

2. Hazards identification
GHS classified information (Japan) :

Hazard class	Classification
Physical Hazards:	
Explosives	
Flammable liquids	4
Health Hazards:	
Acute toxicity (inhalation, vapor)	
Serious eye damage / eye irritation	2A
Skin sensitization	1

Symbol: 

Signal word: **Warning**

Hazard statement: **H227 Combustible liquid**
H317 May cause an allergic skin reaction
H319 Causes serious eye irritation

Hazard is not described above. Classification not possible or Not classified.

Precautionary statements: **P210 Keep away from heat/sprks/ open flames/ hot surfaces. - No smoking.**
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P272 Contaminated work clothing should not be allowed out of the work area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302 IF ON SKIN: Wash with plenty of soap and water.

[Prevention] **P352 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**
P333 Specific treatment (see... on this label).
P313 If skin irritation or rash occurs: Get medical advice/attention.
P337 If eye irritation persists: Get medical advice/attention.

[Response] **P362 Take off contaminated clothing and wash before reuse.**
P370 In case of fire: Use for extinction.
P403 In case of fire: Use for extinction.

[Disposal] **P235 Dispose of contents/containers to authorised industrial waste disposal agent which received the authorization from the governor. (P501)**

3. Composition/information on ingredients
Substance/Mixture: **Mixture**

Product Name 2/5

Chemical identity: **Ultraviolet curable adhesive**

Components	CAS No.	Content (%)
None Substance	ND	ND

Product Name 3/5

4. First-aid measures

Inhalation: **At feeling sick, remove victim to fresh air and keep at rest.**
Get medical attention.
Wash affected area with soapy water.
Get medical attention if irritation occurs.

If on skin: **Flush immediately eyes with a lot of water at least 15 minutes.**
Get medical attention.

If in eyes: **Get medical attention immediately. Do not induce vomiting.**
The special protection is unnecessary.
No information.

Protection of rescue: **No information.**

Special attention for doctor: **No information.**

5. Fire-fighting measures

Extinguisher: **Foam, Carbon dioxide gas or Powder.**
Particular hazard: NOX, COX or SOX might be generated.
The protection of the person of fire-fighting: Use Foam, Powder or Carbon dioxide gas extinguisher, and wear Protection goggles, Protection wear and Respirator. Keep being on the windward.
Special attention for doctor: No information.

6. Accidental release measures

Instructions for the human body: **When leaking in large quantities, take care to footwear and prevention of fall.**
Protective equipment: protection gloves, protection mask.
Emergency procedure: At feeling sick and/or an abnormality, leave the spot promptly. When abnormality continues, get doctor's checkup as soon as possible.
Collection, Neutralization, A containerment method etc: Large quantity: Prevent an outflow by soil or sand, and collect in the empty container. Small quantity: Wipe it off with waste.

7. Handling and storage

Handling: **Do not use it near the heat source, spark or fire.**
Technical measures: Local ventilation is desired. Keep it away from the material with high temperature.
Exposure inhibition of user: During the handling, be careful not to touch the skin and wear a mask for organic gas, a mask for air supply, imperviousness protection gloves if necessary. In addition, do not take it.
After the handling, wash hands and gargle enough.

Storage: **Keep it in a cool and dark place under 20degrees C.**

8. Exposure controls/personal protection

Measures on equipment: **The equipment for facial cleansing and the body washing is posted near the handling place.**

Appropriate protective equipment: **for respiratory: If a bad smell, wear a mask with the deodorization effect.**
for hands: imperviousness protection gloves
for eyes: protection goggles
for skin and body: The long-sleeved work clothes and the protection clothes and the protection boots are worn if necessary. Using protection cream is desirable.

9. Physical/chemical properties

Appearance, physical state: **Liquid**
color: Yellow
odor: Faint odor

pH: **ND**

Melting point/freezing point: **ND**

Initial boiling point and boiling range: **ND**

Flash point: **82°C**

Explosive limit: **ND**

Vapor pressure: **ND**

Vapor density: **ND**

Relative density: **0.97**

Solubility: **ND**

Partition coefficient: **ND**

n-octanol/water: **ND**

Auto-ignition temperature: **ND**

Product Name 4/5

Decomposition temperature: **ND**
Odor threshold: **ND**
Evaporation rate: **ND**
Flammability (solid, gas): **ND**
Viscosity: **200mPa·s (25°C)**

10. Stability and reactivity

Chemical stability: **It is stable at normal temperature.**
Hazardous reaction: **May react by contact with Acids, Alkalies, Oxidizing agents and Reducers.**
Condition to be avoided: **There is no possibility under normal use.**
Hazardous decomposition product: **NOX, COX and/or SOX may be generated at burning.**

11. Toxicological information
GHS division judgment grounds

Acute toxicity (oral)	Classification: not possible
Acute toxicity (dermal) <td>Classification: not possible</td>	Classification: not possible
Acute toxicity (inhalation, gas) <td>Classification: not possible</td>	Classification: not possible
Acute toxicity (inhalation, vapor) <td>Classification: not possible</td>	Classification: not possible
Acute toxicity (inhalation, dust, mist) <td>Classification: not possible</td>	Classification: not possible
Skin corrosion / irritation <td>Classification: not possible</td>	Classification: not possible
Serious eye damage/ eye irritation <td>Classification: not possible</td>	Classification: not possible
Respiratory sensitization <td>Classification: not possible</td>	Classification: not possible
Skin sensitization <td>Classification: not possible</td>	Classification: not possible
Germ cell mutagenicity <td>Classification: not possible</td>	Classification: not possible
Carcinogenicity <td>Classification: not possible</td>	Classification: not possible
Reproductive toxicity <td>Classification: not possible</td>	Classification: not possible
Hazardous to the aquatic environment (acute) <td>Classification: not possible</td>	Classification: not possible
Hazardous to the aquatic environment (chronic) <td>Classification: not possible</td>	Classification: not possible

Refer to detailed data for each element and the example things such as model G05.

Acute toxicity: **No data**
Target effect: **No data**
Skin sensitization: **No data**
Chronic toxicity: **No data**

Specific effects: **See section 2.**
Carcinogenicity: **Refer to the GHS classified result**
Reproductive toxicity: **Refer to the GHS classified result**
Teratogenicity: **Refer to the GHS classified result**
Other information: **Refer to the GHS classified result**

12. Ecological information

Ecotoxicity: **Not classified**
Hazardous to the aquatic environment (acute): **Not classified**
Hazardous to the aquatic environment (chronic): **Not classified**

Persistence and degradability: **No information**
Bioaccumulative potential: **No information**
Mobility in soil: **No information**

Other harmful influence: **Be careful to the handling, in the case of a leak and the disposal because it might influence the environment. Deal so that a product in particular and leavator do not flow the ground, a river and a drainage directly.**

13. Disposal considerations

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Product Name: 5/5

Please entrust the specialty supplier who took permission with processing after classification in reference to the following information.

Please obey a law and the standard of the local government.

Classification: Sludge (Control type industrial waste)

Disposal for a container, packing: To be consigned to authorized industrial-waste disposal agent for the disposal.

14. Transport information

UN number, transport hazard class and packing group: Not applicable (packing group: Not applicable)

UN proper shipping name: Not applicable

A marine pollution material: Not include a pertinent ingredient.

Specific safety measures and condition in the transportation: According to section of Handling and storage

Handle cargo carefully and must not leak contents by a fall if a shock. Load it a container turns over, and not to fall during the transportation.

Ground: When coming under Fire Defense Law, Industrial Safety and Health Law, Poisonous Material Control Law, follow transportation method set as the respective relevant laws.

Marine: According to follow the Ship Safety Law.

Airlines: According to follow the Aviation Law.

Emergency Response: Not applicable (Container Yellow Card number)

15. Regulatory information

The Fire Laws and a dangerous article: Class 4 Petroleum No. 3

Export Trade Control Order: Controlled substance of Poisonous Material Control Law 1. If it's relevant about 16 section catch-all controls about 1-15 sections.

Item name: not applicable

A table 2 approval item according to the Poisonous Material Control Law 2: Item name: not applicable

16. Other information

References: <http://www.jish.or.jp/index.html>

Hazard communication of chemicals based on GHS Labeling and Safety Data Sheet (SDS) JIS Z 7253:2012

Classification of chemicals based on "Globally Harmonized System of Classification and Labeling of Chemicals (GHS)" JIS Z 7252:2014

This information might be revised by new knowledge and examination gained.

Although the content of this document is prepared by our company's optimal knowledge, it may not be understood that the information above assures its strictness and safety. Because every chemical has unknown hazards in it, solicited care should be inevitable to handling. Please settle your own safety condition and rule for the use of our products under every user's responsibility. Thank you very much.

Product Name: PHOTOBOND 300, 300K 1/5

MATERIAL SAFETY DATA SHEET

SN SRWM-300C-M090200 prepared on: May 30, 2008
revised/confirmed: May 13, 2016

1. Identification of the substance or mixture and of the supplier

Product name: PHOTOBOND 300, 300K

Supplier's name: Sunrise MSI corporation

Address: OTTAWAMA TRK BLDG., 1-7-1 DOSHOMACHI, CHUO-KU, OSAKA, 541-0045 J

Emergency phone number: TEL: +81-6-6202-7700

FAX number and E-mail: FAX: +81-6-6202-7900 E-mail: msai-ho@sunrisemsi.co.jp

Recommended use of the chemical and restrictions on use: UV curing adhesive for glass

2. Hazards identification

GHS classified information (Japan) *

Hazard class	Classification
Physical Hazards: Flammable liquids	4
Acute toxicity, inhalation	4
Skin corrosion/irritation	2
Serious eye damage/eye irritation	2A
Sensitization, skin	1
Reproductive toxicity	2
Hazardous to the aquatic environment acute toxicity	3
Hazardous to the aquatic environment chronic toxicity	3

Hazard is not described above. Classification not possible or Not classified.

Symbol:

Signal word: Danger

Hazard statement: H227 Combustible liquid
H315 Causes skin irritation
H317 May cause an allergic skin reaction
H319 Causes serious eye irritation
H332 Harmful if inhaled
H361D Suspected of damaging fertility or the unborn child
H412 Harmful to aquatic life with long lasting effects

Precautionary statements (Prevention): P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing dust/fumes/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P264 Wash eyes thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/eye protection/face protection.
P286 Wear protective gloves.
P302+P352 IF ON SKIN: Wash with plenty of water/soap.
P303+P361+P353 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
P308+P313 If exposed: Call a POISON CENTER or doctor/physician.
P501 Call a POISON CENTER or doctor if you feel unwell.

[Response]

Mar Tokunaga

Product Name: PHOTOBOND 300, 300K 2/5

P321 Specific treatment.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P333+P313 If skin irritation or a rash occurs: Get medical advice/attention.

P370+P378 In case of fire: Use appropriate fire extinguisher to extinguish.

P403+P233 Store in a well ventilated place. Keep cool.

P405 Store locked up.

[Disposal] P501 Dispose of contents/containers to authorized industrial-waste disposal agent which received the authorization from the governor.

3. Composition/information on ingredients

Substance/Mixture	Components	CAS No.	Content(%)
Chemical identity	Ultraviolet curing adhesive		
	2-Ethylhexyl methacrylate	658-77-6	20-30
	2-Ethylhexyl methacrylate	658-54-6	20-30

4. First-aid measures

Inhalation: At feeling sick, remove victim to fresh air and keep at rest.
Get medical attention.
Wash affected area with soapy water.

If on skin: Get medical attention if irritation occurs.
Flush immediately eyes with a lot of water at least 15 minutes.

If in eyes: Get medical attention.

Ingestion: Get medical attention immediately. Do not induce vomiting.

Protection of rescuer: The special protection is unnecessary.

Special attention for doctor: No information

5. Fire-fighting measures

Extinguisher: Foam, Carbon dioxide gas or Powder.

Particular hazard: NOX, COX or SOX might be generated.

The protection of the person of fire-fighting: Use Foam, Powder or Carbon dioxide gas extinguisher, and wear Protection goggles, Protection wear and Respirator. Keep being on the windward.

Special attention for doctor: No information

6. Accidental release measures

Instructions for the human body: When leaking in large quantities, take care to footwear and prevention of fall.
Protective equipment: protection gloves, protection mask.
Emergency procedure: At feeling sick and/or an abnormality, leave the spot promptly. When abnormality continues, get doctor's checkup as soon as possible.
Collection, Neutralization, A containment method etc.: Large quantity: Prevent an outflow by soil or sand, and collect in the empty container.
Small quantity: Wipe it off with waste

7. Handling and storage

Handling: Do not use it near the heat source, spark or fire.
Local ventilation is desired. Keep it away from the material with ngn temperature.
Exposure inhibition of user: During the handling, be careful not to touch the skin and wear a mask for organic gas, a mask for air supply, imperviousness protection gloves if necessary. In addition, do not take it.
After the handling, wash hands and gargle enough.

Storage: Keep it in a cool and dark place under 25degrees C.

8. Exposure controls/personal protection

Component Name	Management Concentration	Allowable concentration
Benzoyl Peroxide	No settings	ACGIH: 5mg/m3(TWA)

Measures on equipment: The equipment for facial cleansing and the body washing is puted near the handling place.

Mar Tokunaga

Product Name: PHOTOBOND 300, 300K 3/5

Appropriate protective equipment

for respiratory: If a bad smell, wear a mask with the deodorization effect.

for hands: Imperviousness protection gloves

for eyes: protection goggles

for skin and body: The long-sleeved work clothes and the protection clothes and the protection boots are worn if necessary. Using protection cream is desirable.

9. Physical/chemical properties

Appearance physical state: Liquid

color: color

odor: Faint odor

pH: ND

Melting point/freezing point: ND

Initial boiling point and boiling range: ND

Flash point: ND

Explosive limit: ND

Vapor pressure: ND

Vapor density: ND

Relative density: 0.97

solubility: ND

Partition coefficient: ND

n-octanol/water: ND

Auto-ignition temperature: ND

Decomposition temperature: ND

Odor threshold: ND

Evaporation rate: ND

Flammability(solid gas): ND

Viscosity: 410-550mPa·s

10. Stability and reactivity

Chemical stability: It is stable at normal temperature.

Hazardous reaction: May react by contact with Acids, Alkalis, Oxidizing agents and Reducers.

Condition to be avoided: There is no possibility under normal use.

Hazardous decomposition product: NOX, COX and/or SOX may be generated at burning.

11. Toxicological information

GHS division judgment grounds

Acute toxicity (oral)	No date.
Acute toxicity (dermal)	No date.
Acute toxicity (inhalation, gas)	No date.
Acute toxicity (inhalation, vapor)	Determined by calculation.
Acute toxicity (inhalation, dust, mist)	No date.
Skin corrosion / irritation	Determined by calculation.
Serious eye damage/ eye irritation	Determined by calculation.
Respiratory sensitization	No date.
Skin sensitization	Determined by calculation.
Germ cell mutagenicity	No date.
Carcinogenicity	No date.
Reproductive toxicity	Determined by calculation.
Hazardous to the aquatic environment (acute)	No date.
Hazardous to the aquatic environment (chronic)	No date.

Refer to detailed data for each the element and the example things such as model SDS

Acute toxicity: No data

Target effect: No data

Skin sensitization: No data

Mar Tokunaga

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Product Name: PHOTOBOND 300, 300K 4/5

Chronic/acute toxicity: No data

Specific effects: See section 2.

Carcinogenicity: Refer to the GHS classified result

Reproductive toxicity: Refer to the GHS classified result

Teratogenicity: Refer to the GHS classified result

Other information: Refer to the GHS classified result

12. Ecological information

Ecotoxicity: Determined by calculation.

Hazardous to the aquatic environment (acute): Determined by calculation.

Hazardous to the aquatic environment (chronic): Determined by calculation.

Persistence and degradability: No information

Bioaccumulative potential: No information

Mobility in soil: No information

Other harmful influence: Be careful to the handling, in the case of a leak and the disposal because it might influence the environment. Deal so that a product in particular and lavation do not flow the ground, a river and a drainage directly.

13. Disposal considerations

Please entrust the specialty supplier who took permission with processing after classification in reference to the following information.

Please obey a law and the standard of the local government.

Classification: Sludge (Control type industrial waste)

Disposal for a container, packing: To be consigned to authorized industrial-waste disposal agent for the disposal.

14. Transport information

UN number/transport hazard class and packing group: Not applicable

UN proper shipping name: Not applicable

A marine pollution material: Not include a pertinence ingredient.

Specific safety measures and condition in the transportation: According to section of Handling and storage

Ground: Handle cargo carefully and must not leak contents by a fall / a shock. Load it a container turns over, and not to fall during the transportation.

Marine: When coming under Fire Defense Law, Industrial Safety and Health Law, Poisonous Material Control Law, follow transportation method set as the respective relevant laws.

Airlines: According to follow the Ship Safety law.

Emergency Response: According to follow the Aviation Law.

Guidancebook number: Not applicable (Container Yellow Card number)

15. Regulatory information

The Fire Laws and a dangerous article: Class 4 Petroleum No. 3

Export Trade Control Order: Controlled substance of Poisonous Material Control Law 1: It's relevant about 16 section catch-all controls About 1-15 sections.

A table 2 approval item according to the Poisonous Material Control Law 2: Item name not applicable

16. Other information

References: <http://www.ishp.or.jp/index.html>
Hazard communication of chemicals based on GHS-Labeling and Safety Data Sheet (SDS) JIS Z 7253:2012
Classification of chemicals based on "Globally Harmonized System of Classification and Labeling of Chemicals (GHS)" JIS Z 7252:2014 etc.

Mar Tokunaga

Product Name: PHOTOBOND 300, 300K 5/5

This information might be revised by new knowledge and examination gained. Although the content of this document is prepared by our company's optimal knowledge, it may not be understood that the information above assures its strictness and safety. Because every chemical has unknown hazards in it, solicitude care should be inevitable to handling. Please settle your own safety condition and rule for the use of our products under

Mar Tokunaga

UNIVERSAL PHOTONICS INCORPORATED 495 West John Street Hicksville, New York 11801 516.935.4000 Fax 516.935.4039 WWW.UNIVERSALPHOTONICS.COM

MATERIAL SAFETY DATA SHEET: Polishing Liquid ZOX-N

SECTION 1: CHEMICAL PRODUCT & COMPANY INFORMATION

APPLICABLE PART #: BC0015, BC0055

IDENTITY: Polishing Liquid ZOX-N

SUPPLIER: Universal Photonics, Inc. 495 West John Street Hicksville, NY 11801

FOR INFORMATION CALL CUSTOMER SERVICE DATE PREPARED: (516) 935-4000 June 23, 2014

EMERGENCY TELEPHONE NUMBER: 1-866-519-4752 3E COMPANY - ACCTR: 3665

SECTION 2: COMPOSITION INFORMATION

COMPONENT	CAS#	WEIGHT %
Water	7732-18-5	70-75
Zirconium basic carbonate	57219-64-4	20-30
Zirconium dioxide	1314-23-4	10-20

This product contains trace quantities of naturally occurring radioactive uranium, thorium and radium (<0.01% total). Overexposure by inhalation to respirable dusts containing uranium, thorium and radium may cause cancer, however, observance of the OSHA limit for respirable dusts of 5 mg/m³ will ensure the use of this product to be well below the regulatory limits established for these components.

SECTION 3: HAZARDS IDENTIFICATION

PRINCIPAL ROUTES OF EXPOSURE: Inhalation, ingestion, skin and eye contact.

EYES: May cause irritation.

SKIN: Not absorbed through skin. May cause dryness and/or abrasion.

INHALATION: Breathing of mists, vapors, or fumes may irritate the nose, throat and lungs.

INGESTION: May irritate digestive tract.

CHRONIC EFFECTS/CARCINOGENICITY: This product contains zirconium dioxide. Zirconium dioxide has been reported to cause lung granulomas.

SECTION 4: FIRST AID MEASURES

EYE CONTACT: Rinse immediately with plenty of water, also under eyelids. Get medical attention if irritation develops.

SKIN CONTACT: Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use. If symptoms persist, call a physician.

1

UNIVERSAL PHOTONICS INCORPORATED 495 West John Street Hicksville, New York 11801 516.935.4000 Fax 516.935.4039 WWW.UNIVERSALPHOTONICS.COM

MATERIAL SAFETY DATA SHEET: Polishing Liquid ZOX-N

SECTION 5: FIRE FIGHTING MEASURES

FLASH POINT: Non-combustible.

UNUSUAL HAZARDS: None known.

EXTINGUISHING MEDIA: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

HAZARDOUS DECOMPOSITION PRODUCTS IN FIRE: None reasonably foreseeable.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS: As in any fire, wear self-contained breathing apparatus (pressure-demand, NIOSH approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Remove all non-essential people from the affected area. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin, eyes and clothing. Wear personal protective equipment.

ENVIRONMENTAL PRECAUTIONS: Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water systems.

METHODS FOR CLEANING UP: Wear personal protective equipment. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Clean contaminated surface thoroughly. Dispose of promptly.

SECTION 7: HANDLING & STORAGE

HANDLING: Handle in accordance with good industrial hygiene and safety practice. Use only in area provided with appropriate exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Do not eat, drink, or smoke in areas of use or storage. Do not take internally. Wash thoroughly after handling.

STORAGE: Keep container tightly closed in a dry and well-ventilated place.


SECTION 8: PERSONAL PROTECTION AND EXPOSURE CONTROLS

EXPOSURE LIMITS: No TLV assigned. Minimize exposure in accordance with good hygiene practice.

2

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited



495 West John Street Hicksville, New York 11801
516.935.4000 Fax 516.935.4039
WWW.UNIVERSALPHOTONICS.COM

MATERIAL SAFETY DATA SHEET: Polishing Liquid ZOX-N

ENGINEERING CONTROLS:
EYE PROTECTION:
SKIN AND BODY PROTECTION:
HAND PROTECTION:
RESPIRATORY PROTECTION:
HYGIENE MEASURES:

Provide appropriate exhaust ventilation wherever dust, mist, vapors, or fumes can be generated. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Safety glasses with side-shields.
Lightweight protective clothing. Keep working clothes separately. Remove and wash contaminated clothing before re-use.
Impervious gloves. Follow the recommendations given by the manufacturer of protective gloves.
In case of insufficient ventilation wear suitable respiratory equipment. NIOSH-approved respirators should be worn where engineering controls and work practices do not reduce exposure to or below the PEL. Seek professional advice prior to respirator selection and use. Wear NIOSH approved respirator to limit exposure to NORM.
Avoid contact with skin, eyes and clothing. Wash hands before breaks and at the end of workday.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

COLOR	Pink	PHYSICAL STATE	Slurry
ODOR	Odorless	MOLECULAR WEIGHT	No data available
BOILING POINT/RANGE (°C)	212.0	PH	6.0
FREEDING POINT/RANGE (°C)	No data available	SPECIFIC GRAVITY (WATER =1)	No data available
VAPOR PRESSURE (MMHG)	No data available	VOC CONTENT (%)	0
WATER SOLUBILITY (MGL)	Insoluble		

SECTION 10: STABILITY & REACTIVITY


CHEMICAL STABILITY:
INCOMPATIBILITY:
HAZARDOUS DECOMPOSITION PRODUCTS:
HAZARDOUS POLYMERIZATION:
CONDITIONS TO AVOID:

Stable at normal conditions
Strong Oxidizing Agents.
None reasonably foreseeable.
Will not occur.
None known.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
Information given is based on data on the components and the toxicology of similar products

3



495 West John Street Hicksville, New York 11801
516.935.4000 Fax 516.935.4039
WWW.UNIVERSALPHOTONICS.COM

MATERIAL SAFETY DATA SHEET: Polishing Liquid ZOX-N

TARGET ORGAN EFFECTS:
ZIRCONIUM BASIC CARBONATE
LD50 AND LC50:

Zirconium: Skin, respiratory system.
Oral LD50 (Rat) = 10000 mg/kg

SECTION 12: ECOLOGICAL INFORMATION

AQUATIC TOXICITY:
PERSISTENCE AND DEGRADABILITY:

Information given is based on data on the components and the ecotoxicology of similar products.
Not determined.

SECTION 13: DISPOSAL INFORMATION

WASTE FROM RESIDUES/
UNUSED PRODUCTS:

Waste must be disposed of in accordance with federal, state and local environmental control regulations. Where possible recycling is preferred to disposal or incineration. This product contains Naturally Occurring Radioactive Materials (NORM). Consult and comply with current regulations.

SECTION 14: TRANSPORTATION INFORMATION

DOT (U.S.)
PROPER SHIPPING NAME:
TDG (CANADA)
PROPER SHIPPING NAME:
IMDG
PROPER SHIPPING NAME:
IATA
PROPER SHIPPING NAME:


Not regulated.
Not regulated.
Not regulated.
Not regulated.

SECTION 15: REGULATORY INFORMATION

US REGULATIONS:
STATE REGULATIONS:

Not subject to the provisions of SARA 313
Not subject to TSCA 12(b) Export Notification
This product or its ingredients have been evaluated for New Jersey, Pennsylvania, and California Prop 65 supplier notification requirements. Substances that are subject to notification requirements, if any, are listed below.

4



495 West John Street Hicksville, New York 11801
516.935.4000 Fax 516.935.4039
WWW.UNIVERSALPHOTONICS.COM

MATERIAL SAFETY DATA SHEET: Polishing Liquid ZOX-N

COMPONENTS	NJ/RTK
Ferric Oxide	Listed (NJ/RTK)
Iron Oxide Black	Listed (NJ/RTK)
Zirconium basic carbonate	Listed (NJ/RTK)
Zirconium oxide	Listed (NJ/RTK)

CANADIAN WHMIS
WHMIS HAZARD CLASS: Non-controlled
INTERNATIONAL INVENTORIES
TSCA (S/B): Listed or exempt.
CANADIAN DLS/NDLS LIST: All ingredient(s) are listed on the DSL or NDLS.
EC-No.: Listed or exempt.
PHILIPPINES (PICCS): Listed.
JAPAN (JENS): One or more ingredient(s) are not on the JENS list.
KOREA (KEQL): Listed.
CHINA (ECS): Listed.
AUSTRALIA (AICS): Listed.
NEW ZEALAND (NZLOC): Listed.

SECTION 16: OTHER INFORMATION

HMS Rating:
NPPA 704 Rating:

Health 1, Flammability 0, Physical Hazard 0, Personal Protection 0
Health 1, Flammability 0, Physical Hazard 0

DISCLAIMER

WHILE UNIVERSAL PHOTONICS, INC. BELIEVES THAT THE DATA AND INFORMATION CONTAINED HEREIN ARE FACTUAL, AND THE OPINIONS ARE THOSE OF QUALIFIED EXPERTS, THEY ARE NOT TO BE TAKEN AS A WARRANTY OR REPRESENTATION FOR WHICH UNIVERSAL PHOTONICS, INC. ASSUMES ANY LEGAL RESPONSIBILITY. THEY ARE OFFERED SOLELY FOR THE CONSIDERATION, INVESTIGATION AND VERIFICATION BY THE USER. IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE SUITABILITY OF THIS PRODUCT, DATA AND INFORMATION WITH APPLICABLE LAWS AND REGULATIONS. 20160503 14 mg

5

Guangzhou xinzhuo chemical co. LTD
Polyacrylamide safety technical specification

Chemical name: polyacrylamide PAM
Chemical name: polyacrylamide
Supplier: guangzhou xinzhuo chemical co. LTD
Address: room 338, 722 east huangpu road, huangpu district, guangzhou
Telephone: 020-32371813 fax: 020-32372632
Technical specification code: xz-1835
National chemical accident emergency advisory hotline: 86-0532-3889090

Part two: risk overview
Risk category: none.
Invasion route: none.
Health hazards: no data available.
Environmental hazards: none.
Fire and explosion hazard: this product is flammable.

Part three: component/component information
Content of harm/ul substances CAS No
Polyacrylamide 90% 9003-05-8

Part four: first aid measures
Skin contact: Immediately remove contaminated clothing and wash skin with soap and running water.
Eye contact: immediately lift the eyelid and rinse thoroughly with plenty of running water or saline water. Go to a doctor.
Inhalation: no.
Ingestion: animal experiments have proved that this product will not be poisoned after ingestion.

Part five: fire control measures
Dangerous characteristics: when water is used to extinguish fire, the particles become slippery after encountering water to avoid slipping and falling
Harmful combustion products: none.
Fire fighting method: no fire danger.

Part six: leakage emergency treatment
Emergency treatment: the granule becomes slippery after encountering water, to avoid slipping down and falling.

Part VII: operation, disposal and storage
Operating instructions: no special requirements.
Storage precautions: store in a cool, ventilated warehouse.

Green Myanmar Environmental Services Co., Ltd.

119

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Part viii: contact control/personal protection
Occupational exposure limits
Chinese MAC(mg/m3) : no standards have been set
Former Soviet MAC(mg/m3) : no standards
TLVNI: no standards set
TLVNI: no standards have been set
Monitoring method
Engineering control: provide safe shower and eye wash equipment.
Eye protection: wear chemical safety goggles.
Physical protection: no special requirement.
Hand protection: flush with plenty of water.
Other protection: smoking, eating and drinking water are prohibited at work. After work, shower and dress. Maintain good hygiene.

Part nine: physical and chemical characteristics
Ingredient: pure product
Appearance and properties: white powder or translucent particle.
PH: 6.0 -12.0
Melting point (°C) : 308-312o
Boiling point (°C) : no data
Relative density (water =1) : 2.68
Relative vapor density (air =1) : no data available
Saturated vapor pressure (kPa) : no data available
Heat of combustion (kJ/mol) : nonsense
The critical temperature (°C) : nonsense
Critical pressure (MPa) : meaningless
Opposite value of octanol/water distribution coefficient: no data available
The flash point (°C) : nonsense
The ignition temperature (°C) : nonsense
Explosion limit % (V/V) : meaningless
Explosion threshold % (V/V) : meaningless
Solubility: soluble in water, but almost insoluble in the solvent (benzene, toluene, ethanol, ethyl ether, acetone, esters, etc.), only in ethylene glycol, glycerin, glacial acetic acid and formamide, lactic acid, such as acrylic solvents that can be dissolved by about 1%.
Main use: for sewage treatment.

Part 10: stability and reactivity
Stability: stability.
Prohibited compounds: oxides that produce exothermic reactions.
Conditions for avoiding contact: none.
Polymerization hazard: no polymerization.
Decomposition products: hot putrefaction may be produced, hydrogen gas, nitrogen oxides, carbohydrates, etc.

Part xii: toxicological information
Acute toxicity: no toxicity.
LD50: no data available.
Subacute and chronic toxicity: no data available.
Irritant: no data available.
Sensitization: no data available.
Mutagenicity: no data available.
Teratogenic: no data available.
Carcinogenicity: no data available.

Part xii: ecological information
Ecological toxicological toxicity: no data available.
Biodegradability: no data available.
Non-biodegradability: no data available.
Biological enrichment or bioaccumulation: no data available.
Other harmful effects: no data available.

Part xiii: waste disposal
Nature of waste:
Disposal method: wash the packaging with water without violating the traditional treatment rules, and then use the water to dissolve the product for use.
Notice of abandonment: relevant national and local regulations should be consulted before disposal.

Part xiv: transportation information
Dangerous goods no. : no data available.
UN no. : no data available.
Packing mark: no data available.
Packing method: paper bag or drum, 25KG one bag, polyethylene liner bag.
Shipping instructions: the packaging should be complete and the loading should be safe. Avoid exposure and rain during transportation. The vehicles should be thoroughly cleaned after transportation.

Part 15: regulatory information
According to gb13690-2009 classification and marking of commonly used dangerous chemicals, this product is not dangerous.

Part xvi: other information
Date of completion: March 13, 2018.
Filling out department: technical center
Revision instructions: every five years when a new national regulation is introduced.

Guangzhou xinzhao chemical co. LTD

Polyaluminum chloride (PAC) safety technical specification

Part I: chemicals and enterprise identification
Chemical name: poly aluminum chloride, poly aluminum chloride, water purifier
Chemical English name: Aluminium trichloride, PAC
Technical specification code: xz-1831
Company name: guangzhou xinzhao chemical co. LTD
Address: no. 722 east huangpu road, guangzhou city
Tel: 86-20-32372813 fax: 86-20-32372632
National chemical accident emergency advisory hotline: 86-0532-3889090

Part two: risk overview
Risk category: according to gb13690-2009 classification and marking of commonly used dangerous chemicals, this product is not classified as dangerous goods.
Invasion: inhalation, ingestion, skin contact.
Health hazard: this product can irritate skin and mucous membrane. Inhaling high concentrations can cause bronchitis, and individuals can cause bronchial asthma. Oral erosion, gastritis, gastric bleeding and mucosal necrosis can be caused when the dosage is large. Chronic effects: long-term exposure can cause headache, dizziness, loss of appetite, cough, nasal congestion, chest pain and other symptoms.
Environmental hazards: no obvious hazards.
Fire and explosion hazard: this product does not burn.

Part three: component/component information
The main component content CAS No
Aluminum chloride 28% 1327-41-9

Part four: first aid measures
Skin contact: immediately remove contaminated clothing and rinse with plenty of running water for at least 15 minutes. Go to a doctor.
Eye contact: immediately lift the eyelid and rinse thoroughly with plenty of running water or saline for at least 15 minutes. Go to a doctor.
Inhalation: quickly disengage from the scene to the fresh air. Keep the airways open. If you have difficulty breathing, give oxygen. If breathing is stopped, artificial respiration is carried out immediately. Go to a doctor
Food: gargle with water and serve with milk or egg white. Go to a doctor.

Part five: fire control measures
Hazard characteristics: no data available
Harmful combustion products: no data available.
Fire extinguishing method: fire personnel must wear the whole body acid-proof alkali fire fighting suit. Extinguishing agent: dry sand.

Part six: leakage emergency treatment
Emergency treatment: isolate the leaking area and restrict the access. Emergency workers are advised to wear a dust mask (full cover) and wear acid-proof clothing.
Basic work clothes. Do not contact the leak directly. Small amount of leakage: avoid dust and collect in a closed container with a clean shovel. Heavy leakage: covered with plastic sheets and canvas. Remove under expert guidance.

Part vii: operation, disposal and storage
Operating instructions: closed operation, local exhaust ventilation. Operators must be specially trained and strictly follow the operating procedures. Operators are advised to wear self-suction filter respirator, chemical safety protective glasses, rubber acid-proof alkaline suit and rubber acid-proof gloves. Keep away from inflammable and combustible materials. Avoid producing dust. Avoid contact with alkali and alcohol. Light loading and light unloading should be carried to prevent damage to the packaging and container. Equipped with leakage emergency treatment equipment. Empty containers can leave harmful residue.
Storage precautions: store in a cool, dry, well-ventilated warehouse. Keep away from fire and heat. The relative humidity remains below 75%. The package must be sealed against moisture. It should be stored separately from inflammable, alkali, alcohol, etc. Do not store for long to avoid deterioration. The storage area shall be equipped with suitable materials for the containment of the leakage.

Part viii: contact control/personal protection
Occupational exposure limits
Chinese MAC(mg/m3) : no standards have been set
Former Soviet MAC(mg/m3) : 2[A]
TLVNI: ACGIH 2 mg/m3
TLVNI: no standards have been set
Monitoring method
Engineering control: closed operation, local exhaust ventilation. Safety shower and eye wash facilities are provided.
Respiratory protection: when the dust may come into contact with it, you should wear a self-suction filter respirator. When emergency rescue or evacuation, it is recommended to wear an air respirator.
Eye protection: wear chemical safety goggles.
Physical protection: wear rubber acid-proof alkaline suit.
Hand protection: wear rubber acid-proof gloves.
Other protection: smoking, eating and drinking water are prohibited at work. After work, shower and dress. Store contaminated clothes separately for backup use. Maintain good hygiene.

Part nine: physical and chemical characteristics
Ingredient: pure product
Appearance and properties: yellow granular or powdered solid.
PH: 3.5-5
Melting point (°C) : 190 (253 kpa)

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Boiling point (°C) : no data
Relative density (water =1) : 2.44
Relative vapor density (air =1) : no data available
Saturation vapor pressure (kPa) : 0.13 (100 °C)
Heat of combustion (kJ/mol) : nonsense
The critical temperature (°C) : no data
Opposite value of octanol/water distribution coefficient: no data available
The flash point (°C) : nonsense
The ignition temperature (°C) : nonsense
Explosion limit % (V/V) : meaningless
Explosion threshold % (V/V) : meaningless
Solubility: soluble in water, alcohol, chloroform, carbon tetrachloride, slightly soluble in benzene.
Main applications: polyaluminum chloride is a flocculant, mainly used for purifying drinking water, and also used for special water treatment of water supply, iron removal, cadmium removal, fluoride removal, radioactive pollution removal, oil removal, etc. It is also used in industrial wastewater treatment, such as printing and dyeing wastewater.

Part 10: stability and reactivity
Stability: stability.
Prohibited substances: inflammable or combustible materials, alkali and alcohol.
Conditions to avoid contact: moist air.
Polymerization hazard: no polymerization.

Part 11: toxicological information
Acute toxicity: LD50 3730 mg/kg (rat via mouth)
LC50: no data available.
Subacute and chronic toxicity: no data available.
Irritant: no data available.
Sensitization: no data available.
Mutagenicity: no data available.
Teratogenic: no data available.
Carcinogenicity: no data available.

Part 12: ecological information
Ecological toxicological toxicity: no data available.
Biodegradability: no data available.
Non-biodegradability: no data available.
Biological enrichment or bioaccumulation: no data available.
Other harmful effects: no data available.

Part 13: waste disposal
Nature of waste: general waste.
Disposal method: according to the requirements of relevant national and local laws and regulations. Or contact the manufacturer or manufacturer to determine the disposal method.

Notice of abandonment: relevant national and local regulations should be consulted before disposal.

Part 14: transportation information
Dangerous goods no. : no data available.
UN no. : no data available.
Packing mark: fear of dampness.
Packaging category: 201.
Packing method: 25kg plastic woven bag lined with polyethylene bag
Shipping instructions: the packaging should be complete and the loading should be safe. In the course of transportation, we must ensure that the container does not leak, collapse, fall or damage. It is strictly prohibited to mix with inflammables, inflammables, alkali, alcohols, food chemicals, etc. Transport vehicles should be equipped with leakage emergency handling equipment. Transport should be protected from exposure, rain, high temperature

Part 15: regulatory information
According to gb13690-2009 classification and marking of commonly used dangerous chemicals, this product is not dangerous.

Part 16: other information
References: gb13690-2009 classification and marking of commonly used hazardous chemicals, GB 15493-2008 chemical safety technical specifications and project sequence
Date of completion: March 7, 2018.
Filling out department: technical center
Revision instructions: every five years when a new national regulation is introduced.

Date Prepared: October 24, 2014
IKE

Safety Data Sheet

1. Identification of the Substance/Preparation and of the Company

Product Name: NEOVAC MR-200
Product Code: 00013
Manufacturer: MORESCO Corporation.
Address: 5-5-3, Minatojima-minamimachi, Chuo-ku, Kobe-city, Hyogo, Japan
Emergency Telephone Number: Functional Fluids Sales Department Sales Section
Tel: 81-6-6262-3310 FAX: 81-6-6262-3327
Functional Fluids Sales Department Tokyo Sales Section
Tel: 81-3-5537-7055 FAX: 81-3-5537-7059
Lubricating Oils Manufacturing Department Technology Section
Tel: 81-791-42-2100 FAX: 81-791-43-3179
Customer Center
Tel: 81-6-6262-3385 FAX: 81-6-6262-3327
Email Address: customercenter@moreco.co.jp
Recommended Use and Restrictions on Use: Vacuum Pump Oil



2. Hazard Identification

GHS Classification:
Physical Hazards: Not applicable to the GHS Classification
Health Hazards: Not applicable to the GHS Classification
Environmental Hazards: Not applicable to the GHS Classification
Hazardous to Aquatic Environment

Label Elements:

Pictograms/Symbols: None
Signal Word: None
Hazard Statements: None
Precautionary Statements: [Prevention]
None
[Response]
None
[Storage]
None
[Disposal]
None

1/7

Date Prepared: October 24, 2014
IKS

3. Composition/Information on Ingredients

Distinction between Substance and Mixture	Substance
Chemical Name/Generic Name	Pero-hydrocarbons
Chemical Formula	Not identified
Ingredient and Concentration	Lubricating base oil 100%

4. First-Aid Measures

Inhalation:	Remove victim to fresh air and let him/her breathe thoroughly with water. Wrapping a blanket and the like around him to keep warm for a rest, call a doctor/physician immediately.
Skin Contact:	Rinse skin with soap and water.
Eye Contact:	Immediately rinse eyes with clean water for at least 15 minutes. Remove contact lenses if present. Continue rinsing. If eye irritation persists, get medical attention.
Ingestion:	Call a doctor/physician immediately. Do not induce vomiting. If affected, the mouth should be rinsed out thoroughly with water.
Expected Acute and Delayed Symptoms, and Most Important Symptoms/ Effects:	If swallowed, may suffer from diarrhea and vomiting. May cause inflammation if in eyes. May cause inflammation if on skin. May feel unwell if mist is inhaled.

5. Fire-Fighting Measures

Suitable Extinguishing Media	Foggy reinforcing agent, foam, powder, or carbon dioxide
Unsuitable Extinguishing Media	Jet water
Specific Hazards	Currently there is no useful information.
Specific Fire-Fighting Measures	Shut off the fire source. Use powder or carbon dioxide extinguishers at the beginning of fire. It is effective to intercept the air from a big fire with foam extinguishers. Use of water may cause spreading of fire. Cool the surrounding facilities with water spray. Evacuate non-essential personnel around the fire.
Special Protective Actions for Fire-Fighting	Wearing protective glasses, protective clothing, and if necessary, respiratory protective equipment, start to fight fire on the windward side.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures	If skin or eye contact is possible, wear protective equipment. If mist is produced, wear respiratory protective equipment to avoid inhalation.
---	--

2/7

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Date Prepared: October 24, 2014 1KB	
Environmental Precautions	Take up as much as possible to avoid soil contamination and water pollution. Avoid release to the environment.
Collection/Neutralization and Methods/Materials for Containment	Eliminate the source of ignition of the surrounding. In the case of a large amount: Dike ahead of liquid spill area to minimize migration and then sweep into an empty container for disposal in a safe place. After disposal, wash away with plenty of water. In doing so, take care to prevent the high concentration of wastes from entering public watercourses such as rivers. In the case of a small amount: Take up into an empty container by absorbing the spill with earth and sand or rags, and furthermore sop up with rags thoroughly.
Prevention of Secondary Hazards	Remove all the ignition sources immediately. (Do not smoke nearby and keep away from sparks and flames.) Report to the related organs for help.
7. Handling and Storage	
Handling:	Before repairing machinery with solvent oils on, remove them thoroughly in a safe place. Take precautionary measures against static discharge and wear electro conductive clothing and shoes. As vapors released from petroleum products are heavier than air, they are liable to stagnate. Due to it, attention should be paid in ventilation and fire. Handle at room temperature, paying attention to moisture and to impurities not to mix with. If skin or eye contact is possible, wear protective equipment. If mist is produced, wear respiratory protective equipment to avoid inhalation. Use a pump and the like to take out of container. Do not suck through a tube. Do not weld, heat, hole, and cut off the container. Residues may ignite involving explosion. Refer to "8. Exposure Controls/Personal Protection".
Technical Measures	
Local Exhaust Ventilation/ Full Ventilation System	
Avoiding Contact	Refer to "10. Stability and Reactivity".
Precautions for Safe Handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Be cautious not to use any naked fire.
3/7	

Date Prepared: October 24, 2014 1KB	
As vapors released from petroleum products are heavier than air, they are liable to stagnate. Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product. Do not press an empty container. It may explode under pressure. Do not drink. Keep out of reach of children.	
Storage:	
Technical Measures	Avoid heat, sparks, flames, and static electricity. Keep container tightly closed.
Incompatible Materials	Refer to "10. Stability and Reactivity".
Conditions for Safe Storage	Store in a well-ventilated area. Store avoiding exposure to direct sunlight. Store away from oxidizer. Store locked up.
Materials for Containers/Packaging	When replacing the container, use metal or glass container. Some kinds of resin-treated container may melt. Use airtight, anti-leakage type containers.
8. Exposure Controls/Personal Protection	
Permissible Concentration (exposure limit, a biological exposure index): Japan Society for Occupational Health (2010): 5mg/m ³ (mineral oil mist) ¹⁾ ACGIH (2010): TWA 5mg/m ³ (mineral oil mist) ²⁾ Standards for Allowable Density of Hazardous Substances in Labor Operation Air: Not established	
Engineering Controls	When mist and vapors are produced, seal off sources or provide exhaust ventilation. Facilities for rinsing eyes and washing a body are required near the workplace.
Personal Protective Equipment	
Respiratory Protection:	Wear appropriate respiratory protection.
Hand Protection:	If necessary, wear oil-resistant protective gloves.
Eye Protection:	If diffusion is possible, wear eye protection.
Skin and Body Protection:	If necessary, wear protective clothing and face protection.
Hygienic Precautions	Wash hands thoroughly after handling. Regularly inspect protective equipment according to the inspection table of protective equipment. Do not eat, drink or smoke when using this product.
4/7	

Date Prepared: October 24, 2014 1KB	
9. Physical and Chemical Properties	
Physical State:	
Appearance:	Liquid
Color:	Light yellow
Odor:	Slight oily odor
pH:	Not applicable
Melting/Freezing Point:	Not applicable
Boiling Point:	230°C/15Pa(0.1mmHg)
Flash Point:	≥25°C(COC)
Explosive Range (Explosive Limits):	Upper limit: 1% Lower limit: 1% (estimated value)
Vapor Pressure:	No data available
Vapor Density (air: 1):	No data available
Specific Gravity (Density):	0.88g/cm ³ (15°C)
Solubility:	Insoluble in water
Partition Coefficient: n-octanol/water:	No data available
Auto-ignition Temperature:	No data available
Pour point:	≤-10°C
Volatility:	None (at room temperatures)
10. Stability and Reactivity	
Stability:	Stable
Possibility of Hazardous Reactions:	Reacts with strong oxidizer.
Conditions to Avoid:	No data available (Hazardous reactions will not occur under normal use)
Incompatible Materials:	Strong oxidizer
Hazardous Decomposition Products:	None
11. Toxicological Information	
Acute Toxicity:	
Oral:	ATEmis(Oral) > 5000mg/kg
Dermal:	ATEmis(Dermal) > 5000mg/kg
Inhalation:	ATEmis(Inhalation) > 5mg/l
Skin Corrosion/Irritation:	Information is not classified as Skin Corrosion/Irritation.
Serious Eye Damage/Eye Irritation:	Information is not classified as Serious Eye Damage/Eye Irritation.
Respiratory or Skin Sensitization:	Information is not classified as Respiratory or Skin Sensitization.
Germ Cell Mutagenicity:	Information is not classified as Germ Cell Mutagenicity.
Carcinogenicity:	Information is not classified as Carcinogenicity.
Reproductive Toxicity:	Information is not classified as Reproductive Toxicity.
5/7	

Date Prepared: October 24, 2014 1KB	
STOT/ Systemic Toxicity - Single Exposure	Information is not classified as Specific Target Organ Toxicity/ Systemic Toxicity (Single Exposure).
STOT/ Systemic Toxicity - Repeated Exposure	Information is not classified as Specific Target Organ Toxicity/ Systemic Toxicity (Repeated Exposure).
Aspiration Hazard	Information is not classified as Aspiration Hazard.
12. Ecological Information	
Ecotoxicity:	Information is not classified as Aquatic Toxicity.
Persistence and Degradability:	No information available
Bioaccumulative Potential:	No information available
Mobility in Soil:	No information available
Hazardous to the ozone layer	No information available
Other Adverse Effects:	No information available
Environmental Criteria:	No information available
13. Disposal Considerations	
Waste Residues:	Dispose the waste according to national and local regulations. Do not dump.
Contaminated Containers and Packaging:	Contaminated or empty container/packaging are to be disposed according to national and local regulations.
14. Transport Information	
International Regulation	
UN Classification:	Not applicable
Special Precautions:	Load the containers in a manner that they are certain not to result in direct sunlight exposure, damage, corrosion, leak, while being transported. Do not place heavy load on top of the container.
15. Regulatory Information	
No Information	
16. Other Information	
References:	1) Recommendation of Occupational Exposure Limits by Japan Society for Occupational Health. 2) Thresholds limit values for chemical substances and physical agents and biological exposure indices by ACGIH. 3) SDS of raw materials
1. As evaluations on hazards are not necessary satisfactory, special attention should be paid for use. 2. This SDS, summarizing matters to be attended to, is required for proper use of the product and is intended for	
6/7	

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Date Prepared: October 24, 2014
IKB

normal use.

3. Referring to this SDS, properly use and handle this product on the user's own responsibility.

4. The contents of this SDS are based on information available as of today and our knowledge. The information, data, and evaluations herein are not guaranteed, and in addition, may be revised due to revision of laws or knowledge newly obtained.

7/7

Issue Date: 01-Dec-2004
Revision date: 20-Nov-2015
Version: 3

SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier:
Product name: ULVOIL R-7

Other means of identification:
Product Code: 3240111600

Recommended use of the chemical and restrictions on use:
Recommended Use: Lubricant

Details of the supplier of the safety data sheet:
Manufacturer: Idemitsu Kosan Co., Ltd.
1-1-3 Chome
Marunouchi
Chiyoda-ku Tokyo, 100-8321, Japan
Telephone: +81-3-3213-3143
Fax: +81-3-3211-6343

Supplier: Idemitsu Lube (China) Co., Ltd.
81 TAIHUA ROAD
TEDA TIANJIN 300407
P.R. of CHINA
Telephone: +86-22-6623-0288
Fax: +86-22-6623-0021

Emergency telephone number:
24 Hour Emergency Phone Number
United States and Canada: +1 215 207 0061
Mexico: +52 855 004 8793
Brazil: +55 113 711 9144
East/South East Asia: +65 3 158 1074
Korea: +82 (0) 234 789 401 (South Korea in country number)
Australia: +61 2801 44556
New Zealand: +64 6921 1453

SECTION 2: Hazards Identification

Classification:
This product and its ingredients are not considered hazardous in accordance with 29CFR 1910.1200 (OSHA Hazoom 2012)

Label elements:
Emergency Overview
This product and its ingredients are not considered hazardous in accordance with 29CFR 1910.1200 (OSHA Hazoom 2012)

Appearance: clear
Physical state: liquid
Odor: Slight

Precautionary Statements - Prevention:
Not classified

Precautionary Statements - Response:
Not classified

Safety data sheet number: 32400136
Page 1 / 7

3240111600 - ULVOIL R-7
Revision date: 20-Nov-2015

Precautionary Statements - Storage:
Not classified

Precautionary Statements - Disposal:
Not classified

Hazards not otherwise classified (HNOC):
• Not classified

Other information:
Unknown Acute toxicity
0% of the mixture consists of ingredient(s) of unknown toxicity
Unknown Aquatic Toxicity
0.1% of the mixture consists of component(s) of unknown hazards to the aquatic environment

SECTION 3: Composition/information on ingredients

chemical name	CAS No	weight-%	Trade Secret
PETROLEUM HYDROCARBON (MINERAL OIL)	-	>=90	*
SYNTHETIC HYDROCARBON	-	<10	*
LUBRICATING OIL ADDITIVE	-	<1	*

* The exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4: First aid measures

First aid measures:
Eye contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
Skin Contact: Wash skin with soap and water.
INHALATION: Move to fresh air in case of accidental inhalation of vapors or decomposition products. (Get medical attention immediately if symptoms occur.)
INGESTION: If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

Most important symptoms and effects, both acute and delayed:
Symptoms: No information available.
Indication of any immediate medical attention and special treatment needed:

SECTION 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media:
CO₂, dry chemical, dry sand, alcohol-resistant foam.

Unsuitable Extinguishing Media: Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical:
The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. In the event of fire and/or explosion do not breathe fumes.

Safety data sheet number: 32400136
Page 2 / 7

3240111600 - ULVOIL R-7
Revision date: 20-Nov-2015

Explosion Data:
Sensitivity to Mechanical Impact: none.
Sensitivity to Static Discharge: none.

Protective equipment and precautions for firefighters:
Wear self-contained breathing apparatus and protective suit. Use personal protective equipment as required.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:
Personal precautions: Ensure adequate ventilation, especially in confined areas.
For emergency responders: Use personal protection recommended in Section 8.

Environmental precautions:
Environmental precautions: Should not be released into the environment.

Methods and material for containment and cleaning up:
Methods for containment: Prevent further leakage or spillage if safe to do so.
Methods for cleaning up: Use personal protective equipment as required. Darn up. Cover liquid spill with sand, earth or other non-combustible absorbent material. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly.

SECTION 7: Handling and storage

Precautions for safe handling:
Advice on safe handling: Use personal protective equipment as required. Avoid breathing vapors or mists.

Conditions for safe storage, including any incompatibilities:
Storage Conditions: Store at ambient conditions. Store in accordance with local regulations.
Incompatible materials: None known based on information supplied.

SECTION 8: Exposure controls/personal protection

Control parameters:
Exposure Guidelines: This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

chemical name	ACGIH TLV	OSHA PEL	NIOSH REL
PETROLEUM HYDROCARBON (MINERAL OIL)	Single*		

chemical name	ACGIH TLV
PETROLEUM HYDROCARBON (MINERAL OIL)	Single*

Appropriate engineering controls:
Engineering Controls: Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment:

Safety data sheet number: 32400136
Page 3 / 7

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

324011500 - ULVOIL R-7 Revision date 20-Nov-2015

Eyeface protection Wear safety glasses with side shields (or goggles).

Skin and body protection Suitable protective clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. In case of inadequate ventilation wear respiratory protection.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Color	light yellow	
Appearance	clear	
Physical state	liquid	
Odor	Slight	
Odor Threshold	No information available	
Properties	Values	Remarks
pH	No data available	
Melting point/freezing point		
Boiling point	-17.5 °C	
Freezing point	No information available	
Initial boiling point	310 °C / 582 °F	
Flash point	256 °C / 493 °F	Cleveland Open Cup
Flammability Limits in Air		
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Density @15°C	0.8759 g/cm ³	
Solubility (g/100g)		
Water solubility	Insoluble in water	
Kinematic viscosity @40°C	66.87 mm ² /s	
Kinematic viscosity @100°C	8.757 mm ² /s	
Dropping point	No information available	
Vapor Pressure	No information available	
Vapor density	No information available	

SECTION 10: Stability and reactivity

Reactivity
No data available

Chemical stability
Stable under normal conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Strong oxidizing agents. Heat, flames and sparks.

Incompatible materials
None known based on information supplied.

Hazardous Decomposition Products
Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Safety data sheet number: 32400136
Page 4 / 7

324011500 - ULVOIL R-7 Revision date 20-Nov-2015

SECTION 11: Toxicological information

Information on likely routes of exposure.

Product Information No data available

INHALATION No data available.

Eye contact No data available.

Skin Contact No data available.

INGESTION No data available.

Chemical name	Acute toxicity (LD50) Oral	Acute toxicity (LD50) Dermal	Inhalation LC50
PETROLEUM HYDROCARBON (MINERAL OIL)	> 5000 mg/kg(Rat)	> 2000 mg/kg	> 5mg/l

Information on toxicological effects.

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure.

Sensitization No information available.

Gen cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard Not classified.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 2.1 of the GHS document.

SECTION 12: Ecological information

Ecotoxicity.

Chemical name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
PETROLEUM HYDROCARBON (MINERAL OIL)	LOEL (daph) = >100mg/L (VAF)	10000mg/L LC50 96h (Lepomis macrochirus)		EL50 = 100mg/(VAF)

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Mobility
No information available.

Chemical name	Partition coefficient
PETROLEUM HYDROCARBON (MINERAL OIL)	>0

Other adverse effects. No information available

Safety data sheet number: 32400136
Page 5 / 7

324011500 - ULVOIL R-7 Revision date 20-Nov-2015

SECTION 13: Disposal considerations

Waste treatment methods

Disposal of wastes Improper disposal or reuse of this container may be dangerous and illegal.

Contaminated packaging Do not reuse container.

SECTION 14: Transport information

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG Not regulated

ADR Not regulated

IBC Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not regulated

Proper shipping name Not regulated

CATEGORY Not regulated

SECTION 15: Regulatory information

US Federal Regulations.

SARA 312
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories.

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations.

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

U.S. EPA Label Information.

Safety data sheet number: 32400136
Page 6 / 7

324011500 - ULVOIL R-7 Revision date 20-Nov-2015

EPA Pesticide Registration Number Not Applicable

International Inventories.

ENCS	Complex
TSCA	Complex
ENCS/ELINCS	Complex
DSL	Complex
AICS	Complex
KECL	Complex
PICCS	Complex
China (ECS)	Complex
NZIC	Complex
Taiwan	Complex

SECTION 16: Other information

NFPA. Health hazards 0 Flammability 1 Instability 0 Physical and Chemical Properties -

HMS. Health hazards 0 Flammability 1 Physical hazards 0 Personal protection X

Issue Date 01-Dec-2004

Revision date 20-Nov-2015

Revision Note No information available

Disclaimer
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Safety data sheet number: 32400136
Page 7 / 7

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

TS MATERIAL SAFETY DATA SHEET *Chen Gang*

1. Chemical Product and Company Identification
Product Name: RP-133 Rare Earth POLYMER (Red)
Manufacturer's Name: Xin Neng Group Limited
Manufacturer's Address/Code: 97, Pottogee House, 11 Duddell Street, Central, Hong Kong
Telephone: 00852-2810 9737
Fax No.: 0086-769-85316502

2. Composition/Information on Ingredients
Substance or Mixture? Mixture

No.	Chemical Name	Content (%)	CAS No.	Chemical Formula
1	Cerium Oxide	62	1306-38-3	CeO ₂
2	Lanthanum Oxide	28	1312-81-8	La ₂ O ₃
3	Praseodymium Oxide	4	13037-29-5	Pr ₂ O ₃
4	Neodymium Oxide	1	1313-97-9	Nd ₂ O ₃
5	Others	5	-	-

3. Hazards Summarizing
Emergency Overview: No data in classification by the GHS.
Invasive Way: Skin or Eye Contact, Inhalation, Ingestion
Potential Health Effects: Harmful if Inhalation or Ingestion. Irritating to eyes, and mucous membrane.
Potential: Environmental Effects: Not available.
Burn or Blast Risk: Not available.

4. First Aid Measures
Eye Contact: Remove any contact lenses at once. Lifting the upper and lower eyelids, flushing them with running water for at least 15 minutes. Seek for Medical Attention.
Skin Contact: Remove contaminated clothes and shoes. Rinsing skin with plenty of water or soapy water. If irritation persists, consult a physician.
Inhalation: Remove the victim to fresh air. If breathing is difficult, irregular, or has stopped, open his airway: loosen his collar and belt or do CPR. Refer for medical attention.
Ingestion: Rinsing mouth thoroughly with water. Do not induce vomiting. Seek medical attention.
Protection to First Aiders: wear proper protective equipment to avoid contacting

第1页

with skin or eyes.

5. Fire Fighting Measures
Specific Hazards: This product is nonflammable.
Extinguishing Media: Remove the container to the fresh air. If it can't be removed, cooling it with water until the fire falls down.
Fire Fighting Instructions: Make the worker leave right away, cut off the source of ignition as soon as possible. Firemen should wear proper protective equipment.

6. Accidental Release Measures
Release Measures: Keep the air circulate, cut off the source of leakage as soon as possible and avoid it leaking into sewers, and other lowland restricted space. Avoid raising dust.
Protection to Aiders: Wear proper protective equipment. Avoid contacting with skin
Environmental Precautions: Contaminated water without proper treatment should not be discharged.
Spill/Leak Response: Ensure that the air circulate. Place the leaking products in a bag and hold for waste disposal.

7. Handling and Storage
Handling: The operator must be specially trained and strictly abide by the rules. Handle material with suitable protection and avoid raising dust, inhaling or contacting with skin or eye. Practice good personal hygiene after using this material especially before eating, drinking, smoking or using the toilet.
Storage: Store in a well-ventilated location. Storage areas should be equipped with emergency equipment and suitable leaking host material.

8. Exposure Controls / Personal Protection
Exposure Limit Values: 3mg/m³/10mg/m³ (Inhalable fraction)
Engineering Measures: Avoid raising or inhaling dust. Ensure that eye wash station and safety shower are proximal to the workstation location.
Personal Protection:
Respiratory Protection: Contact with the substance should wear dust masks; high concentrations, should wear contacts-filtering respirators; emergency rescue or evacuation, should wear respirators or oxygen air respirator.
Eye Protection: Wear protective chemical safety glasses.
Body Protection: wear long-sleeved anti-infiltration uniform.
Hand Protection: Wear rubber gloves.
Other Information: Avoid eating, drinking or smoking at workstation. Take a shower after work. Conduct pre-employment and periodic medical examinations.

9. Physical and Chemical Properties
Appearance and Physical State: Brown Powder

第2页

PH: No data.
Boiling Point: No data.
Melting Point: No data.
Water Density (water=1): No data.
Vapor Density (air=1): No data.
Vapor Pressure: No data.
Flash Point: No data.
Flammability: Nonflammable.
Solubility in Water: Insoluble.
Specific Gravity: 6-7mg/cm³
General Use: Grinding and Abrasives.
Other Specific Properties: No data.

10. Stability and Reactivity
Stability: Stable under normal and anticipated storage and handling conditions.
Contents to Avoid: Not available.
Incompatibilities with Other Materials: This is an oxidizing substance.
Hazardous Decomposition Products: Not available.
Hazardous Polymerization: Not available.

11. Toxicological Information
Acute Toxicity:
Oral LD₅₀(rat) >500mg/kg (RTCS) (Cerium Oxide)
Abdominal cavity LD₅₀(mouse) >465mg/kg (RTCS) (Cerium Oxide)
Sensitization: Not available.
Allergenicity: Not available.
Mutagenicity: Not available.
Teratogenicity: Not available.
Carcinogens: Not available.

12. Ecological Information
Ecotoxicity: Not available.
Persistence and Degradability: Not available.
Bioaccumulative Potential: Not available.
Environment Change: Not available.
Other Adverse Effects: Not available.

13. Disposal
Waste disposal: Place the leaking products in a bag and hold for waste disposal. Avoid raising dust.
Disposal Notice: Contaminated water without proper treatment should not be discharged.

14. Transport Information

第3页

Dangerous Goods Code: No data in classification.
Packing Methods: Using polyethylene packaging material sealed, then placed it in boxes or plastic barrels.
U.N.No.: No data in classification.
Transport Notice: Confirm the damaged containers, corrosion, leakage and so on before transportation. Avoid overturning, overloading as loading.

15. Regulatory Information
Regulation Information: Follow all regulations in your country.

16. Other Information
Because our survey information and documentation is limited, this information may not be comprehensive. The substances may also exist some unknown dangers, the data above are not guaranteed, so please use it with caution.
Reference:
● GHS(The Globally Harmonized System of Classification & Labelling of Chemicals)
● CAS(Chemical Abstract Service Register) No.
● CSDS(General Rules for Preparation of Chemical Safety Data Sheet)
Date: 2012-2-18
Department: The Production and Technology Department
Check Department: The Production and Technology Department

第4页

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

TS MATERIAL SAFETY DATA SHEET

1. Chemical Product and Company Identification *Chen Gang*
Product Name: RP-121 Rare Earth Polishing Powder(White)
Manufacturer's Name: Xin Neng Group Limited
Manufacturer's Address/Cade: 9/F, Baitoujiao House, 11 Duddell Street, Central, Hong Kong
Telephone: 00852-2810 9737
Fax No.: 0086-769-85316502

2. Composition/Information on Ingredients
Substance or Mixture? Mixture

No.	Chemical Name	Content (%)	CAS No.	Chemical Formula
1	Cerium Oxide	66	1306-38-3	CeO ₂
2	Lanthanum Oxide	28	1312-81-8	La ₂ O ₃
3	Neodymium Oxide	1	1313-97-9	Nd ₂ O ₃
4	Others	5	-	-

3. Hazards Summarizing
Emergency Overview: No data in classification by the GHS.
Inhalation: Skin or Eye Contact, Inhalation, Ingestion
Potential Health Effects: Harmful if Inhalation or Ingestion. Irritating to eyes and mucous membrane.
Potential: Environmental Effects: Not available.
Burn or Blast Risk: Not available.

4. First Aid Measures
Eye Contact: Remove any contact lenses at once. Lifting the upper and lower eyelids, flushing them with running water for at least 15 minutes. Seek for Medical Attention.
Skin Contact: Remove contaminated clothes and shoes. Rinsing skin with plenty of water or soapy water. If irritation persists, consult a physician.
Inhalation: Remove the victim to fresh air. If breathing is difficult, irregular, or has stopped, open his airway: loosen his collar and belt or do CPR. Refer for medical attention.
Ingestion: Rinsing mouth thoroughly with water. Do not induce vomiting. Seek medical attention.
Protection to First Aiders: wear proper protective equipment to avoid contacting with skin or eyes.

第1页

5. Fire Fighting Measures
Specific Hazards: This product is nonflammable.
Extinguishing Media: Remove the container to the fresh air. If it can't be removed, cooling it with water until the fire falls down.
Fire Fighting Instructions: Make the worker leave right away, cut off the source of ignition as soon as possible. Firemen should wear proper protective equipment.

6. Accidental Release Measures
Release Measures: Keep the air circulate, cut off the source of leakage as soon as possible and avoid it leaking into sewers, and other lowland restricted space. Avoid raising dust.
Protection to Aiders: Wear proper protective equipment. Avoid contacting with skin
Environmental Precautions: Contaminated water without proper treatment should not be discharged.
Spill/Leak Response: Ensure that the air circulate. Place the leaking products in a bag and hold for waste disposal.

7. Handling and Storage
Handling: The operator must be specially trained and strictly abide by the rules. Handle material with suitable protection and avoid raising dust, Inhalation or contacting with skin or eye. Practice good personal hygiene after using this material especially before eating, drinking, smoking or using the toilet.
Storage: Store in a well-ventilated location. Storage areas should be equipped with emergency equipment and suitable leaking host material.

8. Exposure Controls / Personal Protection
Exposure Limit Values: 3mg/m³ (Inhalable fraction)
Engineering Measures: Avoid raising or Inhalation dust. Ensure that eye wash station and safety shower are proximal to the workstation location.
Personal Protection:
Respiratory Protection: Contact with the substance should wear dust masks; high concentrations, should wear contacts-filtering respirators; emergency rescue or evacuation, should wear respirators or oxygen air respirator.
Eye Protection: Wear protective chemical safety glasses.
Body Protection: wear long-sleeved anti-infiltration uniform.
Hand Protection: Wear rubber gloves.
Other Information: Avoid eating, drinking or smoking at workstation. Take a shower after work. Conduct pre-employment and periodic medical examinations.

9. Physical and Chemical Properties
Appearance and Physical State: White Powder
PH: No data.

第2页

Boiling Point: No data.
Melting Point: No data.
Water Density (water=1): No data.
Vapor Density (air=1): No data.
Vapor Pressure: No data.
Flash Point: No data.
Flammability: Nonflammable.
Solubility in Water: Insoluble.
Specific Gravity: 6-7mg/cm³
General Use: Grinding and Abrasives.
Other Specific Properties: No data.

10. Stability and Reactivity
Stability: Stable under normal and anticipated storage and handling conditions.
Conditions to Avoid: Not available.
Incompatibilities with Other Materials: This is an oxidizing substance.
Hazardous Decomposition Products: Not available.
Hazardous Polymerization: Not available.

11. Toxicological Information
Acute Toxicity:
Oral LD₅₀(rat) > 500mg/kg (RTCS) (Cerium Oxide)
Abdominal cavity LD₅₀(mouse) > 465mg/kg (RTCS) (Cerium Oxide)
Sensitization: Not available.
Allergenicity: Not available.
Mutagenicity: Not available.
Teratogenicity: Not available.
Carcinogen: Not available.

12. Ecological Information
Ecotoxicity: Not available.
Persistence and Degradability: Not available.
Bioaccumulative Potential: Not available.
Environment Change: Not available.
Other Adverse Effects: Not available.

13. Disposal
Waste disposal: Place the leaking products in a bag and hold for waste disposal. Avoid raising dust.
Disposal Notice: Contaminated water without proper treatment should not be discharged.

14. Transport Information
Dangerous Goods Code: No data in classification.

第3页

Packing Methods: Using polyethylene packaging material soiled, then placed it in boxes or plastic barrels.
U.N.No.: No data in classification.
Transport Notice: Confirm the damaged containers, corrosion, leakage and so on before transportation. Avoid overturning, overloading as loading.

15. Regulatory Information
Regulation Information: Follow all regulations in your country.

16. Other Information
Because our survey information and documentation is limited, this information may not be comprehensive. The substances may also exist some unknown dangers, the data above are not guaranteed, so please use it with caution.
Reference:
● GHS(The Globally Harmonized System of Classification & Labelling of Chemicals)
● CAS(Chemical Abstract Service Register) No.
● CSDS(General Rules for Preparation of Chemical Safety Data Sheet)
Date: 2012-3-13
Department: The Production and Technology Department
Check Department: The Production and Technology Department

第4页

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

化学品安全技术说明书

MSDS

产品名称: 稀土抛光粉

Product Name: Polishing Powder (S-204)

编制日期/Compile Date: 2006.09.21

修订日期/Revision Date: 2016.01.01

1、化学品及企业标识 Chemical Product and Company Identification

化学品的名称: 稀土抛光粉 S 系列

Product Name: Rare Earth Polishing Powder (S-204)

一般用途: 研磨剂。

General Purpose: Abrasives.

制造/Manufacturing:

公司名称: 东莞市思旺光电材料有限公司

Company Name: Dongguan Siwang Photoelectric Materials CO.,LTD

地址: 东莞市长安镇莲峰路101号

Address: No.101 Lianfeng Road Chang'an Town, Dongguan

电话号码/Telephone: +86-(0)769-82387446

应急电话/Emergency Telephone: +86-(0)769-82387446

传真/Fax: +86-(0)769-82387447

电子邮件地址/E-mail Address: sw@sgswang.com

2、危险性概述 Hazards Summary

紧急情况概述: 吞食后会对人体有害。

Emergency Situation Summary: Harmful if ingestion.

潜在健康影响 Potential Health effects:

吞食后会对人体有害。 Harmful if ingestion.

切勿吸入粉尘。 Be sure not to inhale the dust.

刺激眼睛和粘膜。 Irritating to eyes and mucous membrane.

潜在环境影响: 无数据。

Potential Environment Effects: No Data.

GHS 分类 / GHS Classification: 在 GHS 中未分类。 No Classification in GHS.

1 / 7

3、成分/组成信息 Composition/Information on ingredients

物质或混合物: 混合物

Substance or Mixture: Mixture

化学名称: 铈、铈的氧化物和氟化物。

Chemical Name: Oxide and Fluoride of Cerium and Lanthanum.

成分组成 Ingredients

序号 NO	化学名称 Chemical Name	含量 (%) Content (%)	CAS 登记号 CAS NO.	EINECS 编号 EINECS NO.	化学式 Chemical Formula
1	氧化铈 Cerium Oxide	50-90	1306-38-3	215-150-4	CeO ₂
2	氧化镧 Lanthanum Oxide	25-50	1312-81-8	215-200-5	La ₂ O ₃
3	稀土氟化物 Rare Earth Fluoride	10-20	68188-85-2	269-166-1	未指定

4、急救措施 First Aid Measures

吸入: 将吸入者移至新鲜空气处。

如果吸入者呼吸困难, 不规律或是已经停止呼吸, 则立即解开吸入者的衣领、裤带或是做人工呼吸等, 并向医生求助。

Inhalation: Remove the victim to fresh air. If breathing is difficult, irregular, or has stopped, open his airway, loosen his collar and belt or do CPR. Refer for medical attention.

皮肤接触: 脱掉接触者身上被污染的衣物和鞋子。

用大量清水冲洗皮肤。可以使用肥皂进行彻底清除。

如皮肤仍有不适感, 请向医生求助。

Skin Contact: Remove contaminated clothes and shoes. Rinsing skin with plenty of water or soapy water. If irritation persists, consult a physician.

眼睛接触: 接触者如佩戴隐形眼镜, 则立即摘掉隐形眼镜。提起眼睑, 用流动清水冲洗至少 15 分钟。向医生求助。

Eye Contact: Remove any contact lenses at once. Lifting the upper and lower eyelids and flushing them with running water for at least 15 minutes. Seek for Medical Attention.

2 / 7

食入: 用清水彻底清洗口腔。催吐。向医生求助。

Ingestion: Rinsing mouth thoroughly with water. Promote the victim to emesis. Seek medical attention.

保护进行紧急处理的人: 为避免接触到皮肤或进入眼睛, 带好防护眼镜、手套和有机蒸汽口罩。

Protection to First Aiders: Wear proper protective equipment to avoid contacting with skin or eyes.

5、消防措施 Fire Fighting Measures

易燃特性: 本产品为不可燃产品。

Flammable Characteristics: This product is nonflammable.

灭火剂和灭火方法: 根据火源周围环境选择合适的灭火条件进行灭火。

Fire Extinguishing Agent and Method: Choose appropriate extinguishing condition according to the fire environment.

灭火注意事项: 应急处理人员穿戴好适当的防护用具 (安全眼镜、手套和化学防毒面具)。

Fire Fighting Instruction: The emergency response personnel should wear appropriate protective equipment (protective glasses, gloves and chemical gas masks).

6、泄漏应急处理 Accidental Release Measures

作业人员防护措施 Emergency Personnel Protective Measures:

避免与皮肤和眼睛接触。 Avoid contacts with skin and eyes.

应急处理人员应穿戴好防护用具。 Wear proper protective equipment.

环境保护措施: 防止泄漏的产品进入下水道、低地等限制性空间。

Environmental Precautions: Prevent the leakage of product into the sewer or lowland restricted spaces.

泄漏化学品的处置: 扫成一堆, 集中回收在大编织袋中并作为废物处理。

Leaking Chemicals Disposal: Swept into a heap and recovery in a big bag, and disposal as wastes.

7、操作处置与储存 Operation and Storage

操作处置 Way of handling:

避免扬起粉尘。 Avoid raising dust.

避免吸入粉尘。 Avoid inhale dust.

3 / 7

避免与皮肤或是眼睛接触。 Avoid connecting with skin or eyes.

提取该物质应采取适当的保护措施, 远离热源或火源。

Handle material with suitable protection and away from heat or combustion source.

培养个人良好的卫生习惯。在使用该物质后, 要及时清洗, 尤其是在吃饭、喝水、吸烟、去卫生间前。

Bring up good personal hygiene and cleaning in time, especially before eating, drinking, smoking and going to the toilet.

储存: 储存在干燥、通风良好的位置。

Storage: Store at a dry and well-ventilated location.

在不使用时, 保证容器直立、密封。

Ensure the container upright and seal when not in use.

不相容: 无数据。

Incompatible: No data.

8、接触控制和个体防护 Exposure Controls and Personal protection

最高容许浓度: 3 mg/m³—10 mg/m³ (可吸入量)

Exposure Limit Values: 3mg/m³-10mg/m³ (Inhalable fraction)

工程控制方法 Engineering Control Measures:

避免扬起粉尘。 Avoid raising dust.

确保在工作场所附近配有安全淋浴和洗眼设备。

Ensure that there is equipped with safety shower eye wash devices near the workplace.

个人防护 Personal Protection:

呼吸系统防护: 过滤呼吸器。

Respiratory Protection: Air-purifying respirator.

眼睛防护: 佩戴安全防护眼镜。

Eyes Protection: Wear safety protective glasses.

手、皮肤和身体防护: 穿防渗透的长袖工作服。

Hands, Skin and Body Protection: Wear anti permeable protective clothing, resistant gloves, aprons and boots that prevent infiltration.

耐酸碱的手套、围裙和防渗透的靴子。

9、理化特性 Physical and Chemical Properties

4 / 7

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

外观：白色或淡粉色粉末

Appearance: White or Light Pink Powder

气味：无数据

Smell: No Data

pH值：无数据

pH: No Data

熔点：无数据

Melting Point: No Data

闪点：不燃

Flash Point: No Data

可燃性：不可燃

Flammability: Nonflammable

比重：6-7 mg/cm³

Specific Gravity: 6-7mg/cm³

溶解性：不溶于水

Solubility in Water: Insoluble

10. 稳定性和反应性 Stability and Reactivity

避免条件：无数据

Avoid Conditions: No Data

稳定性：在正常的存储和使用条件下，该产品被认为是稳定的材料

Stability: Stable under normal and anticipated storage and handling conditions.

禁配物：无

Prohibited content: Nothing

危险反应/分解产物：无数据

Hazardous Polymerization/Decomposition Product: No Data

11. 毒理学信息 Toxicology Information

急性毒性 Acute Toxicity:

口服（鼠）LD50>5000 mg/kg (IUCLID (2000)) (参考氧化铈)

Oral LD50 (rat) > 5000 mg/kg (IUCLID (2000))(RTECS)(Cerium Oxide)

皮肤（鼠）LD50>2000 mg/kg (IUCLID (2000)) (参考氧化铈)

Skin LD50 (rat) > 2000mg/kg (IUCLID (2000))(RTECS)(Cerium Oxide)

5 / 7

吸入（粉尘）（大鼠）LD50>5.05 mg/kg (IUCLID (2000)) (参考氧化铈)

Inhalation LD50(mouse)>5.05mg/kg(IUCLID (2000))(RTECS)(Cerium Oxide)

眼睛刺激性：眼睛刺激（兔）：轻微（参考氧化铈）

Eye Irritation: Eye Stimulation (rabbit): Slight (Cerium Oxide)

皮肤刺激：皮肤刺激（兔）：无（参考氧化铈）

Skin Irritation: Skin Stimulation (rabbit): No (Cerium Oxide)

致敏性（单次接触）：实验大鼠在4.12-5.98 mg/L, 4小时吸入试验下，出现呼吸困难、发抖和肺部弥漫性的小幅白色病变（参考氧化铈）

Allergic (single contact): Experimental rats inhale 4 hours under test in 4.12 to 5.98 mg/L, appears difficulty in breathing, trembling and pulmonary diffuse small white lesions (cerium oxide).

致敏性（反复接触）：工人长时间暴露于稀土粉尘（例参考氧化铈）灰肺部在发现积累的稀土元素。报告称，由于肺部纤维结构出现肉芽肿、间质肺气肿导致肺功能和/或肺活量的下降（参考氧化铈）。

Contact allergic (repeatedly): Workers exposed for a long time in the rare earth dust (cerium oxide), it appears that grey lung accumulation of rare earth elements have been found. According to the report, due to the fiber structure appear granuloma, interstitial lung emphysema led to a decline in lung function and/or lung capacity (cerium oxide).

12. 生态学信息 Ecological Information

生态毒性：无数据

Ecological Toxicity: No Data

持久性和降解：无数据

Persistence and Degradation: No Data

生物富集：无数据

Bio-concentration: No Data

其它有害的环境影响：无数据

Other Harmful Environmental Effects: No Data

在废弃时遵从国家的规则，地方的规则

Comply with all federal, state and local regulations.

不要倾倒入下水道，地面上或进入任何水体。

6 / 7

Do not dump into sewers, on the ground or into any water body.

具体事宜参照贵国相关规定。

The concrete issues with reference to the rules in your country.

14. 运输信息 Transport Information

参照贵国相关规定。

With reference to the rules in your country.

Hazardous Materials: N/A, Sea transport: N/A, Air transport ICAO/IATA: N/A

15. 法规信息 Regulatory Information

参照贵国相关规定。

With reference to the rules in your country.

OSHA STATUS: This product is not hazardous under 29 CFR 1910.1200

TSCA STATUS: All components on TSCA INVENTORY

SARA TITLE III

SECTION 302(40 CER 355): N/A

SECTION 311/312(40CER370): N/D

SECTION 313(40CER372): N/A

16. 其他信息 Other Information

据我们调查，本文中提供的信息是准确的。然而，东莞市思旺光电材料有限公司不对本文信息的准确性和完整性承担责任。虽然对某些危险进行了解释说明，但我们不能保证这些是唯一存在的风险，该物质还可能存在某些未知的风险，请谨慎使用。

According to our survey, the informations that mentioned in the article are correct. However, Bao Tou TianJiao Seimi Rare Earth Polishing Powder Ltd.Co. has no liability for the accuracy and completeness of this article. Even though we have explained some of the dangerous, still we cannot ensure these are the only risks, this material also may have some unknown risks, please use caution.

引用文献 Reference

NIOSH_危险化学药品使用手册

NIOSH_Dangerous Chemicals Using Manual

安全与卫生信息中心材料安全数据表

Material Safety Data Sheet of Safety and Health Information Center

7 / 7

Company name: Shin-Etsu Chemical Co., Ltd. Reference #: GCSA30 / 04 Version #: 03 Revision date: 02-23-2017

1 / 7

Shin-Etsu

SAFETY DATA SHEET

1. Chemical and company identification

Name of chemical (Product name) Shin-Etsu Silicone-X-31-1598-2

MANUFACTURER

COMPANY NAME Shin-Etsu Chemical Co., Ltd.
CONTACT Quality Assurance Department (Gurma Complex)
ADDRESS 13-1, Isobe 2-chome, Atsuka-shi, Gunma 379-0195, JAPAN
TELEPHONE 027-385-2172
FAX NUMBER 027-385-2753

SUPPLIER

COMPANY NAME Shin-Etsu Chemical Co., Ltd.
CONTACT Planning & Administration Department, Silicone Division
ADDRESS 6-1, Ohtsuka 2-chome, Atsuka-shi, Gunma 379-0195, JAPAN
TELEPHONE 03-3246-5121
FAX NUMBER 03-3246-5381
EMERGENCY 027-385-2172 (Holiday/Nighttime: 027-385-2111)

Recommended use of the chemical and restrictions on use

Intended use RTV rubbers
Restrictions on use RTV rubber for electrical, electronic and general industry (gluing and sealing)
Industrial use only.

2. Hazards identification

GHS classification

Physical hazards Flammable liquids Category 2
Health hazards The product is not classified according to GHS.
Environmental hazards The product is not classified according to GHS.
"Hazards not stated here are "Not classified", "Not applicable" or "Classification not possible".

GHS label elements

Symbol



Signal words

Danger

Hazard statement

Highly flammable liquid and vapor.

Precautionary statement

Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection.

Response

In case of fire: Use appropriate extinguishing media for extinction. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

Storage

Store in a well-ventilated place. Keep cool.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

This product reacts with water, moisture or humid air to evolve following compounds: Acetone

Emergency overview

May be ignited by heat, sparks or flames.

3. Composition/information on ingredients

Substance or mixture

Mixture
(Silicone mixture)

SOS Japan (English)

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Company name: Shin-Etsu Chemical Co., Ltd. Reference #: GCSA50 / 04 Version #: 03 Revision date: 02-23-2017

2 / 7

Components	CAS Number	Gazette notification ENCs no.	ISHL no.	Concentration (%)
Crystalline free silica	Proprietary	Proprietary	Proprietary	10 - 15
Alkenoxysilane	Proprietary	Proprietary	Proprietary	1 - 5
Decomposition	CAS Number	Gazette notification ENCs no.	ISHL no.	Concentration (%)
Acetone	67-64-1	(2)-542	(2)-542	

All components are listed on ENCS under CSDL.
(Contains small volume of new substance.)

4. First aid measures

If inhaled

Move to fresh air. Call a physician if symptoms develop or persist.

If on skin

Take off immediately all contaminated clothing. Wash skin with soap and water. Get medical attention if irritation develops and persists.

If in eyes

Rinse immediately with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.

If swallowed

Rinse mouth. Get medical attention immediately.

Notes to physician

Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Water fog, Foam, Dry chemical powder, Carbon dioxide (CO₂).

Extinguishing media to avoid

None known.

Specific hazards

By heating and fire, harmful vapors/gases may be formed.

Nitrogen oxides, (corrosive)

Special fire fighting procedures

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Protection of fire-fighters

Firefighters must use standard protective equipment including flame retardant coat, helmet, gloves, rubber boots, and self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency measures

Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Ventilate closed spaces before entering them. Wear appropriate personal protective equipment.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

Methods or materials for containment and cleaning up

ELIMINATE all ignition sources (no smoking, flames, sparks or flames in immediate areas). Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Large Spills: Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation)

All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Vapors may form explosive mixtures with air. Provide adequate ventilation.

Safe handling advice

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not smoke. Take precautionary measures against static discharge. Use care in handling/storage. Do not breathe mist or vapor. Avoid prolonged exposure.

Contact avoidance measures

Refer to section 10: stability and reactivity.

SDS Japan (English)

Company name: Shin-Etsu Chemical Co., Ltd. Reference #: GCSA50 / 04 Version #: 03 Revision date: 02-23-2017

3 / 7

Hygiene measures Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

Storage

Safe storage conditions Keep away from heat, sparks and open flame. Store in cool place. Store in a well-ventilated place. Keep container tightly closed. Keep out of the reach of children. Store in a cool, dry place out of direct sunlight.

Safe packaging materials Keep in original container.

8. Exposure controls/personal protection

Occupational exposure limits

Japan, OELs - ISHL (Workplace Environment Assessment Standards)

Decomposition	Type	Value
ACETONE (CAS 67-64-1)	TLV	500 ppm

Japan, OELs - JSOH (Japan Society of Occupational Health: Recommendation of Occupational Exposure Limits)

Decomposition	Type	Value
Acetone (CAS 67-64-1)	TWA	470 mg/m ³
		200 ppm

US, ACGIH Threshold Limit Values

Decomposition	Type	Value
Acetone (CAS 67-64-1)	STEL	500 ppm
	TWA	250 ppm

Biological limit values

Japan, BELs - JSOH (Japan Society of Occupational Health: Recommendation of Occupational Exposure Limits Based on Biological Monitoring)

Decomposition	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	40 mg/l	Acetone	Urine	

* - For sampling details, please see the source document.

ACGIH Biological Exposure Indices

Decomposition	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	25 mg/l	Acetone	Urine	

* - For sampling details, please see the source document.

Engineering measures

Explosion-proof general and local exhaust ventilation. Provide eyewash station. Pay attention to ventilation such as local exhaust, mechanical and/or door open for at least 24 hours after application.

Personal protective equipment

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection Wear protective gloves.

Eye protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear suitable protective clothing.

9. Physical and chemical properties

Appearance

Form Paste.
Color Milk-white

Odor Mercapto odor

pH

Not measurable (Refer to water solubility)

Melting point/freezing point

No data

Boiling point, initial boiling point, and boiling range

Not applicable

Flash point

59 °F (15 °C) Closed Cup

Auto-ignition temperature

No data

Flammability limit - lower (%)

2.1 % v/v (Acetone)

Flammability limit - upper (%)

13.0 % v/v (Acetone)

Vapor pressure

Negligible (25 °C)

SDS Japan (English)

Company name: Shin-Etsu Chemical Co., Ltd. Reference #: GCSA50 / 04 Version #: 03 Revision date: 02-23-2017				4 / 7
Vapor density	> 1 (air=1) (Alkenoxysilane)			
Evaporation rate	< 1 (Butyl Acetate=1)			
Specific gravity	1.06 (25 °C)			
Solubility (Water)	Not soluble			
Partition coefficient (n-octanol/water)	Not applicable			
Decomposition temperature	Not available.			
Viscosity	11 Pa s (25 °C)			
Molecular weight	Not applicable			
10. Stability and reactivity				
Reactivity	No hazardous reaction known under normal conditions of use, storage and transport.			
Chemical stability	Stable at normal conditions.			
Possibility of hazardous reactions	Hazardous polymerization does not occur.			
Conditions to avoid	None specific.			
Incompatible materials	Strong oxidizing agents. Water, moisture.			
Hazardous decomposition products	This product reacts with water, moisture or humid air to evolve following compounds: Acetone. Thermal breakdown of this product during fire or very high heat condition may evolve the following hazardous decomposition product: Carbon oxides and traces of incompletely burned carbon compounds, Silicon dioxide, Nitrogen oxides, Formaldehyde.			
11. Toxicological information				
Acute toxicity				
Components	Species	Test Results		
Crystalline free silica				
Acute				
Oral				
LD50	Mouse	> 15000 mg/kg		
	Rat	> 22500 mg/kg		
Decomposition	Species	Test Results		
Acetone (CAS 67-64-1)				
Acute				
Inhalation				
LD50	Rat	50.1 mg/l, 8 Hours		
Oral				
LD50	Mouse	3000 mg/kg		
	Rabbit	5340 mg/kg		
	Rat	5800 mg/kg		
Serious eye damage/eye irritation				
Causes eye irritation. [Acetone]				
Carcinogenicity				
ACGIH Carcinogens				
Acetone (CAS 67-64-1)				
A4 Not classifiable as a human carcinogen.				
IARC Monographs. Overall Evaluation of Carcinogenicity				
Crystalline free silica (CAS Proprietary)				
3 Not classifiable as to carcinogenicity to humans.				
Reproductive toxicity				
Suspected of damaging fertility or the unborn child. [Acetone]				
Specific target organ toxicity - single exposure				
May cause damage to the following organs: Respiratory tract irritation. Narcotic effects. [Acetone]				
Specific target organ toxicity - repeated exposure				
May cause damage to the following organs through prolonged or repeated exposure: Blood. [Acetone]				
SDS Japan (English)				

Company name: Shin-Etsu Chemical Co., Ltd. Reference #: GCSA50 / 04 Version #: 03 Revision date: 02-23-2017

5 / 7

Other information	This product reacts with water, moisture or humid air to evolve following compounds: Acetone. The following raw material are not classified according to the classification criteria of GHS, although they are subject to labeling requirement under ISHL. However, no classification does not exclude the possibility of adverse effect via chronic inhalation exposure. Silica.		
-------------------	--	--	--

12. Ecological information

Ecotoxicological data	Species	Test Results
Decomposition		
Acetone (CAS 67-64-1)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 10294 - 17704 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) > 100 mg/l, 96 hours
Ecotoxicity	Not available.	

13. Disposal considerations

Local disposal regulations	Not handling substance: Incinerate. Incinerator should be appropriately equipped for silica and other fine powder which the product will generate in incineration. Workers should wear appropriate personal protective equipment(s) such as respirator. Hazardous substance: Bury or incinerate. Incinerator should be appropriately equipped for silica and other fine powder which the product will generate in incineration. Workers should wear appropriate personal protective equipment(s) such as respirator. Contract with a disposal operator licensed by the Law on Disposal and Cleaning. Dispose of contents/container in accordance with local/regional/national/international regulations.
----------------------------	--

14. Transport information

International regulations	
IATA	
UN number	UN1993
UN proper shipping name	Flammable liquid, n.o.s. (Alkenoxysilane)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	3H
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.
IMDG	
UN number	UN1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (Alkenoxysilane)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
Marine pollutant	No.
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	This product is not intended to be transported in bulk.


SDS Japan (English)

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Company name: Shin-Etsu Chemical Co., Ltd. Reference #: GCSASO / 04 Version #: 03 Revision date: 02-23-2017 6 / 7

IATA; IMDG



National regulations Follow regulation in section 15 for domestic transportation.
Emergency Response Guide Number 128

15. Regulatory information

Industrial Safety and Health Act
Specified substances regulation
Class 1 designated chemical substances Not applicable
Class 2 designated chemical substances Not applicable
Class 3 designated chemical substances Not applicable
Organic solvent regulation
Class 1 organic solvents Not applicable
Class 2 organic solvents Not applicable
Class 3 organic solvents Not applicable
Notifiable substances Not applicable
Labeling substances SILICA 10 - 15 %
Labeling substances SILICA

Poisonous and Deleterious Substances Control Act
Specified poisonous substances Not regulated
Poisonous substances Not regulated
Deleterious substances Not regulated

Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.
Class 1 specified chemical substances Not regulated
Class 2 specified chemical substances Not regulated
Monitoring chemical substances Not regulated
Priority Assessment Chemical Substances (PACs) Not regulated

Law concerning Pollutant Release and Transfer Register
Specified class 1 substances (substance name, ordinance number and content) Not applicable
Class 1 substances (substance name, ordinance number and content) Not applicable
Class 2 substances (substance name, ordinance number and content) Not applicable

Fire Service Act Class 4 Group 1 oils (Non-water soluble) Hazard rank II
Ship Safety Law, Dangerous Goods Marine Transport and Storage Rule Flammable liquid materials
Air Law, Enforcement Rule Flammable liquid materials

SDS Japan (English)

Company name: Shin-Etsu Chemical Co., Ltd. Reference #: GCSASO / 04 Version #: 03 Revision date: 02-23-2017 7 / 7

Explosives Control Act Not applicable.
High Pressure Gas Safety Act Not applicable.
Act on Prevention of Marine Pollution and Maritime Disaster Not applicable.

15. Other information

Bibliography
HSCDB - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
Japan Society for Occupational Health, Recommendation of Occupational Exposure Limits
JIS Z 7252-2014 Classification of chemicals based on Globally Harmonized System of Classification and Labeling of Chemicals (GHS)
JIS Z 7253-2012 Hazard communication of chemicals based on GHS - Labeling and Safety Data Sheet (SDS)
Japan Chemical Industry Association (JCIA) GHS Guideline, June 2012


This safety data sheet was prepared in accordance with JIS Z 7253:2012.
This information is offered in good faith as typical values and not as a product specification. No warranty, expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.
This product has been designed, manufactured and developed solely for general industrial use only. This product is not designed for, intended for use as, or suitable for, medical, surgical or other particular purposes. Users have the sole responsibility and obligation to determine the suitability of this product for any application, to make preliminary tests, and to confirm the safety of this product for their use. Users must never use this product for the purpose of implantation into the human body and/or injection into humans.

Version number 03
Revision date 02-23-2017

SDS Japan (English)


 **Material Safety Data Sheet** Form Number: HS-M-0302

SECTION 1 - Chemicals and Manufacturers Information
Chemical name: Silica scale cleaning agent
product code : HC-300C
Manufacturer or Supplier Name: Haw Chong Enterprise (Stock) Company No. 544, Minquan Road, North District, Taichung City Taiwan
Emergency contact number: 0931477032(24hrs), TEL: 04-22038416, FAX: 04-22035193

SECTION 2 - Hazard identification data
Category: Metal Corrosion/Irritation Skin Level 1, Irritating Eyes Level 1, Acute Inhalation Level 1, Specific Organ Toxic Repeat Exposure Level 1
Marked content :

Symbols : Corrosion, crucible and crucible cross bones, health hazards
Warning/Danger :
Hazard warning message :
Inhaled toxic
May corrode metal
Causes severe skin burns and eye damage
Causes serious eye damage
Long-term or repeated exposure can cause damage to organs
Hazard precautions :
If in contact with eyes, rinse immediately with plenty of water and consult a physician.
In case of accident or feeling unwell, consult your doctor immediately.
Wear appropriate protective clothing, gloves, goggles/face protection
Tightly cover the container in a well-ventilated place
Other hazards : The main symptoms: irritation, nausea, vomiting

SECTION 3 - To distinguish between data
Mixed substances :
English name : Silica scale cleaning agent
(CAS No.) : 7664-93-9 7664-39-3
Hazardous substance composition (percentage of ingredients): 17-23 54-60

1

 **Material Safety Data Sheet** Form Number: HS-M-0302

SECTION 4 - First-aid
First aid methods for different exposure routes:
Inhalation:
1. Remove the source of contamination or move the patient to fresh air.
2. If the breathing is stopped, artificial respiration is administered immediately by trained personnel, and if the heartbeats stops, CPR is administered.
3. Get medical attention immediately.
Skin contact:
1. Take off contaminated clothing, shoes and leather accessories (such as straps, belts).
2. Wash the affected area thoroughly and gently with clean water for 5 to 10 minutes. If severe, seek medical attention promptly.
Eye contact:
1. Immediately spread the eyelids and flush the contaminated eyes with gentle warm water for 10 minutes.
2. If there is still irritation after washing, rinse again.
3. Get medical attention immediately.
Ingestion:
1. Do not feed anything if the patient is about to lose consciousness, has lost consciousness, or is paralyzed.
2. Do not induce vomiting.
3. Drink to the patient 240-300ml of water.
4. If the patient has spontaneous vomiting, let his body lean forward to reduce the risk of inhalation and repeat the water supply.
5. Get medical attention immediately.
The most important symptoms and hazard effects: Deep skin burns.
Protection of emergency personnel: Class C protective equipment with rubber protective gloves to avoid contact with contaminants.
Tips for physicians: Consider gastric lavage when the patient ingests food.

SECTION 5 - Extinguishing measures
Suitable extinguishing agent: No flammability of the drug.
Special hazards that may be encountered during fire extinguishing: The containers in the fire may break and cause skin and eye hazards.
Special fire fighting procedures : ---
Special protective equipment for firefighters: Firefighters must wear air respirator, fire protection clothing and protective gloves.

SECTION 6 - Leakage treatment method
Individuals should pay attention to:
1. Provide suitable personal protective equipment.
2. Restrict personnel from entering until the spill area is completely cleaned.
3. Make sure that the trained personnel are responsible for cleaning up.
Environmental precautions:
1. Keep the spill area well ventilated.
2. Remove all sources of ignition.

2

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Material Safety Data Sheet Form Number HS-M-0302

3. Inform the government about occupational safety and health and environmental protection related units.

Cleaning method:

1. Do not touch the spill. 2. In the case of security clearance, try to prevent or reduce spillage.
3. Contain spillage with sand, earth, or similar stable, non-combustible material that does not react with spilled material. Contaminated absorbents and excreta have.
4. The same hazards must be placed in standard containers marked and labeled.
5. When there is a lot of spillage, flush the spill area with water.
6. In the case of small spills, flush the spill area with water.
7. When there is a lot of spillage, contact emergency handling units and suppliers for assistance.

SECTION 7 - Safe disposal and storage methods

Disposal:

1. This substance is a highly corrosive liquid and should be operated during project control and make good use of personal protective equipment. Workers should be trained in the hazards and safe use of appropriate substances. 2. Remove all sources of ignition and keep away from heat and incompatible materials. 3. Empty tanks, vessels, and pipelines may still have hazardous residues and should not be used until cleaned. 4. Do not use <strong oxidants> with incompatible materials. Use storage containers made of compatible materials, being careful not to spray them when dispensing. 5. Do not return the contaminated liquid to its original container. 6. Containers should be labeled and kept tight and free from damage when not in use.

Store:

1. Store in a cool, dry, well-ventilated, well-lit place where sunlight is not directly exposed, away from incompatible materials such as strong acid oxidants. 2. There is a ramp or sill or trench at the entrance to allow the spill to be discharged to a safe place. 3. The storage area should be clearly marked, free from obstructions and allowed to be entered by designated or trained personnel. 4. Store in an appropriate and labeled container; keep it tightly closed to avoid container accumulation and damage. 5. The storage tank shall be a floor storage tank, and the entire area at the bottom shall be sealed to prevent leakage. There shall be a spill-proof embankment that can contain the entire capacity.

SECTION 8 - Exposure prevention measures

Engineering Control: 1. Use a ventilation system and separate it from other ventilation systems. 2. The exhaust port leads directly to the window. 3. Supply sufficient fresh air to supplement the row Air extracted from the air system.

Control parameters:

TWA	STEL	CEILING	BEI
3ppm	6ppm	---	3mg/gc

Personal protective equipment:

Respiratory Protection: Above 500 PPM: Contains vapor-purified respiratory protection or vapor-canister respiratory protection.

Above 1,500PPM: Certain flow type air supply breathing apparatus.

Above 5,000 PPM: Contains steam canister respirator, full-size self-contained breathing apparatus, or

3

Material Safety Data Sheet Form Number HS-M-0302

Full-scale respirator.

Hand protection: Impervious gloves made of cyan rubber, fluorinated elastomer, chlorinated polyethylene, or neoprene.

Eye protection: chemical safety goggles, protective masks.

Skin and Body Protection: Full body protective clothing and work shoes of the above materials.

Hygiene measures:

1. Take off contaminated clothing as soon as possible after work and wash it before it can be worn or discarded, and inform the laundry personnel of the danger of contaminants.
2. Smoking or eating is strictly prohibited in the workplace. Wash hands thoroughly after handling this substance. 4. Maintain good housekeeping.

SECTION 9 - Physical and chemical properties

Material State: Liquid	Shape: -----
colorless transparent smoke liquid	Odor: Acid
pH : ≤1	boiling point/boiling point range: 103-110 °C
Decomposition temperature: ---	Flash point: --- °C
Vapor pressure: --- mmHg @ 20 °C	Test method: () open cup () closed cup
Specific gravity (water = 1): 1.07 ± 0.05	Vapor density: (Air = 1): 1.1
	Solubility: Miscible with water

SECTION 10 - Stability and reactivity

Stability: Under normal conditions, stability

Possible hazardous reactions under special conditions: -----

Conditions to avoid: Avoid contact with alkalis and peroxides

Substances to avoid: Strong oxidants (eg peroxides) increase the risk of heat evolution and explosion.

Hazardous decomposition products: None

SECTION 11 - Toxic data

Acute Toxicity: Inhalation:

1. Exposure to high concentrations of vapor may inhibit the central nervous system, causing minor headaches, vertigo, nausea, headache, dizziness, and unconsciousness.
2. Exposure to 500ppm for 10 minutes resulted in uncomfortable nose and throat; there was no symptom in 10 minutes after exposure to 100ppm; 30 to 60 minutes below 1000 to 1500ppm, causing dizziness.
3. A very high vapor concentration in the enclosed space will result in insufficient oxygen in the air causing fatal asphyxiation. The oxygen content in normal air is 20.9%, when the oxygen content is 15-16%, the symptoms are drowsiness, fatigue, incoordination, misjudgment, confusion, intoxication, and no defensiveness; when the oxygen content is lower than 12%, it quickly causes unconsciousness, disturbed breathing, abnormal tiredness, upset, nausea, vomiting, and inability to move freely; when the oxygen concentration is less than 6%, respiratory failure and death can result.

Skin: A strong skin irritant that causes transient skin burns and redness.

Eyes: Causes eye irritation and can cause serious blindness.

Ingestion: 1. Low oral activity may inhibit the central nervous system, causing nystagmus, and unconsciousness. 2. May inhale into the lungs during swallowing or vomiting, causing chemical pneumonia, pulmonary edema, and death.

4

Material Safety Data Sheet Form Number HS-M-0302

Local effects: LC50: Inhalation, rats 3124ppm/30min 50mg/KG (rabbit, eyes) caused mild irritation.

Sensitivity: Skin contact is toxic.

Chronic toxicity or long-term toxicity: Inhalation: Long-term exposure to 500 ppm or less may affect respiratory organs and lungs.

Skin: Causes skin burns, redness, itching (dermatitis) Severe nerves produce itching pain +

Eyes: Workers exposed to 1500-3500 ppm for more than five years may cause visual abnormalities and changes in eye pigments.

SECTION 12 - Ecological data

Possible environmental impact/environmental flow distribution:

1. Avoid the flow of the original body into the river, the microorganisms in the water are not easy to survive
3. When released from the atmosphere, the vapor should interact with hydroxyl radicals.
4. When released into the soil or water, the flow cloth is expected to be mainly decomposed and absorbed.

SECTION 13 - Disposal methods

Disposal methods: Dispose of in accordance with flammability business waste disposal procedures

1. The waste should be handled according to the regulations of local government agencies. The waste solution should be placed in sealed containers for recycling.
2. The empty barrel waste must not be discarded. Please refer to the relevant regulations and submit it to the recycler for disposal.

SECTION 14 - Shipping information

UN number: UN NO.

Classification of Transport Hazards: Category 8 Corrosive Substances: Category 6.1 Toxic Substances

Packing Category: II

Marine Pollutants (Yes/No): No

Special shipping methods and precautions: None

SECTION 15 - Regulatory information

Applicable regulations:

Labor Safety and Health Facilities Regulations Hazardous Materials Harmfulness Rules

Organic Solvent Poisoning Prevention Criteria for Allowable Concentration of Hazardous Substances in the Air of Labor Working Environment

Road Transportation Rules Business Waste Storage and Removal Treatment Methods and Facilities Standards

SECTION 16 - Other information

References:

1. 危毒性化學物質安全處理手冊，行政院環境保護署管理處，1991.7
2. CHEMICAL ENGINEERING, 1993.2
3. Megalon chemical technology handbook, 1999.1

Watchmaker:

Address/Phone: No. 544, Mingan Road, North District, Taichung City Taiwan 04-22038416

Watchmaker:

Title: Word Processing Name: Yeh Kun-lin

Date of publication:

December 29, 106, Republic of China

5

Haoqi Photoelectric Co., Ltd

Material Safety Data

NO. 071

I. Names of the substances and identification of ingredients data

Substance Name	SX-Lubricant for glass glazing
Product Code	HY071
Company information	Company name : Haoqi Photoelectric Co., Ltd Address : FuShi Industrial Park YuanShanZai Road/ Xi'an Community Chang'an Town Dongguan City Guangdong Province Telephone :0769-81559860 Fax: 0763853360 Email : yufengrong2004@163.com
Recommend usage :	Main Usage: The edging of the optical lens No. 1 (hat shape) improves the processing efficiency by 50% on the basis of the original core oil extraction. The primary processing does not pull the platform, and the direct application of the ink is not whitish, and there is no damage to the machine. With cleaning effect, it is good for cleaning the machine and keeping the environment clean; and the processed lens does not need to be degreased and directly cleaned, saving the company cost.

II. CLARIFICATION OF HAZARD AND HARMFUL IDENTIFICATION

1. Hazard Statement: Not belong to the hazardous clarification.
2. Inactive approach: inhalation, ingestion, percutaneous aspiration.
3. Health hazard: mainly damages the central nervous system and cause acute respiratory symptoms; respiratory intake will cause dizzy, mild headache, more severe, will lead to numb of skin and may cause skin, pain, chronic symptoms of inflammation with contact.
4. Environment statement: May be hazardous to aquatic organisms by explosion: non-combustible (under normal temperature and normal pressure)

III. Product ingredient / ingredient information

Product ingredient	ingredients OH2, Inorganic anti rust agent, Neutral active substance, Cleaning, auxiliaries for; main component is fine chemical derivative Compound: H2O, Anti-fogging agent, anti-rust, high-temperature reaction mixture of cleaning performance; Main component is fine chemical derivative 90~98%; stabilizing agent. 2~10%.
--------------------	--

IV : First-aid measures

1. SKIN : Immediately flush with large amounts of water; Get medical attention as soon as possible.
2. EYES: Remove any contact lenses. Immediately flush eyes with large quantities of water for at least 15 minutes. Get immediate medical attention.
3. INHALATION: It is impossible to inhale non-volatile solvent, under normal temperature.

第 1 页

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Haoyi Photoelectric Co., Ltd

Material Safety Data

V. fire precaution measure :

1. Hazardous characteristics: generally not combustible, will not burn under flame;
2. Hazardous combustion products: the product itself is not flammable
3. Extinguishing methods and extinguishing agents: usually not required, can use spray water, foam, dry powder, CO₂, sand if necessary
4. Fire-fighting precautions: Firefighters should wear gas masks

VI. ACCIDENTAL LEAKING MEASURES :

1. Rapidly evacuate people from contaminated areas to safe areas
2. Small amount of leakage: rinse with sand or water
3. Large amount of leakage: construct a dike or digging a pit; transfer to a special collector with a pump and transport it to a waste disposal site.

VII. Handling and storage

Handling precautions: Good ventilation, to make sure the vapor concentration is below the threshold

Storage precautions: Regular item inventory method

VIII. Contact control and personal protection

1. Engineering control: Operate in a closed area, partly exhaust
2. Breathing: If the vapor concentration is above the threshold, use the entire breathing apparatus
3. Gloves: no need to wear gloves, skin contact does not affect, it is non-toxic and non-corrosive products, general protection can do;

IX. Physicochemical property

Melting point	-----	Boiling point	115℃
Substances state	liquid	Color	Milky white or light green
odor	no	PH value	7
Dense g/cm3(20±1℃)	1.10±	water-solubility	Completely soluble in water

X. Stability and reactivity:

1. Stability: stable
2. Incompatibility with various substances: Strong acid strong oxidant
3. Avoiding contact conditions: flames, high heat
4. Polymerization hazard: Non polymerization
5. Decomposition products :CO₂

第 2 页

Haoyi Photoelectric Co., Ltd

Material Safety Data

XI. Toxicological information

1. Acute toxicity: LD50 2560mg/kg (rats intake by mouth) LC50 88032mg/m³ (rats intake by mouth for 30 minutes)
2. Subacute and chronic toxicity: Dizziness, conjunctival irritation, etc.

XII. Ecology information:

This product is harmless to the environment and can be directly discharged into the sewer by dissolving with water.

XIII. Disposal treatment:

1. Waste properties: non-toxic
2. Disposal method: Dilute with water and directly go into the drain.

XIV. TRANSPORT INFORMATION:

Transportation ways: forbidden transport by air but can be by land or water

Packing category: II

Package 25KG/barrel 200KG/barrel

Transportation protection measures:

1. No impact or harm to the container during the packaging
2. Don't fall down the container from a high place. No piled up to avoid collision. Be careful to avoid losing or stole and so on.
3. Forbidden to transport with edible chemicals, avoid direct sunshine, rain and high temperature during transportation.

XV. RULE AND REGULATIONS INFORMATION

Hazardous Chemicals Safety Management Regulations (implemented on March 15, 2002)

Regulations for the Administration of Chemical Dangerous Goods Safety Regulations (implemented on September 28, 1992)

Provisions for the safe use of chemicals in the workplace (implemented on January 1, 1997)

XVI. Other information:

Non relevant information (instructions and procedures have been explained in Article 8)

第 3 页

1 / 5 Page

CANON OPTRON INC.
SDS Number: ES22
Product Name: SURFOL CLEAR 100

SAFETY DATA SHEET

rev. 6.2 Date of Issue 2014/9/1
Revised Date 2016/11/22

SECTION 1 Chemicals and company identification

Chemical identifier	SURFOL CLEAR 100
SDS number	ES22
Company name	CANON OPTRON INC.
Address	1744-1 Kanakubo, Yuki-shi, Ibaraki-ken, 307-0015 Japan
Section name	Internal Control Promotion Div.
Telephone number	+81-296-21-3700 (Sales Dept.)
Fax number	+81-296-21-3770
Emergency telephone number	+81-296-21-3700 (Sales Dept.)
Recommended uses and restrictions on use	Vacuum deposition material, Optical crystal material

SECTION 2 Hazards identification

GHS Classification (A classification by JIS Z 7252 "classification methods such as chemical substances based on GHS")

Physicochemical hazard	Explosives	Classification not possible
Flammable gases (including chemically unstable gases)	Not applicable	
Aerosols	Not applicable	
Oxidizing gases	Not applicable	
Gases under pressure	Not applicable	
Flammable liquids	Not applicable	
Flammable solids	Classification not possible	
Self-reactive substances and mixtures	Classification not possible	
Pyrophoric liquids	Not applicable	
Pyrophoric solids	Classification not possible	
Self-heating substances and mixtures	Classification not possible	
Substances and mixtures which in contact with water emit flammable gases	Classification not possible	
Oxidizing liquids	Not applicable	
Oxidizing solids	Classification not possible	
Organic peroxides	Classification not possible	
Corrosive to metals	Classification not possible	
Health hazard	Acute toxicity(oral)	Classification not possible
Acute toxicity(dermal)	Classification not possible	
Acute toxicity(inhalation)	Classification not possible	
Skin corrosion/irritation	Classification not possible	
Eye damage/eye irritation	Classification not possible	
Respiratory sensitization	Classification not possible	

1 / 5 Page

2 / 5 Page

CANON OPTRON INC.
SDS Number: ES22
Product Name: SURFOL CLEAR 100

SAFETY DATA SHEET

rev. 6.2 Date of Issue 2014/9/1
Revised Date 2016/11/22

Skin sensitization	Category 1A
Germ cell mutagenicity	Classification not possible
Carcinogenicity	Classification not possible
Reproductive toxicity	Classification not possible
Effects on or via lactation	Classification not possible
Specific target organ toxicity(single exposure)	Category 1
Specific target organ toxicity(repeated exposure)	Classification not possible
Aspiration hazard	Classification not possible
Hazard to the aquatic environment(acute hazard)	Classification not possible
Hazard to the aquatic environment(long-term hazard)	Classification not possible
Hazard to the ozone layer	Classification not possible

Environmental hazard

Label element

Pictogram (Symbol)

Signal word

Hazard statement

Precautionary statement

[Safety measures]

[First-aid measures]

[Storage]

[Disposal]

Exclamation

Health Hazard

Danger

May cause an allergic skin reaction. Causes damage to organs.

Do not breathe dust/fume/gas/mist/vapours/spray. Avoid breathing dust/fume/gas/mist/vapours/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

IF ON SKIN: Wash with plenty of soap and water. If exposed or concerned: Call a poison center or doctor/physician. Specific treatment. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Dispose of contents/container in accordance with national regulations.

2 / 5 Page

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

3 / 5 Page

GARENCH (P) HOLDING INC.
SOS Number: ES22
Product Name: SURFOT (TAR, 100)

SAFETY DATA SHEET

rev. 6.2 Date of Issue: 2014/9/1
Revised Date: 2016/11/22

SECTION 3 Composition and information ingredients

Substance/Mixture: Mixture

Chemical name or generic name	Copper	Iron	Fluoropolyether compound
Chemical formula	Cu	Fe	Fluoropolyether compound
CAS No.	7440-50-8	7439-89-6	Confidential-d
Concentration or concentration range	Cu: Fe = 99.99:0.01 Fluoropolyether compound : 1.0-3.1 Total = 100%		
TSCA Inventory	Copper	Iron	Listed on the TSCA Inventory
ENECs number	231-159-d	231-088-d	No data available
Radioactive information	It does not use a radioactive substance as a material. Thus, evidence of ionizing radiation occurs is not present.		

SECTION 4 First-aid measures

Inhalation: It is possible to move to fresh air victim immediately and keep at rest in a position comfortable for breathing. If you feel bad, you should contact your doctor.

Skin: Take off all contaminated clothing immediately. Remove / Flush for 15 minutes or more with soap and plenty of water. If symptoms blisters and pain comes, get medical attention if necessary.

Eye: Be flush eyes for at least 15 minutes with clean water immediately. If you use the contact lenses, as long as it is not fixed, it can be washed and removed. Be subject to medical attention without fail.

Ingestion: Rinse mouth immediately. Be subject to medical attention without fail.

Protection of first aiders: Rescuers Wear protective equipment protective eyewear, such as protective gloves.

SECTION 5 Fire-fighting measures

Extinguishing media: The product itself does not burn.

Extinguishing media are unavailable: No data available

Specific hazards: No data available

Specific extinguishing methods: The movable container, and transferred to a safe place as soon as possible in case of surrounding fire.

Protection of fire-fighters: In fire fighting, I want to wear (gloves, glasses, mask) the appropriate protective equipment.

SECTION 6 Accidental release measures

Personal precautions/protective equipment and emergency procedures: Wear (which specify what suited the nature of the product) protective equipment, such as spray or on skin, we do not want to dust inhalation, the gas at the time of work.

3 / 5 Page

4 / 5 Page

GARENCH (P) HOLDING INC.
SOS Number: ES22
Product Name: SURFOT (TAR, 100)

SAFETY DATA SHEET

rev. 6.2 Date of Issue: 2014/9/1
Revised Date: 2016/11/22

Environmental precautions: Do not flowing in rivers and sewage directly spillage. And collected in drums or paper bags are collected to wear or have make those leaked. It to absorb in saw-dust or sediment residue content of the small amount of recovery after.

Secondary disaster prevention measures: No data available.

SECTION 7 Handling and storage precautions

Handling:

Technical measures: I wear the appropriate protective equipment safety glasses, protective gloves, etc. After handling, Wash hands, face, etc., and sample.

Safety handling, precautions: When handling, to handle in place with equipment for general ventilation or local exhaust under.

Storage:

Safe storage conditions: Store tightly closed container in a well-ventilated place.

Safety packaging material: No data available.

SECTION 8 Exposure controls and personal protection

	Cu	Fe	Fluoropolyether compound
Permissible concentration			
ACGIH:	TLV-TWA 0.2 mg/m ³ (dust)	No data	TWA 200ppm (methanol decomposition products), STEL 250ppm (methanol decomposition products) (2002 edition)
Engineering controls:	To use devices that are sealed as much as possible, local exhaust ventilation or equipment.		
Personal protective equipment			
Respiratory protection:	Dust mask		
Hand protection:	Protective glove		
Eye protection:	Dust-proof glasses		
Skin and body protection:	Protective clothing		

SECTION 9 Physical and chemical properties

Appearance:

Physical state: Solid

Form: Cu, Irons

Colour: Red copper color and dark gray

Odour: None

4 / 5 Page

5 / 5 Page

GARENCH (P) HOLDING INC.
SOS Number: ES22
Product Name: SURFOT (TAR, 100)

SAFETY DATA SHEET

rev. 6.2 Date of Issue: 2014/9/1
Revised Date: 2016/11/22

	Cu	Fe	Fluoropolyether compound
pH	No data	No data	No data available
Melting point/freezing point:	1083°C	1539°C	Not applicable
Boiling point/initial boiling point and boiling range:	2567°C	2730°C	Not applicable
Flash point:	No data	None	No data available
Evaporation rate:	No data	No data	No data available
Flammability (solid, gas):	Combustible	No data	No data available
Explosive limits:			
LEL	No data	No data	No data available
UEL	No data	No data	No data available
Vapour pressure:	0.039Pa (mmHg) 0.30Pa (1628°C)	No data	Fine (25°C)
Vapour density (air = 1):	No data	No data	No data available
Specific gravity (Relative density) (Density):	8.98	7.86	1.78(25°C)
Solubility:			
Water:	Insoluble	Insoluble	Insoluble
Other solvents:	Soluble in nitric acid and heated sulfuric acid. Dissolves slowly in ammonium hydroxide. Organic solvent: No data	No data	No data available
miscibility/Water partition coefficient:	log Pow = -0.51 (EST)	No data	No data available
Auto-ignition temperature:	No data	No data	No data available
Decomposition temperature:	No data	No data	No data available
Viscosity (Coefficient of viscosity):	No data	No data	No data available
Other data:	None	None	None

SECTION 10 Stability and reactivity

	Cu	Fe	Fluoropolyether compound
Reactivity:	No data	No data	No data available
Chemical stability:	Turns green upon exposure to humid air. Compound sensitive to shock are formed by peroxide compound, ethylene oxides, and acids	Slowly oxidizes in the atmosphere.	Stable under normal conditions

5 / 5 Page

5 / 5 Page

GARENCH (P) HOLDING INC.
SOS Number: ES22
Product Name: SURFOT (TAR, 100)

SAFETY DATA SHEET

rev. 6.2 Date of Issue: 2014/9/1
Revised Date: 2016/11/22

Hazardous reactions: Reacts with oxidizer (chlorates, bromates, and nitrates, etc.) so there is a risk of explosion. Produces rust when in presence of humidity. Hazardous polymerization will not occur.

Conditions to avoid: Contact with humidity and hazardous reactive materials. High temperature, humidity, and flame. None.

Incombustible materials: Acetylene compounds, ethylene oxides, acids and oxidizers (chlorates, bromates, iodates, etc.). Strong acids and ammonia. Strong oxidizing agents, water, acid, alkali.

Hazardous decomposition products: Carbon monoxide, carbon dioxide, and carbon fumes produced by combustion. No data. This article is to generate (hydrolysis) methanol in response to mild acid and water, and the alkaline compound. There is a possibility that harmful decomposition gases containing hydroperoxide fluoride by combustion, carbonyl fluoride, carbon monoxide, and low molecular fluorocarbons, generate carbon dioxide, or heat.

SECTION 11 Hazard information

	Cu	Fe	Fluoropolyether compound
Acute toxicity (oral)	Oral rabbit LD50: 1200 g/kg	Oral administration in rat: LD50: 30 g/kg. Intraperitoneal administration in rat: LD50: 20 mg/kg. Oral administration in guinea pig: LD50: 20 mg/kg.	LD50: 14 (g/kg (rabbit)) (methanol decomposition products). LD50: 1300mg/kg (rat) (methanol decomposition products). LD50: 3400mg/kg (rat) (methanol decomposition products).
Acute toxicity (dermal)	No data	No data	LD50: 1500mg/kg (rabbit) (methanol decomposition products).
Acute toxicity (inhalation)	When inhaled, causes a burning sensation, cough, headache, and sore throat.	No data	LD50: 875mg / (rat) (methanol decomposition products).
Skin corrosion/irritation	When contacted with skin produces a symptom of reddening.	No data	No data available
Eye damage/eye irritation	If contacted with the eyes, symptoms of reddening and pain occur. There may be irritation.	No data	Strong eye irritation (methanol decomposition products).

5 / 5 Page

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

7 / 5 Page

CANON CHEMICAL INC.
SDS Number: ES02
Product Name: SURFOTONAR 100

SAFETY DATA SHEET

rev. 6.2 Date of Issue: 2014/6/1
Revised Date: 2016/11/22

Respiratory sensitization/Skin sensitization	The Japan Society for Occupational Health classifies this as Group 2 Skin Sensitization (a substance thought probably to sensitize human). But The Japanese Society for Dermatocology and Contact Dermatitis has not classified this.	No data	No data available
Germ cell mutagenicity	No data	No data	No data available
Carcinogenicity	The EPA has classified the product as Group D (substance not classifiable as to human carcinogenicity).	No data	No data available
Reproductive toxicity	No data	No data	Fear fertility or the unborn child (methanol decomposition products).
Specific target organ toxicity (single exposure)	Flames irritate the upper respiratory tract. Considered to be respiratory tract irritation.	No data	Which may affect the following organs: Central nervous system, systemic toxicity, organ of vision, respiratory tract irritation, anesthetic action (methanol decomposition products).
Specific target organ toxicity (repeated exposure)	Respiratory enlargement was observed in workers exposed to a high concentration in the air (estimated intake: 200 mg/day).	No data	May have an impact on the following organs through prolonged or repeated exposure over time: Nerve system, organ of vision (methanol decomposition products).
Aspiration hazard	No data	No data	No data available
Others	None		

SECTION 12 Ecological information

	Q1	Ex	Fluoropolymer compound
Ecotoxicity			
Fish	No data	No data	No data available
Crustacean toxicity (single exposure)	No data	No data	No data available
Algae	No data	No data	No data available

7 / 6 Page

8 / 5 Page

CANON CHEMICAL INC.
SDS Number: ES02
Product Name: SURFOTONAR 100

SAFETY DATA SHEET

rev. 6.2 Date of Issue: 2014/6/1
Revised Date: 2016/11/22

Other organisms	No data	No data	ES02 agent white water (Res.) (10000mg / liter) (methanol decomposition products).
Persistence and degradability	No data	No data	No data available
Bioaccumulative potential	No data	No data	No data available
Mobility in soil	No data	No data	No data available
Hazard to the ozone layer	No data	No data	No data available
Others	No data	No data	No data available

SECTION 13 Notes on disposal

Waste from residues: Extract the process to industrial waste disposal contractor has received a license from this governor.

Contaminated container and contaminated packaging: Recycle or in the clean container and take appropriate disposal in accordance with the criteria of the relevant legislation sequence municipality.

SECTION 14 Transport information

	Q1	Ex	Fluoropolymer compound
International regulation			
UN classification	N/A	N/A	Not applicable
UN number	None	None	None
UN proper shipping name	—	—	—
Packing group	N/A	N/A	Not applicable
Japanese laws and regulations	None	None	None
Conditions and specific safety measures of transport	When transporting, protect from direct sunlight and take an cargo without breakage of container, corrosion and leakage. Do not transport with food and feedstuffs. Do not stack heavy good thereupon.	No data	Not applicable

SECTION 15 Regulatory information (Japan)

	Q1	Ex	Fluoropolymer compound
PRTR Law	None	None	No data available
Occupational Safety and Health Law	There is it in the case of an application or an application	None	No data available

8 / 6 Page

9 / 5 Page

CANON CHEMICAL INC.
SDS Number: ES02
Product Name: SURFOTONAR 100

SAFETY DATA SHEET

rev. 6.2 Date of Issue: 2014/6/1
Revised Date: 2016/11/22

Poisonous and Deleterious Substances control Law	None	None	No data available
Explosives control Law	None	None	No data available
High-pressure gas security Law	None	None	No data available
Fire fighting Law	None	There is it in the case of an application or an application	No data available
Chemical substances control Law	None	None	No data available
Ship safety Law	There is it in the case of an application or an application	There is it in the case of an application or an application	No data available
Aviation Law	There is it in the case of an application or an application	There is it in the case of an application or an application	No data available
Prevention of marine pollution Law	None	None	No data available
Pneumocystis Law	None	None	No data available
Notes	Ensure this material in compliance with federal requirements and ensure conformity to local regulations.		

SECTION 16 Other information

The Safety Data Sheet (SDS) has been prepared based on currently available materials, information and data, and may be revised based on new information. Further, the important points in the SDS are made for the purpose of normal handling. When handling the user product in a specialized manner, take the appropriate safety measures for the application or method. Further, Canon Opton Inc. has paid sufficient attention to the described contents of the SDS, but does not guarantee the accuracy of its contents.

Literature Reference

[References]
Industrial Safety and Health Act All Data of MSDS Target Substances: The Chemical Daily Co., Ltd (2003)
Poisonous and Deleterious Substances Control Act All Data of MSDS Target Substances: The Chemical Daily Co., Ltd (2003)
Pollutant Release and Transfer Register All Data of MSDS Target Substances: The Chemical Daily Co., Ltd (2003)
Recommendations for Allowable Concentrations (Fiscal 2016): Japan Society for Occupational Health - Journal of Occupational Health, Vol. 58 (2016)
[NIEC site]
National Institute of Technology and Evaluation Homepage
Japan Advanced Information Center of Safety and Health Homepage
Ministry of Health Labour and Welfare Homepage
[Regulatory review Tools]
eCRDS (Japan Chemical Database Ltd)

9 / 6 Page

GT-7 II Thinner Canon Chemicals Inc.
File No. 14-0460-0277
June 20, 2014 Revision No. 02.177

Safety Data Sheet (SDS)

Product name and company information	Product name Company name Address Telephone number Fax number Emergency contact number	GT-7 II Thinner Canon Chemicals Inc. Headquarters/Ibaraki Office 1888-2 Kakizaki, Tsukuba City, Ibaraki Prefecture +81-29-876-2111 (General) +81-29-876-5338 +81-29-876-6063
Hazards identification	GHs classification	Physicochemical hazard Category 2 Flammable Liquid Health hazards • Category 4 Acute Toxicity (oral) • Cannot be classified Acute Toxicity (dermal) • Not applicable to classification for Acute Toxicity (inhalation, gas) • Category 5 Acute Toxicity (inhalation, vapor) • Cannot be classified for Acute Toxicity (inhalation, dust and mist) • Category 2 Skin Corrosion/Irritation • Category 2B Serious Eye Damage/Eye Irritation • Respiratory or Skin Sensitization: Respiratory-Cannot be classified Skin-Outside of category • Outside of category for Germ Cell Mutagenicity • Outside of category for Carcinogenicity • Category 1A Reproductive Toxicology • Target Organ Systemic Toxicity (Single Exposure) Category 1 (Central nerve, respiratory system) Category 3 (Anesthetic action, airway irritation) • Specific Target Organ Toxicity (Repeated Exposure) • Cannot be classified • Category 1 Aspiration Toxicity Environmental hazards • Category 2 Acute aquatic toxicity • Outside of category for Chronic aquatic toxicity
GHs label elements	Pictorial display	
Signal word	Danger	
Hazards information		<ul style="list-style-type: none"> Highly flammable liquid and vapor Harmful if swallowed May be harmful if inhaled Causes mild skin irritation Causes eye irritation May cause respiratory irritation May damage fertility or the unborn child Causes damage to organs (Central nerve, respiratory system) Causes damage to organs (central nerves, respiratory system) through prolonged or repeated exposure May be fatal if swallowed and enters airways Toxic to aquatic life

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

GE-7B Thinner Canon Chemicals Inc.
File No. 14-0460-0227
June 20, 2014 Revision No. 02.27

Hazards identification	Precautionary statements	<p>Safety measures</p> <ul style="list-style-type: none"> Do not handle until all safety precautions have been read and understood. Keep away from flames. Wear protective gloves/protective clothing/eye protection/face protection. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge. Use only outdoors or in a well-ventilated area. Avoid breathing gas/mist/vapors. Avoid release to the environment. <p>Emergency measures</p> <p>IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a doctor/physician if you feel unwell.</p> <p>IF ON SKIN: Wash with plenty of soap and water. If skin irritation or a rash arises, receive a diagnosis/treatment from a physician.</p> <p>IF IN EYES: Carefully wash the affected eye with water. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation continues, receive a diagnosis/treatment from a doctor/physician.</p> <p>IF SWALLOWED: Do NOT induce vomiting, and immediately call a doctor/physician.</p> <p>Storage Close the container tightly, and store in a warehouse for hazardous materials (as based on the Fire Service Act) or a cold, dark space with ventilation equipment while avoiding high temperatures, fire, humidity, heat, humidity, water leaks, and direct sunlight.</p> <p>Disposal Dispose of the product in accordance with the Waste Disposal and Public Cleaning Act and related regulations, or by consigning to a waste disposal service.</p>
------------------------	--------------------------	---

Composition / information on ingredients	<p>Categories for chemical substances and compounds: Compound</p> <p>Chemical name or general name: Thinner</p> <p>Components and their content</p> <table> <tr> <th>Ingredient</th><th>CAS No.</th><th>Content (%)</th><th>Official name (set in the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.)</th><th>Law for PESTs and Prevention of Chemical Management (Application substances)</th><th>Industrial Safety and Health Act (Notification, Application substances)</th></tr> <tr> <td>Toluene</td><td>108-88-3</td><td>35</td><td>2-2</td><td>○</td><td>○</td></tr> <tr> <td>Propylene glycolmonomethyl ether</td><td>107-98-2</td><td>35-45</td><td>2-404</td><td>Not applicable</td><td>○</td></tr> <tr> <td>Propylene glycol-3-monomethyl ether acetate</td><td>108-45-4</td><td>20-30</td><td>2-3114</td><td>Not applicable</td><td>Not applicable</td></tr> </table>	Ingredient	CAS No.	Content (%)	Official name (set in the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.)	Law for PESTs and Prevention of Chemical Management (Application substances)	Industrial Safety and Health Act (Notification, Application substances)	Toluene	108-88-3	35	2-2	○	○	Propylene glycolmonomethyl ether	107-98-2	35-45	2-404	Not applicable	○	Propylene glycol-3-monomethyl ether acetate	108-45-4	20-30	2-3114	Not applicable	Not applicable
Ingredient	CAS No.	Content (%)	Official name (set in the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.)	Law for PESTs and Prevention of Chemical Management (Application substances)	Industrial Safety and Health Act (Notification, Application substances)																				
Toluene	108-88-3	35	2-2	○	○																				
Propylene glycolmonomethyl ether	107-98-2	35-45	2-404	Not applicable	○																				
Propylene glycol-3-monomethyl ether acetate	108-45-4	20-30	2-3114	Not applicable	Not applicable																				

GE-7B Thinner Canon Chemicals Inc.
File No. 14-0460-0227
June 20, 2014 Revision No. 02.27

First-aid measures	<p>IF INHALED</p> <p>IF ON SKIN</p> <p>IF IN EYES</p> <p>IF SWALLOWED</p> <p>Protection of person administering first-aid treatment</p> <p>Special precautions for doctor/physician</p>	<p>Inhalation of highly-concentrated solvent gas may cause headache and nausea. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a doctor/physician if you feel unwell.</p> <p>If the product adheres to the skin and is left as is, thickening and eczema may occur. If the product comes in contact with the skin, wash with plenty of water and soap. If you develop skin irritation or rashes, receive diagnosis/treatment from a doctor/physician.</p> <p>Severe pain or inflammation of the mucous membrane of the eye will occur. Rinse carefully with water. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation continues, receive a diagnosis/treatment from a doctor/physician.</p> <p>Do not induce vomiting, and immediately contact a doctor/physician.</p> <p>Rescuers must wear protective gear.</p> <p>Present the MSDS or precautions regarding the container to the doctor/physician.</p>
Fire-fighting measures	<p>Extinguishing media</p> <p>Extinguishing media that must not be used</p> <p>Typical hazards during fires</p> <p>Typical extinguishing method</p> <p>Protection for person carrying out extinguishing activities</p>	<p>Powder, carbon dioxide gas, halides, and foam extinguishers.</p> <p>Water</p> <p>Strongly volatile and flammable.</p> <p>Stop aiming the extinguishing media at the source of the fire, and carry out fire extinguishing activities from the upwind side.</p> <p>Wear appropriate protective gear (heat-resistant clothing, self-contained breathing apparatus, etc.).</p> <p>Ventilate the area immediately, prohibit use of fire, and wear appropriate protective gear (gloves, protective mask, protective goggles, protective footwear, work uniform, etc.).</p>
Accidental release measures	<p>Precautions for the environment</p> <p>Method/equipment for sealing and cleaning</p> <p>Measures to prevent secondary disasters</p>	<p>Take measures to prevent discharge to drainage channels.</p> <p>For small amounts, wipe with a rag or other incombustible material, etc., and wash using wash oil, etc. Process extraneous matter and waste based on relevant regulations. For large amounts, prevent further release by using soil embankments, etc., and handle after guiding to a safe location.</p> <p>Immediately remove any items from the surrounding areas that may cause ignition, and prepare extinguishing media and equipment.</p> <p>Use safe equipment that does not generate static electricity or sparks.</p>

GE-7B Thinner Canon Chemicals Inc.
File No. 14-0460-0227
June 20, 2014 Revision No. 02.27

Handling and storage	Handling	<p>Technical measures</p> <ul style="list-style-type: none">Handle in an area with good ventilation.Prohibit the use of fire in the handling area.Carry out work in a way such that dispersion is suppressed as much as possible, so that there are no leaks, overflows, or scattering.Close containers tightly each time when handling.Wear appropriate protective gear (gloves, protective mask, protective eyewear, protective footwear, work uniforms, etc.) when handling.As a countermeasure against static electricity, use antistatic work uniforms and protective footwear, and use explosion-proof electrical equipment. <p>Local ventilation / Overall ventilation</p> <ul style="list-style-type: none">When handling, handle in a location with local ventilation or overall ventilation facilities. <p>Precautions</p> <ul style="list-style-type: none">Carry out work by wearing the appropriate protective gear as necessary so that you do not swallow the product, and so that the product does not come in contact with the eyes or skin.After handling the product, wash your hands, face, etc. thoroughly, and make sure not to bring tainted protective gear such as gloves into resting areas, etc. <p>Precautions for safe handling</p> <ul style="list-style-type: none">Avoid flames, sparks, contact with high-temperature items, and heating.Equipment must be of an explosion-proof construction, and antistatic measures must be carried out for facilities.																
	Storage	<p>Technical measures</p> <ul style="list-style-type: none">Make sure to follow relevant laws such as the Fire Service Act, Industrial Safety and Health Act, etc.Store the product in a warehouse for hazardous materials or a cold, dark place with ventilation equipment. <p>Appropriate storage conditions</p> <ul style="list-style-type: none">Close containers tightly, and avoid leaks, high temperatures, fire and high humidity. <p>Safe container and packaging materials</p> <ul style="list-style-type: none">Store in the container used for this product.																
Exposure control	Measures for facilities	<p>Install local ventilation equipment.</p> <p>Set up a wash room and eye wash fountain near the location where the product is to be handled, and post signs that clearly indicate their location.</p>																
	Control concentration / Allowable concentration	<table><tr><th>Substance name</th><th>Control concentration</th><th>Allowable concentration (OEL) Japan Society for Occupational Health</th><th>Allowable concentration (OEL) ACGIH</th></tr><tr><td>Toluene</td><td>20ppm</td><td>100ppm</td><td>100ppm</td></tr><tr><td>Propylene glycolmonomethyl ether</td><td>Not set</td><td>Not set</td><td>Not set</td></tr><tr><td>Propylene glycol-3-monomethyl ether acetate</td><td>Not set</td><td>Not set</td><td>Not set</td></tr></table>	Substance name	Control concentration	Allowable concentration (OEL) Japan Society for Occupational Health	Allowable concentration (OEL) ACGIH	Toluene	20ppm	100ppm	100ppm	Propylene glycolmonomethyl ether	Not set	Not set	Not set	Propylene glycol-3-monomethyl ether acetate	Not set	Not set	Not set
Substance name	Control concentration	Allowable concentration (OEL) Japan Society for Occupational Health	Allowable concentration (OEL) ACGIH															
Toluene	20ppm	100ppm	100ppm															
Propylene glycolmonomethyl ether	Not set	Not set	Not set															
Propylene glycol-3-monomethyl ether acetate	Not set	Not set	Not set															

GE-7B Thinner Canon Chemicals Inc.
File No. 14-0460-0227
June 20, 2014 Revision No. 02.27




Exposure control	<p>Protective gear</p> <p>Appropriate sanitary measures</p>	<p>Protective gear for the respiratory system</p> <p>Wear a gas mask for organic gas. Check to make sure that a canister that is appropriate for the applicable gas is attached.</p> <p>Protective gear for the hands</p> <p>Wear gloves made of materials that do not allow for the permeation of organic solvents and chemical agents.</p> <p>Protective gear for the eyes</p> <p>Wear protective goggles.</p> <p>Protective gear for the skin and body</p> <p>Wear an apron, etc. made of a material that does not allow for the permeation of chemical agents. Wear long-sleeved clothing and safety shoes that do not directly expose the skin.</p> <p>Replace absorbent material such as masks regularly or after each use.</p>
Physical and chemical properties	<p>Appearance</p> <p>Color</p> <p>pH</p> <p>Melting point/freezing point</p> <p>Boiling point/initial boiling point/boiling range</p> <p>Flash point</p> <p>Spontaneous ignition point</p> <p>Combustion/explosion range</p> <p>Vapor pressure</p> <p>Vapor density</p> <p>Specific gravity</p> <p>Solubility</p> <p>Octanol-water partition coefficient</p> <p>Decomposition temperature</p>	<p>Colorless and transparent</p> <p>Benzene odor</p> <p>No data</p> <p>No data</p> <p>13.1°C (Tag closed-cup method)</p> <p>No data</p> <p>No data</p> <p>No data</p> <p>No data</p> <p>0.918/cm³</p> <p>Soluble in organic solvent</p> <p>Insoluble in water</p> <p>No data</p> <p>No data</p>
Stability and reactivity	<p>Safety</p> <p>Possibility of hazardous reaction</p> <p>Conditions to avoid</p> <p>Mixed hazardous substance</p> <p>Hazardous resolved component</p> <p>Other</p>	<p>Stable at ordinary temperatures and ordinary pressures.</p> <p>No data</p> <p>High temperatures</p> <p>Material that is soluble in solvent</p> <p>No data</p> <p>Vapor flowed to low areas</p>

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

GT-7B Thinner Carven Chemicals Inc. File No. 14-0460-0227 June 20, 2014 Revision No. 02/07		
Toxicological information	Acute toxicity	Toluene Impact on the human body: No data Animal studies, etc.: LD ₅₀ (oral): 656 mg/kg (rats) LC ₅₀ (inhalation): 4900 mg/m ³ /4H (rats)
	Skin corrosion/irritation	Toluene Irritates the skin.
	Severe eye damage/irritation	Toluene/ Propylene glycolmonomethyl ether Irritates the eyes.
	Respiratory sensitization/skin sensitization	Toluene Irritates the air passage.
	Carcinogenicity	Toluene IARC: 3
	Reproductive toxicity	Toluene May damage fertility or the unborn child.
	Specific target organ toxicity, single exposure	Toluene May affect the central nervous system. In high concentrations, may cause abnormal cardiac rhythm and lapse of consciousness. Has the possibility of causing chemical pneumonia. Propylene glycolmonomethyl ether May cause drowsiness or dizziness.
Ecological information	Specific target organ toxicity, repeated exposure	Toluene Causes defatting of the skin.
	Aspiration hazard	Toluene May be fatal if swallowed and enters airways.
	Ecological toxicity	Toxic to aquatic life
Disposal considerations	Persistence/degradability	Toluene, Propylene glycolmonomethyl ether: Good degradability based on microorganisms, etc.
	Mobility to soil	Based on its physicochemical properties, this product has the possibility of transferring to the atmosphere, water areas, and soil environment.
Dispose of waste, such as residual product, containers, etc., by consigning disposal to a licensed industrial waste processor. Do not let fluid used for cleaning containers and equipment flow directly onto the ground or into drainage channels. Process waste generated by wastewater treatment, incineration, etc. by following the Waste Disposal and Public Cleansing Act and related regulations, or consign to a waste disposal service. If processing waste products, etc. through incineration, adsorb the waste into diatomaceous earth, and incinerate in small amounts using an open-type incinerator.		

GT-7B Thinner Carven Chemicals Inc. File No. 14-0460-0227 June 20, 2014 Revision No. 02/07	
Transport information	<ul style="list-style-type: none">• UN Category: 3 (flammable liquid)• UN Number: 1263• Name: Paint related material• Packing Group: 2 <p>Check to make sure that the containers are not damaged and that there are no leaks. Prevent collapse of cargo by loading and unloading containers so that they are not jolted, do not tip over, fall, or become damaged. In addition, be careful of cargo shifting during transport. Follow the Fire Service Act and the transportation methods specified in applicable regulations such as the Fire Service Act, Industrial Safety and Health Act, etc.</p>
Regulatory information	<p>Fire Service Act: Hazardous Material Group 4, First Petroleum Group, Insoluble Liquid Danger Class II</p> <p>Industrial Safety and Health Act:</p> <ul style="list-style-type: none">• Standards for Working Environments: Article 65-2 (1) (Toluene)• Second-class Organic Solvent as prescribed in the Ordinance on Prevention of Organic Solvent Poisoning (Toluene)• Hazardous material (flammable object): Order for Enforcement, Appended Table 1 (4)• Substance subject to labeling: Article 57 (1) Order for Enforcement Article 18 (Toluene)• Substance subject to notification: Article 57-2 Order for Enforcement Article 18-2 Appended Table 9 (Toluene [Government Ordinance No. 407], Propylene glycolmonomethyl ether [Government Ordinance No. 496]) <p>Law for PRTR and Promotion of Chemical Management:</p> <ul style="list-style-type: none">• Class 1 Specified Chemical Substance; Article 2 (2), Order for Enforcement Article 1 Appended Table 1 (Toluene [Government Ordinance No. 300 35%]) <p>Ship Safety Act: Flammable liquid (medium flash point)</p> <p>Waste Management and Public Cleansing Act</p>
Other information	<p>Reference literature</p> <ul style="list-style-type: none">• GHS Implementation Guidelines, Japan Chemical Industry Association• Kagaku Jizujin (Dictionary of Chemistry), Kyoritsu Shuppan Co., Ltd.• Shoko Kankai Hoki-shu (Collection of Laws Related to Fire Service), Gendai Shobosha• Regulations for the Carriage and Storage of Dangerous Goods in Ships, Kaibundo <p>*This "Material Safety Data Sheet" has been created based on the materials, information, and data that could be obtained at the present point in time, and may be revised due to revisions of laws and new findings. When handling this product, refer to the contents described on this MSDS, and take safety measures that are appropriate for the actual conditions based on the responsibility of the user. This MSDS is not a guarantee or standard for safety and quality. This "Material Safety Data Sheet" is created based on Japanese laws. When exporting the product to foreign products, please note that the product will be regulated based on the laws of the respective country.</p>
Revision History April24, 2013 Revision No. 00 June04, 2014 Revision No. 01 June20, 2014 Revision No. 01	

PRODUCT CODE : 5670600001 ID : 01E00013749	
Material Safety Data Sheet	
SECTION 1 CHEMICAL PRODUCT & COMPANY IDENTIFICATION	
MANUFACTURER'S NAME	: ORIGIN ELECTRIC CO., LTD.
NAME OF SECTION	: QUALITY ASSURANCE SECTION
ADDRESS	: 2-3-11, Nagaoka, Nishitama-gun, Tokyo 190-1232 JPN
TELEPHONE NUMBER	: 042-557-4119
FAX NUMBER	: 042-557-7555
EMERGENCY PHONE NUMBER	: 042-557-4111
DATE PREPARED	: 2012/04/17
IDENTITY (As Used on Label)	: LENS YOU B THINNER
EXPLANATION :	
TYPE	: THINNER
MAIN USE	: FOR GLASS
SECTION 2 HAZARDS IDENTIFICATION	
◇GHS CLASSIFICATION	
HAZARD CLASS	CLASSIFICATION HAZARD STATEMENT
FLAMMABLE LIQUID	Category 2 Highly flammable liquid and vapour
FLAMMABLE SOLID	NOT APPLICABLE
SELF-REACTIVE SUBSTANCE AND MIXTURE	NOT APPLICABLE
ORGANIC PEROXIDE	NOT APPLICABLE
CORROSIVE TO METALS	NOT APPLICABLE
ACUTE TOXICITY ORAL	Category 5 May be harmful if swallowed
ACUTE TOXICITY DERMAL	NOT CLASSIFIED
ACUTE TOXICITY INHALATION	Category 4 Harmful if inhaled
SKIN CORROSION/IRRITATION	NOT CLASSIFIED
SERIOUS EYE DAMAGE / EYE IRRITATION	Category 2A Causes serious eye irritation
RESPIRATORY SENSITIZATION	NOT APPLICABLE
SKIN SENSITIZATION	NOT APPLICABLE
GERM CELL MUTAGENICITY	NOT CLASSIFIED
CARCINOGENICITY	NOT CLASSIFIED
REPRODUCTIVE TOXICITY	Category 1A May damage fertility or the unborn child
SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (SINGLE EXPOSURE)	Category 1 Cause damage to organs
SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (REPEATED EXPOSURE)	Category 1 Cause damage to organs through prolonged or repeated exposure
ASPIRATION HAZARD	Category 1 May be fatal if swallowed and enter airways
ACUTE HAZARDOUS TO THE AQUATIC ENVIRONMENT	Category 2 Toxic to aquatic life
CHRONIC HAZARDOUS TO THE AQUATIC ENVIRONMENT	NOT CLASSIFIED
◇GHS LABEL ELEMENTS	
SYMBOL:   	
SIGNAL WORD: Danger	
1/8	

PRODUCT CODE : 5670600001			
SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS			
Chemical Name	CAS Number	% by weight	PRTR
toluene	108-88-3	65.0	I
methyl isobutyl ketone	108-10-1	1~5	
2-ethoxyethanol	110-80-5	20.0	I
diacetonealcohol	123-42-2	5~10	
◇Other Limits Recommended			
2/8			

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

PRODUCT CODE : 5670600001

SECTION 4 FIRST-AID MEASURES

◇EYE CONTACT
Immediately flush eyes with large amounts of clean water for at least 15 minutes.
Thoroughly wash the back of the eyelids. Consult a doctor as soon as possible.

◇SKIN CONTACT
Remove promptly with a cloth. Wash off thoroughly with copious amounts of water and soap, or dermatological detergent. Do not remove with organic chemicals such as solvents or thinners. Consult a doctor if there is a change in appearance or if there is pain.

◇INHALATION
If large amounts of vapor or gas or the like has been inhaled, then promptly move to a place with lots of fresh air, and keep warm and calm. Give artificial respiration if breathing is labored or stopped. Do not allow patient to swallow vomitus. Seek medical attention promptly. If feeling nauseous because of inhalation of mist or gas, then keep calm in a place with lots of fresh air and seek medical attention.

◇INGESTION
Swallowed: Keep calm and seek medical attention if swallowed. Do not allow patient to swallow vomitus. Do not induce vomiting unless instructed to do so by a doctor.

SECTION 5 FIRE-FIGHTING MEASURES

◇EXTINGUISHING MEDIA
Water [] CO2 Gas [Y] Foam [Y] Powder [Y]
Dry Sand [Y] Others []

◇SPECIFIC HAZARDS WITH REGARD TO FIRE-FIGHTING MEASURES
Do Not use water.
Use appropriate protective clothing (such as heat resistant clothing).
Quickly remove flammable material from the vicinity.
Use designated extinguishing media
Cool sealed containers exposed to high temperatures with water
Fight fire from upwind side.

3/8

PRODUCT CODE : 5670600001

SECTION 6 ACCIDENTAL RELEASE MEASURES

Use protective clothing during operations (such as gloves, protective mask, apron and goggles).
Return spilled material to a sealable container and move to a safe location.
Collect by absorbing into dry sand, soil or other non-flammable material. In the case of a large spill, contain spill with bunding material and prevent leakage.
Quickly remove ignition sources, high temperature items and flammable material from the vicinity.
Prepare appropriate extinguishers in case of ignition.
Collect by using tools made of materials that will not generate spark through impact or static electricity. Dispose of contaminated and waste material in accordance with relevant regulations.
Take care to prevent environmental impact through discharge to rivers and lakes.

SECTION 7 HANDLING & STORAGE

◇HANDLING
Handle in well ventilated location. Reseal container after each use.
Prohibit use of flames, sparks and hot material in the vicinity.
Earth all equipment, and use explosion proof-type (safety enhanced) electric devices in order to reduce the risk of static electricity. Use spark proof-type tools.
Use anti-static-type work clothes and shoes while working.
Soak waste, paint solids, spray dust etc. in water until disposal.
When working in an enclosed space, carry out work after providing sufficient ventilating equipment and use appropriate protection. Wear appropriate protective devices such that the paint does not contact skin, membranes or clothing, or enter one's eyes.
Wash hands and face well after handling, and do not bring contaminated clothing such as gloves into rest areas or the like.

◇STORAGE
Keep away from direct sun.
Keep in a well ventilated location.
Keep away from ignition and heat sources.

SECTION 8 EXPOSURE CONTROL/PERSONAL PROTECTION

◇CONTROL PARAMETERS
Use explosion proof-type equipment for handling.
Install ventilating equipment to ensure no vapor entrapment
Provide earth on equipment for liquid transport, lading and mixing.
Do not allow hot items or ignition sources in the vicinity of the handling area.
When painting inside, either use equipment such as an automatic spray-painting machine so that the operator is not directly exposed, or provide equipment such as local ventilation equipment so that the operator can avoid exposure.
When working in sealed spaces such as tanks, provide equipment such that ventilation in the sealed space is adequate, particularly near the base.

4/8

PRODUCT CODE : 5670600001

◇THRESHOLD LIMIT VALUE

Chemical Name	THRESHOLD LIMIT VALUE	ACGIH TLV	IARC	Other Limits Recommended
toluene	20ppm	50,000ppm	3	4800mg/kg(rat)
methyl isobutyl ketone	20ppm	50,000ppm		2919mg/kg(rat)
2-ethoxyethanol	5ppm	5,000ppm		3017mg/kg(rat)
diacetonealcohol		50,000ppm		4000mg/kg(rat)

◇PERSONAL PROTECTIVE EQUIPMENT

◆EYE PROTECTION
Wear safety goggles during handling

◆HAND, SKIN AND BODY PROTECTION
Wear gloves that will not be penetrated by organic solvents or chemicals.

◆RESPIRATORY PROTECTION
Wear gas mask that protects against organic gases.
Wear a respirator when in sealed spaces.

◆OTHER PROTECTION
Wear electrically conductive boots during electrostatic painting.

5/8

PRODUCT CODE : 5670600001

SECTION 9 PHYSICAL & CHEMICAL PROPERTIES

◇PHYSICAL STATE, FORM : liquid
◇COLOR : colorless
◇ODOR : Solvent smell
◇DENSITY : 0.88
◇BOILING POINT(°C) : 110.4 ~ 169.2
◇VAPOUR PRESSURE : 4000.0000 Pa(26.0°C)
◇Ph : N/A
◇SOLUBILITY IN WATER : negligible
◇OTHER : None.

◇FLASH POINT : 8.0 °C
◇AUTOIGNITION TEMPERATURE : 235.0 °C
◇UPPER AND LOWER EXPLOSION LIMIT : 1,200 % (g/m³) 15,600 % (g/m³)

SECTION 10 PHYSICAL HAZARD (STABILITY & REACTIVITY)

◇STABILITY & REACTIVITY
None.
Risk of generating of toxic gases, such as CO and NOx.
Standard

SECTION 11 TOXICOLOGICAL INFORMATION

◇TOXICOLOGICAL INFORMATION
Tests not performed for safety as a product.

◇ACUTE TOXICITY
◆ORAL
toluene(Category5)/diacetonealcohol(Category5)/2-ethoxyethanol(Category5)/methyl isobutyl ketone(Category5)
◆DERMAL
2-ethoxyethanol(Category5)/methyl isobutyl ketone(Category5)
◆INHALATION

◇SKIN CORROSION/IRRITATION
toluene(Category2)/diacetonealcohol(Category2)/2-ethoxyethanol(Category3)

6/8

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

PRODUCT CODE : 567060001

◇SERIOUS EYE DAMAGE/EYE IRRITATION
toluene(Category2A)/diacetonealcohol(Category2A)/2-ethoxyethanol(Category2A)/methyl isobutyl ketone(
NOT CLASSIFIED)

◇RESPIRATORY SENSITIZATION

◇SKIN SENSITIZATION

◇GERM CELL MUTAGENICITY

◇CARCINOGENICITY

◇REPRODUCTIVE TOXICITY
toluene(Category1A)/diacetonealcohol(Category2)/2-ethoxyethanol(Category1B)

◇SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY - SINGLE EXPOSURE
toluene(CLASS1:Central Nervous System)/diacetonealcohol(CLASS1:respiratory system,CLASS2:Liver)/2-ethoxyethanol(CLASS1:Central Nervous System/kidney/Liver/testis)

◇SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY - REPEATED EXPOSURE
toluene(CLASS1:Central Nervous System/kidney/Liver)/diacetonealcohol(CLASS1:kidney)/2-ethoxyethanol(CLASS1:testis/hepatopoleis system)/methyl isobutyl ketone(CLASS1:systemic toxicity)

◇ASPIRATION HAZARD
toluene(Category1)/methyl isobutyl ketone(Category2)

◇OTHER
toluene(3(Respiratory irritation),Category 3 (Narcotic effects))/methyl isobutyl ketone(3(Respiratory irritation),Category 3 (Narcotic effects))

SECTION 12 ECOLOGICAL INFORMATION

◇TOXICOLOGICAL INFORMATION
Take precautions to minimize effect on environment during spills and disposal. Particularly ensure that the product and wash water is not directly discharged to the ground, rivers or to water drainage gutters.

7/8

PRODUCT CODE : 567060001

◇ACUTE HAZARDOUS TO THE AQUATIC ENVIRONMENT
toluene(Category2)

◇CHRONIC HAZARDOUS TO THE AQUATIC ENVIRONMENT

TOXICITY :
PERSISTENCE AND DEGRADABILITY :
BIOACCUMULATION POTENTIAL :
MIGRATION IN SOIL :

SECTION 13 DISPOSAL CONSIDERATION

For waste paint and containers, dispose of through contract with a registered industrial waste disposal operator. Water, such as waste water, generated by washing containers and equipment and the like is not to be disposed on the ground or into water drainage gutters without treatment. Waste material generated by water treatment and incineration, for example, should be processed in accordance with laws and regulation relating to the disposal and cleaning of waste material, or should be entrusted to a third party. If disposing waste paint by incineration, absorb onto diatomaceous earth and incinerate in small amounts in an open-type incinerator.

SECTION 14 TRANSPORT INFORMATION

Transport in accordance with precautions noted for handling and storage.
Ensure container does not leak, and load such that the container cannot tip, fall, or break. Ensure that the load will not collapse.
Follow all regulations in your country.
◇ UN NUMBER : 1263 ◇ UN CLASS : 3 ◇ PACKING GROUP : II

SECTION 15 REGULATORY INFORMATION

Follow all regulations in your country.

SECTION 16 OTHER INFORMATION

◇ REFERENCES
"Raw Material Database", edited by the Japan Paint Manufacturer's
The Solvent Handbook
Hazard and Disaster Prevention Emergency Handbook
Chemical Risk Information Platform (CHRIIP) of National Institute of Technology and Evaluation (NITE) Japan
Other suppliers' SDS

◇ ATTENTION
The content of this MSDS has been prepared based on guidance for MSDS content provided by the Japan Paint Manufacturer's Association, however, the hazard and toxicity evaluations may not necessarily be sufficient, so please take ample care when handling.

8/8

THINNER No.2350
Ohashi Chemical Industries Ltd.

Approval Date: M18000400
Apr-12-2016

Safety Data Sheet

1 Product and company identification
Product name: THINNER No.2350
Product explanation: Kind: Thinner for paints
Use: For paint
Manufacturer: Ohashi Chemical Industries Ltd.
Address: 6-21, Hatakeuchi-cho, Baraki, Osaka, Japan
Section: Kumagaya Factory Management Section
Telephone number: +81-48-533-2326
Fax number: +81-48-533-2338
Emergency telephone number: +81-48-533-2326

2 Hazards identification
GHS label element
Symbol or pictogram
Signal word: Danger

GHS classification
Physical hazards: 3 Flammable liquid and vapour
Health hazards: 4 Harmful if inhaled
Acute toxicity: 4 Harmful if inhaled
Skin corrosion/irritation: 2 Causes skin irritation
Serious eye damage/irritation: 2 Causes serious eye irritation
Skin sensitization: 2
Respiratory sensitization: 2
Germ cell mutagenicity: 2
Carcinogenicity: 2
Toxic to reproduction: 1
Specific target organ system toxicity (single exposure): 3
Specific target organ system toxicity (repeated exposure): 3
Aspiration hazard: 2
Environment hazards: 2
Aquatic toxicity (acute): 3
Aquatic toxicity (chronic): 3
Hazardous to the ozone layer: 4

Category: 3
4
4
2
2
2
2
2
1
3
3
2
3
2
3
3
4

Hazard statement: 3
4
4
2
2
2
2
2
1
3
3
2
3
2
3
3
4

1/7

THINNER No.2350
Ohashi Chemical Industries Ltd.

Approval Date: M18000400
Apr-12-2016

Safety Data Sheet

1 Product and company identification
Product name: THINNER No.2350
Product explanation: Kind: Thinner for paints
Use: For paint
Manufacturer: Ohashi Chemical Industries Ltd.
Address: 6-21, Hatakeuchi-cho, Baraki, Osaka, Japan
Section: Kumagaya Factory Management Section
Telephone number: +81-48-533-2326
Fax number: +81-48-533-2338
Emergency telephone number: +81-48-533-2326

2 Hazards identification
GHS label element
Symbol or pictogram
Signal word: Danger

GHS classification
Physical hazards: 3 Flammable liquid and vapour
Health hazards: 4 Harmful if inhaled
Acute toxicity: 4 Harmful if inhaled
Skin corrosion/irritation: 2 Causes skin irritation
Serious eye damage/irritation: 2 Causes serious eye irritation
Skin sensitization: 2
Respiratory sensitization: 2
Germ cell mutagenicity: 2
Carcinogenicity: 2
Toxic to reproduction: 1
Specific target organ system toxicity (single exposure): 3
Specific target organ system toxicity (repeated exposure): 3
Aspiration hazard: 2
Environment hazards: 2
Aquatic toxicity (acute): 3
Aquatic toxicity (chronic): 3
Hazardous to the ozone layer: 4

Category: 3
4
4
2
2
2
2
2
1
3
3
2
3
2
3
3
4

Hazard statement: 3
4
4
2
2
2
2
2
1
3
3
2
3
2
3
3
4

1/7

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

THINNER №2330 Ohashi Chemical Industries Ltd.	H18000400 Approval Date Apr.12.2016
Precautionary statement Preventive measures <ul style="list-style-type: none">• Obtain special instructions before use.• Do not handle until all safety precautions have been read and understood.• Keep away from heat/sparks/open flames/hot surfaces. - No smoking.• Keep container tightly closed.• Ground/Bond container and receiving equipment.• Use explosionproof electrical/welding/lighting equipment.• Use only non-sparking tools.• Take precautionary measures against static discharge.• Do not breathe dust/fume/gas/mist/vapours/spray.• Avoid breathing dust/fume/gas/mist/vapours/spray.• Wash hands well after handling.• Do not eat, drink or smoke when using this product.• Use only outdoors or in a well-ventilated area.• Avoid release to the environment.• Wear protective gloves/protective clothing/eye protection/face protection. First-aid measure <ul style="list-style-type: none">• IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.• IF ON SKIN: Wash with plenty of soap and water.• IF ON SKIN or hair: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.• IF IRRITATED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.• IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.• IF exposed: Call a doctor.• IF exposed or concerned: Get medical advice/attention.• Call a POISON CENTER or doctor/physician if you feel unwell.• Measures are necessary especially:<ul style="list-style-type: none">• Do NOT induce vomiting.• If skin irritation occurs: Get medical advice/attention.• If eye irritation persists: Get medical advice/attention.• Take off contaminated clothing and wash it before reuse.• In the case of fire: Use appropriate extinguisher. Storage <ul style="list-style-type: none">• Store in a well-ventilated place. Keep container tightly closed.• Store in a well-ventilated place. Keep cool.• Store locked up. Waste <ul style="list-style-type: none">• Dispose of contents/container according to the rule of each country.	
2/7	

THINNER №2330 Ohashi Chemical Industries Ltd.	H18000400 Approval Date Apr.12.2016																												
2 Composition / Information on ingredients Substance / Mixture <table><thead><tr><th>Chemical name</th><th>CASNo.</th><th>CONC.</th><th>Remarks</th></tr></thead><tbody><tr><td>Xylene</td><td>1330-20-7</td><td>24.8%</td><td></td></tr><tr><td>Ethylbenzene</td><td>100-41-4</td><td>20.3%</td><td></td></tr><tr><td>Solvent naphtha (Petroleum), light aromatic</td><td>64742-95-6</td><td>21-10%</td><td></td></tr><tr><td>1-Butanol</td><td>71-36-3</td><td>5-10%</td><td></td></tr><tr><td>2-Propanol, 1-methoxy-</td><td>107-88-2</td><td>21-10%</td><td></td></tr><tr><td>Methyl isobutyl ketone</td><td>109-10-1</td><td>11-10%</td><td></td></tr></tbody></table>		Chemical name	CASNo.	CONC.	Remarks	Xylene	1330-20-7	24.8%		Ethylbenzene	100-41-4	20.3%		Solvent naphtha (Petroleum), light aromatic	64742-95-6	21-10%		1-Butanol	71-36-3	5-10%		2-Propanol, 1-methoxy-	107-88-2	21-10%		Methyl isobutyl ketone	109-10-1	11-10%	
Chemical name	CASNo.	CONC.	Remarks																										
Xylene	1330-20-7	24.8%																											
Ethylbenzene	100-41-4	20.3%																											
Solvent naphtha (Petroleum), light aromatic	64742-95-6	21-10%																											
1-Butanol	71-36-3	5-10%																											
2-Propanol, 1-methoxy-	107-88-2	21-10%																											
Methyl isobutyl ketone	109-10-1	11-10%																											
4 First-aid measure Inhalation <ul style="list-style-type: none">• If a vapor or gas is inhaled in large amounts, immediately move to a clean place for a breath of fresh air and take a rest, keeping yourself warm. In case of suffocation, artificial respiration should be practiced. Care should be taken so that anything thrown up may not be swallowed. Medical treatment should be received immediately.• If you have inhaled a vapor or gas and feel ill, move to a clean place for a breath of fresh air, keep quiet, and take the medical treatment. Skin contact <ul style="list-style-type: none">• Immediately wash the product off your skin with a cloth.• Wash away the matter thoroughly with water and soap or a skin cleaning detergent. Do not use a solvent or thinner.• If the contacted skin changes in appearance or gives you pain, consult a doctor.• To remove all contaminated clothing. Eye contact <ul style="list-style-type: none">• Immediately rinse your eyes under clean running water for at least 15 minutes. Even the back sides of the eyelids should be exposed thoroughly.• See a doctor as soon as possible.• Medical treatment should be received immediately. Ingestion <ul style="list-style-type: none">• If the product is swallowed by mistake, be quiet and immediately take medical treatment.• Care should be taken so that anything thrown up may not be swallowed.• The person who swallowed the product should not be induced to vomit without directions from a doctor. Protection of first-aiders <ul style="list-style-type: none">• Appropriate protective equipment (safety glasses, masks, and gloves) to wear. Provide ventilation.																													
5 Fire-fighting measures Extinguishing media <ul style="list-style-type: none">• Carbon dioxide, Bubble, Dry sand, Reinforced liquid (fog), halogenides, Powder (the use of phosphates), Powder (the use of hydrogencarbonates). NOT suitable extinguishing media <ul style="list-style-type: none">• Reinforced liquid (straight stream), straight stream water, Water fog. Protection of fire-fighters <ul style="list-style-type: none">• Wear appropriate protectors (such as heat-resistant clothes).• Move any combustible materials away from the fire.• Use a fire extinguishing agent of the specified type.• Do not use water to avoid exposure as by a local exhaust.• Fight the fire from the windward side.																													
3/7																													

THINNER №2330 Ohashi Chemical Industries Ltd.	H18000400 Approval Date Apr.12.2016																												
6 Accidental release measures Personal precautions, protective equipment and emergency measures <ul style="list-style-type: none">• Wear appropriate protection (such as gloves, protective mask, an apron, goggles).• Remove any nearby ignition or heat sources and combustible materials.• Keep an appropriate fire extinguisher at all the ready to hand against ignition.• To prevent secondary disasters by non-participants to hold the place and the area off limits to its location.• Provide sufficient ventilation for indoors.• As much as possible work at a windward location for outdoors. Environmental precautions <ul style="list-style-type: none">• Be careful so that the leakage may not be discharged into a river or other places to damage the environment. Method and materials for containing <ul style="list-style-type: none">• Put the leakage into an airtight container and move it to a safe place.• Dispose of any adherends and wastes in accordance with the related laws and regulations.• For recovery, use tools made of materials such as it would not produce sparks on impact or due to static electricity.• Dry sand, earth, we recover what is absorbed into other non-conductive. The outflow of mass enclosed in the environment to prevent leakage. 7 Handling and storage Handling <ul style="list-style-type: none">• Handle the product in a well-ventilated place.• Completely seal the container after closure.• Do not use any heat sources or spark-producing devices nearby.• To guard against static electricity, short the equipment to ground and use only explosion proof increased safety type electric apparatus.• Use a spark-proof tool.• Immerse the used rags and spray cans in water until they are disposed of.• Note that this product is flammable if a high temperature.• If it touches the skin, the mucous membrane or clothes, and so as not to catch one's eye, the protective equipment is worn.• When handling the product in an enclosed space, furnish an appropriate local exhaust and wear an appropriate protection.• During handling and use of type anistatic work clothing and shoes. Storage <ul style="list-style-type: none">• Avoid storing the product in a place exposed to direct sunlight.• Store the product in a well-ventilated place.• Store the product in a place where there are no heat sources nearby.• Keep it locked to prevent theft.• Keep away from children.• Keep away from acids and alkaline. 8 Exposure controls / personal protection Control parameters, standard control configuration <table><thead><tr><th>Chemical name</th><th>Standard control</th><th>Actual control</th><th>Remarks</th></tr></thead><tbody><tr><td>Xylene</td><td>10 ppm</td><td>10 ppm</td><td></td></tr><tr><td>Ethylbenzene</td><td>20 ppm</td><td>20 ppm</td><td></td></tr><tr><td>Solvent naphtha (Petroleum), light aromatic</td><td>20 ppm</td><td>20 ppm</td><td></td></tr><tr><td>1-Butanol</td><td>25 ppm</td><td>20 ppm</td><td></td></tr><tr><td>2-Propanol, 1-methoxy-</td><td>—</td><td>10 ppm</td><td></td></tr><tr><td>Methyl isobutyl ketone</td><td>20 ppm</td><td>20 ppm</td><td></td></tr></tbody></table>		Chemical name	Standard control	Actual control	Remarks	Xylene	10 ppm	10 ppm		Ethylbenzene	20 ppm	20 ppm		Solvent naphtha (Petroleum), light aromatic	20 ppm	20 ppm		1-Butanol	25 ppm	20 ppm		2-Propanol, 1-methoxy-	—	10 ppm		Methyl isobutyl ketone	20 ppm	20 ppm	
Chemical name	Standard control	Actual control	Remarks																										
Xylene	10 ppm	10 ppm																											
Ethylbenzene	20 ppm	20 ppm																											
Solvent naphtha (Petroleum), light aromatic	20 ppm	20 ppm																											
1-Butanol	25 ppm	20 ppm																											
2-Propanol, 1-methoxy-	—	10 ppm																											
Methyl isobutyl ketone	20 ppm	20 ppm																											
4/7																													

THINNER №2330 Ohashi Chemical Industries Ltd.	H18000400 Approval Date Apr.12.2016																																
Engineering measures <ul style="list-style-type: none">• Use equipment of the explosion proof type.• With the exhaust system to prevent vapor accumulation.• Short any fluid conveying, drop-up, an stirring device to ground.• Do not use any heat sources or spark-producing devices nearby.• When handling the product indoors, use equipment such as would protect the operator from direct exposure to it or allow him to avoid exposure as by a local exhaust.• When handling the product in an enclosed space such as the inside of a tank, furnish a ventilator such as can circulate fresh air through the entire workspace. Respiratory protection <ul style="list-style-type: none">• Wear a gas mask for organic gases.• When handling the product in an enclosed space, wear a full-face air-supplied respirator. Hand protection <ul style="list-style-type: none">• Wear gloves made of materials which do not allow penetration of organic solvents of chemicals. Eye protection <ul style="list-style-type: none">• Wear safety goggles. Skin and body protection <ul style="list-style-type: none">• Wear clothes such as would protect the skin from direct exposure. It is desirable that the clothes be made of materials which do not allow penetration of chemicals. Others <ul style="list-style-type: none">• For electrostatic coating, wear current-carrying shoes.																																	
6 Physical and chemical properties <table><tbody><tr><td>Form</td><td>Liquid</td></tr><tr><td>Color</td><td>Colorless and transparent</td></tr><tr><td>Odor</td><td>Organic solvent</td></tr><tr><td>pH</td><td>Not available</td></tr><tr><td>Melting point</td><td>Not available</td></tr><tr><td>Freezing point</td><td>Not available</td></tr><tr><td>Boiling point</td><td>117.0°C(Reference value)</td></tr><tr><td>Boiling range</td><td>117.0-137.0°C(Reference value)</td></tr><tr><td>Flash point</td><td>25°C</td></tr><tr><td>Lower explosive limit</td><td>0.8%(Reference value)</td></tr><tr><td>Upper explosive limit</td><td>12.8%(Reference value)</td></tr><tr><td>Vapor pressure</td><td>1200Pa/20°C(Reference value)</td></tr><tr><td>Specific gravity</td><td>Not available</td></tr><tr><td>Solubility</td><td>Not available</td></tr><tr><td>Octanol / water partition coefficient</td><td>Not available</td></tr><tr><td>Ignition point</td><td>367°C(Reference value)</td></tr></tbody></table>		Form	Liquid	Color	Colorless and transparent	Odor	Organic solvent	pH	Not available	Melting point	Not available	Freezing point	Not available	Boiling point	117.0°C(Reference value)	Boiling range	117.0-137.0°C(Reference value)	Flash point	25°C	Lower explosive limit	0.8%(Reference value)	Upper explosive limit	12.8%(Reference value)	Vapor pressure	1200Pa/20°C(Reference value)	Specific gravity	Not available	Solubility	Not available	Octanol / water partition coefficient	Not available	Ignition point	367°C(Reference value)
Form	Liquid																																
Color	Colorless and transparent																																
Odor	Organic solvent																																
pH	Not available																																
Melting point	Not available																																
Freezing point	Not available																																
Boiling point	117.0°C(Reference value)																																
Boiling range	117.0-137.0°C(Reference value)																																
Flash point	25°C																																
Lower explosive limit	0.8%(Reference value)																																
Upper explosive limit	12.8%(Reference value)																																
Vapor pressure	1200Pa/20°C(Reference value)																																
Specific gravity	Not available																																
Solubility	Not available																																
Octanol / water partition coefficient	Not available																																
Ignition point	367°C(Reference value)																																
10 Stability and reactivity Stability <ul style="list-style-type: none">• No reaction occurs under normal conditions. Condition to avoid <ul style="list-style-type: none">• Heating the product may cause a dangerous reaction.• Incompatible products• This product could cause a dangerous reaction in contact with strong oxidants.• Hazardous decomposition product• Decomposition may release toxic gases. Other danger information <ul style="list-style-type: none">• Vapor is flammable, it may cause an explosion.																																	
5/7																																	

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

THINNER №2390
Ohashi Chemical Industries Ltd.

H18000400
Approval Date: Apr.12.2016

11 Toxicological information
Acute toxicity

Category	Oral	LD50	AT50
Oral	-	LD50	50/50
Skin	-	LD50	50/50
Inhalation (gaseous)	-	LC50	50/50
Inhalation (Vapors)	Category4	LC50	50/50
Inhalation (Dusts/Mists)	-	LC50	50/50

- Others: x: Not available classification. +: Classification not possible.

Chemical name	Oral	Skin	Inhalation (Dusts/Mists)	Inhalation (Vapors)	Inhalation (Dusts/Mists)	Skin corrosion/irritation	Eye damage/irritation
Xylene	-	-	-	-	-	Category2	Category2A
Ethylbenzene	-	-	-	-	-	Category2	Category2B
Inhalation (gaseous)	-	-	-	-	-	-	-
Inhalation (Vapors)	Category4	-	-	-	-	Category2	Category2B
Inhalation (Dusts/Mists)	-	-	-	-	-	-	-
Chemical name	Oral	Skin	Inhalation (Dusts/Mists)	Inhalation (Vapors)	Inhalation (Dusts/Mists)	Skin corrosion/irritation	Eye damage/irritation
Xylene	-	-	-	-	-	Category1	Category1
Ethylbenzene	-	-	-	-	-	Category1	Category1
Inhalation (gaseous)	-	-	-	-	-	-	-
Inhalation (Vapors)	-	-	-	-	-	-	-
Inhalation (Dusts/Mists)	-	-	-	-	-	-	-
Chemical name	Oral	Skin	Inhalation (Dusts/Mists)	Inhalation (Vapors)	Inhalation (Dusts/Mists)	Skin corrosion/irritation	Eye damage/irritation
Xylene	-	-	-	-	-	Category1	Category1
Ethylbenzene	-	-	-	-	-	Category1	Category1
Inhalation (gaseous)	-	-	-	-	-	-	-
Inhalation (Vapors)	-	-	-	-	-	-	-
Inhalation (Dusts/Mists)	-	-	-	-	-	-	-

12 Ecological information

- Others: x: Not available classification. +: Classification not possible.

Chemical name	Acute	Chronic
Xylene	Category2	Category2
Ethylbenzene	Category2	-
Inhalation (gaseous)	-	-
Inhalation (Vapors)	-	-
Inhalation (Dusts/Mists)	-	-
Chemical name	Acute	Chronic
Xylene	-	-
Ethylbenzene	-	-
Inhalation (gaseous)	-	-
Inhalation (Vapors)	-	-
Inhalation (Dusts/Mists)	-	-

8/7

THINNER №2390
Ohashi Chemical Industries Ltd.

M18000400
Approval Date: Apr.12.2016

General instructions

- When the product leaks or when it is to be disposed, special care should be taken because it may damage the environment.
- In particular, the product or its wash water should never be discharged direct to the ground or to a river or a drain ditch.

Other

- Flammability
 - Not available
- Persistence (degradability)
 - Not available
- Bioaccumulation
 - Not available
- Mobility in soil
 - Not available

13 Disposal considerations

Waste from residues

- The waste should be disposed of under a contract with an authorized industrial waste disposal company.
- Container and apparatus wash water should not be discharged direct to the ground or to a drain ditch.
- The industrial waste disposal trader who obtains permission and the competent contract are done and it is processed.
- It is because it corresponds to the social management industry waste (waste oil).
- Follow the relevant laws and local government standards for waste disposal.
- The wastes produced from process of water refining and of industrialation should be disposed of in accordance with governmental laws and environmental control regulations or asked to dispose with licensed special company.
- In depend of an empty container after contents are completely removed.

Contaminated packaging

- It is disposed of an empty container after contents are completely removed.
- The waste should be disposed of under a contract with an authorized industrial waste disposal company.

14 Transport information

- UN number: 1263
- UN name: Paint related Materials including paint, flammable
- UN class: Class 3 Flammable Liquids
- Container grade: III
- Guideline Number: T25
- Special safety measures: Common

- Observe the handling and storage precautions.
- Check the container for leakage, leak it with care so that it will not topple over, fall down, or sustain damage, and take adequate measures to prevent loss of spill.

Land transportation

- The product should be transported in accordance with Fire Service Law/the Industrial Safety and Health Law and the Poisonous and Deleterious Substances Control Law.
- The shipper issues transportation instructions (Yellow-Card) to the transporter.

Marine transportation

- Maritime transportation should be in compliance with (Ship Safety Act). Air transportation should be in compliance with the Aviation Act.

Air transport

- The product should be transported in accordance with the Aviation Act.

15 Regulatory information

- IMPORTANT: Follow all regulation in your country.

16 Other information

Main references cited


- Japanese Paint Manufacturers Association editing "Database for paint".
- Handbook of solvent.
- Chemical article (Chemical Daily).
- "Guidelines for SDS label making" which Japan Paint Manufacturers Association edited for GHS (Revised 2nd Edition).
- ACGIH Threshold Limit Values for Chemical Substances and Physical Agents.
- NITE (product evaluation technology base movement) offer SDS classification result D8.

Limitation of the responsibility

- Safety data sheet what is currently available materials, information and are prepared in accordance with our data may be revised or amended by new knowledge of laws.
- When handling this product, please take security measures adapted to the reality and responsibility of the user in reference to the contents listed.
- This data sheet is no guarantee of safety and quality.

7/7

1/5 ZrO2 Reference No. 04003 Issued-Revision date: May 28, 2019	
SAFETY DATA SHEET	
1. CHEMICAL PRODUCT AND MANUFACTURER IDENTIFICATION	
Name of chemical (product): Zirconium dioxide (ZrO2)	
Company name: Sanwa Kenma, Ltd.	
Address: 22-1, Kamimiyama, Okubo-cho, Uji city, Kyoto prefecture 611-0033	
TEL: +81-774-41-6956 FAX: +81-774-43-9201	
Emergency contact information: Kyoto Thin Film Materials Institute	
TEL: +81-774-46-7567 FAX: +81-774-46-7572	
Person in charge: Katsuji Sunagawa	
E-mail Address: katsuji_sunagawa@sanwakemima.co.jp	
Recommended use of the chemical and restrictions on use: Evaporation material for electron beam evaporation	
2. HAZARDS IDENTIFICATION	
PHYSICAL HAZARDS	
Explosives	Not applicable
Flammable Gases	Not applicable
Flammable Aerosols	Not applicable
Oxidizing Gases	Not applicable
Gases Under Pressure	Not applicable
Flammable Liquids	Not applicable
Flammable Solids	Unclassifiable
Self-Heating Substances and Mixtures	Not applicable
Pyrophoric Liquids	Not applicable
Pyrophoric Solids	Unclassifiable
Self-Heating Substances and Mixtures	Unclassifiable
Substances and Mixtures which, in contact with water, emit Flammable Gases	Not classified
Oxidizing Liquids	Solid (definition of GHS)
Oxidizing Solids	Unclassifiable
Organic Peroxides	Not applicable
Corrosive to Metals	Unclassifiable
HEALTH HAZARDS	
Acute toxicity (oral)	Unclassifiable
Acute toxicity (dermal)	Unclassifiable
Acute toxicity (inhalation: gases)	Not applicable
Acute toxicity (inhalation: vapors)	Not applicable
Acute toxicity (inhalation: dusts and mists)	Unclassifiable
Skin corrosion / Irritation	Unclassifiable
Serious eye damage / Eye irritation	Unclassifiable
Respiratory	Unclassifiable
Skin sensitization	Category 1
Germ cell mutagenicity	Unclassifiable
Carcinogenicity	Unclassifiable
Reproductive toxicity	Unclassifiable
Specific target organ toxicity (Single exposure)	Unclassifiable
Specific target organ toxicity (Repeated exposure)	Unclassifiable
Aspiration hazard	Unclassifiable

2/5 ZrO2 Reference No. 04003 Issued-Revision date: May 28, 2019	
ENVIRONMENTAL HAZARDS	
Acute aquatic environmental hazards	Unclassifiable
Chronic aquatic environmental hazards	Unclassifiable
LABEL ELEMENTS	
Pictogram or Symbol	
	
Signal Word	Warning
Prolonged hazard information	Causes damage to skin
Caution:	[Safety measure] When using this product, no eating, drinking and smoking. Do not inhale dust. Wash your hands enough after handling. [Emergency measure] When feeling bad, seek medical attention. [Disposal] Dispose in accordance with local, state and federal regulations.
3. COMPOSITION / INFORMATION ON INGREDIENTS	
Name of chemical(Product): Zirconium oxide	
Form: ZrO2	
CAS No.: No. 1314-23-4	
Purity: Silicon dioxide 99.9%	
4. FIRST-AID MEASURES	
Inhalation:	Move victim to fresh air. If symptoms persist, get medical attention.
Skin contact:	Remove contaminated shoes and clothing and launder before reuse. Flush skin with large amounts of water and get medical attention.
Eye contact:	Flush immediately with running water at least 15 minutes and get medical attention.
Ingestion:	Give water to rinse out mouth and get medical attention.
Prospective symptom:	Coughing
5. FIRE-FIGHTING MEASURES	
Extinguishing media:	This product cannot catch fire. Use media appropriate for surrounding fire.
Fire fighting:	Self-contained breathing apparatus and full protective clothing should be used, if the material is involved in fire.
6. ACCIDENTAL RELEASE MEASURES	

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

3/5 ZrO2 Reference No. 04003 Issued-Revision date : May 28, 2019	
Personal precautions	Keep away person in proper distance and insulate the place immediately.
Protective equipment and emergency procedures	Make it restricted area except persons concern. When not wearing proper protective equipment, do not touch any broken container or leak source. Wear proper protective equipment which is written in "8. EXPOSURE CONTROLS / PERSONAL PROTECTION". Avoid inhaling the dust and mist and contacting to eye and skin. Be aware not to be taken to the river. Put leakage in a dry container.
Environmental precautions	
Recovery	
Methods and materials for containment and cleaning up	If it is not dangerous, stop the leakage, and prevent making the dust.
7. HANDLING AND STORAGE	
Precautions for safe handling	
Countermeasure	Do the measure of facility and wear protective equipment which are written in "8. EXPOSURE CONTROLS / PERSONAL PROTECTION". When using this product, no drinking and eating and smoking. Wash your hands enough after using this product. Be aware not to make the dust. Be aware the contact to the eye and inhaling or swallowing.
Condition for safe storage	
Countermeasure	Storage area must have proper facilities of light and exhaust system to handle hazardous substance.
Incompatibilities	Refer to "10. STABILITY AND REACTIVITY".
8. EXPOSURE CONTROLS / PERSONAL PROTECTION	
ACGIH2015-TWA	5mg/m ³ (as Zr)
Measures of facilities	To keep acceptable concentration below seal the procedure, or, make local ventilation, or use proper facilities.
Protective equipment	
Respiratory	Use dust protective mask. Depending on the situation, use air-supplied mask.
Hand	Use protective gloves.
Eye	Use protective equipment for eye and face or use both protective equipment which is for eye and respiratory.
Skin and body	Wear protective cloth and boot.
9. PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Solid
Color	White
Odor	Colorless
pH	No data available
Melting point / freezing point	2077°C
Initial boiling point and boiling range	4300°C
Flash point	No data available
Vapor pressure	No data available
Vapor density (Air=1)	No data available
Relative density	5.56g/cm ³

4/5 ZrO2 Reference No. 04003 Issued-Revision date : May 28, 2019	
Solubility	Insoluble
Partition coefficient : n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Odor threshold	No data available
10. STABILITY AND REACTIVITY	
Stability	Stable in closed container.
Reactivity	
Incompatibility	No data available
Condition to avoid	No data available
Hazardous decomposition products	No data available
11. TOXICOLOGICAL INFORMATION	
Acute toxicity	GHS : No data available
Skin corrosion / irritation	GHS : No data available
Serious eye damage / irritation	GHS : No data available
Respiratory or skin sensitization	Category 1
Germ cell mutagenicity	GHS : No data available
Carcinogenicity	GHS : No data available
Reproductive toxicity	GHS : No data available
STOT-single exposure	GHS : No data available
STOT-repeated exposure	GHS : No data available
Aspiration hazard	GHS : No data available
12. ECOLOGICAL INFORMATION	
Acute hazardous to the aquatic environment	GHS : No data available
Chronic hazardous to the aquatic environment	GHS : No data available
13. DISPOSAL CONSIDERATIONS	
Waste from residues	Observe all applicable Federal, State and Local regulations, rules when disposing. When asking the disposal to licensed professional waste disposal service hazardous must be explained to the waste disposal service in advance.
Contaminated container and packing	Container must be cleaned or recycled. Observe all applicable Federal, State and Local regulations, rules when disposing. When disposing only the container, remove the contamination perfectly.
14. TRANSPORT INFORMATION	
By vessel	This product is not considered hazardous for transportation
By air	This product is not considered hazardous for transportation

5/5 ZrO2 Reference No. 04003 Issued-Revision date : May 28, 2019	
Others notice	When transporting, load the container with avoiding direct sunlight, and avoiding container's damage and corrosion. Also fix the container not to fall. Handle careful not to get wet.
15. REGULATORY INFORMATION	
TSCA inventory listed	
Ensure this material in compliance with local regulations.	
16. OTHER INFORMATION	
Cited literature	National Institute of Technology and Evaluation(NITE) / Internet web-site (http://www.nite.go.jp/index-e.html)
The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purpose. In no event shall the company be liable for any claims, losses, or damage of any third party or for lost profits or any special, indirect, incidental, or exemplary damages however arising, even if the company has been advised of the possibility of such damages.	

ACETRON Fujian Acetron New Materials Co., Ltd.		Doc No.: ACEM1MS-003 Version: 01 Issue date: 2019-01-27
MATERIAL SAFETY DATA SHEET OF Zirconium Titanium Oxide		
SECTION 1. IDENTIFICATION OF THE MATERIAL AND MANUFACTURER		
<u>Identification of the Material</u>		
Product Name: Zirconium Titanium Oxide (product form: granules, flake, target)		
Application: Industrial use, PVD (Physical Vapor Deposition) coating		
<u>Manufacturer Info.</u>		
Manufacturer: Fujian Acetron New Materials Co., Ltd.		
Address: No.169 Taipingli Qianjiang Village Hangcheng Town Changlu Fuzhou 350200 China		
Tel: +86 (0) 591-2687-3333		
Fax: +86 (0) 591-2679-5333		
E-mail: sales@acetron.com.cn		
SECTION 2. PHYSICAL AND CHEMICAL PROPERTIES		
Single product / mixture: Mixture		
Substance Name: MUS(ZrO2+TiO2)		
Molecular Formula: ZrO2+TiO2		
Chemical properties: Metallic oxide		
Ratio of Constituents: 90%ZrO2+10%TiO2		
CAS NO.: 1314-23-4 13463-67-7		
EINECS: 215-227-2 236-675-5		
SECTION 3. HAZARD IDENTIFICATION		
Danger: Not available.		
Recommended exposure limit: Not available.		
A damage: Not available.		
Environmental impact: Not available.		
Potential health effects		
Suck: Acute health hazards. May cause respiratory tract irritation.		
Ingestion: Not available.		
Skin contact: Not available.		
Eye contact: Dust may cause redness, itching and burning sensation after contact.		
Target Organs (Internal): Not available.		
SECTION 4. Emergency measure		
Inhalation: Not available.		
Ingestion: Not available.		
Skin contact: Use soap water to rinse it out.		
Eye contact: Immediately flush eyes with warm running water for at least 15 minutes. If symptoms persist, seek medical attention.		
SECTION 5. FIRE FIGHTING MEASURES		
Flash Points: Not available.		
The explosion limit: Not available.		
Fire prevention measures: Not available.		
Fire extinguishing agent: This product is non-flammable, in case of fire, use water spray (fog), foam, dry chemical, or CO2.		
Fire extinguishing method: None		
SECTION 6. Leakage contingency measures		
Emergency measures: No specific procedures are required for this product.		

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

ACETRON
Paper, Acrylic, New Materials Co., Ltd.

Doc No.: ACE-M1-MS-003
Version: 01
Issue date: 2018-01-27

SECTION 7. Access and storage
Access: Use special tool access, avoid direct contact with eyes.
Storage: Store in a cool, dry place, closed containers.

SECTION 8. Protective measures
Mask: Wearing protective masks.
Glasses: Wearing protective glasses.
Gloves: Rubber or vinyl gloves.
Protective clothing: Wearing dust-proof overalls.
Respiratory protection: No need.
Other protective equipment: No need.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES
Status: Solid of black brown.
Melting Point (°C): 1700°C
Boiling Point (°C): 2300°C
Specific Gravity (g/cm³): 5.3g/cm³
Molecular Weight (g/mol): 203.1 g/mol
Acoustic impedance coefficient: Not available.
Solubility: Insoluble in water, nitric acid and hydrochloric acid, soluble in hydrofluoric acid and hot sodium hydroxide.
Volatility: Not available.

SECTION 10. STABILITY AND REACTIVITY
Reactivity: Not available.
Chemical Stability: Not available.
Hazardous Reaction: Not available.
Hazardous Decomposition: Not available.

SECTION 11. Toxicological information
Acute toxicity: Not available.
Chronic toxicity: Not available.
Other information: Not available.

SECTION 12. Ecological information
Ecological toxicity: Not available.
Other information: Not available.

SECTION 13. Waste disposal
Disposal measures: According to local laws and regulations.

SECTION 14. Transportation
Land transport: Non-supervision.
Ship transport: Non-supervision.
Air transport: Non-supervision.

SECTION 15. Laws and Regulations
Laws and regulations: According to local law.

SECTION 16. Other information
Other information: Not available.

Approval: _____ Check: 2/2 Draft: _____

MATERIAL SAFETY DATA SHEET (M.S.D.S.)

Paraffin Wax

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT
Product Name: Paraffin Wax
Product Description: Paraffin Wax
Intended Use: Wax

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

No reportable Hazardous substance(s) or Complex Substance(s). CAS No. 64742-51-4

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview: This material is solid at ambient temperature and exhibits softening (melting) characteristics at elevated temperatures. At elevated temperatures well above the softening point, the generation of hydrocarbon vapors may be expected.

Warning: When handling at elevated temperature, wear protective gloves and other PPE to protect against thermal burns. Spills may create a slipping hazard.

POTENTIAL PHYSICAL EFFECTS

SKIN CONTACT – contact with molten material can result in severe burns.

EYE CONTACT – Direct contact of molten product to the eyes will cause thermal burns and injury.

INHALATION – Breathing fumes in confined areas can cause respiratory discomfort and possible irritation.

POTENTIAL HEALTH EFFECTS

Low order of toxicity. High-pressure injection into or under skin may cause a serious medical condition.

NFPA Hazard ID: Health: 1 Flammability: 1 Reactivity: 0
HMS Hazard ID: Health: 1 Flammability: 1 Reactivity: 0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice.

SECTION 4 - FIRST AID PROCEDURES

MSDS: Paraffin Wax Revised: 15 January 2012 Page 1 of 7

EYE CONTACT
If irritation or redness develops from exposure to fumes, move victim away from exposure and into fresh air. Flush eyes with clean water for at least 15 minutes. If irritation or redness persists, seek medical attention. For contact with molten material, gently open eyelids and flush affected eye(s) with cold water. Seek immediate medical attention.

INHALATION
Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use appropriate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with medical device or use mouth-to-mouth resuscitation.

SKIN CONTACT:
If burned by contact with molten material, hot material adhering to the skin should be cooled as quickly as possible with water. Seek a physician for removal of adhering material and treatment of burn. If the material has been injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial medical symptoms from injection may be minimal or absent, early treatment within the first few hours may significantly reduce the extent of injury.

INGESTION
The material is not acutely toxic by ingestion. First aid is not normally required. Seek medical attention if discomfort occurs.

SECTION 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.
Inappropriate Extinguishing Media: Straight streams of water.

FIRE FIGHTING
Fire Fighting Instructions: Evacuate the area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus. Use water to cool exposed surfaces to fire and to protect personnel. Molten material can form flaming droplets if ignited. Use of water on the material above 100°C (212°F) can cause the material to expand with explosive force.

FLAMMABILITY PROPERTIES
Flash Point [Method] >93°C (393°F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: No data UEL: No data
Autoignition Temperature: No data

HAZARDOUS COMBUSTION PRODUCTS: Carbon dioxide, carbon monoxide, smoke, vapors (fumes).

MSDS: Paraffin Wax Revised: 15 January 2010 Page 2 of 8

and other products of incomplete hydrocarbon combustion.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Take proper precautions to ensure your own health and safety before attempting spill control or clean-up. Notify relevant authorities in accordance with all applicable regulations. United States regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity which could reach any waterway including intermittent dry creeks. For more specific information, refer to the Emergency Overview on Section 3, Exposure Controls and Personal Protection in Section 8, and Disposal Consideration in Section 13 of this MSDS.

SPILL MANAGEMENT

Land Spill: Contain spill and evacuate non-essential personnel. Allow spilled material to solidify and scrape up with shovels into a suitable container for recycle or disposal. On hard surfaces, a spill may create a slipping hazard. In an urban area, clean-up spill as soon as possible; in natural environments, seek cleanup advice from environmental specialists.

Water Spill: Stop leak if you can without risk to injury. Confine the spill immediately with booms. Skim material from the surface.

ENVIRONMENTAL PRECAUTIONS

Equip cleanup crew with proper protective equipment and advise of pertinent hazards. For large spills: dike far enough ahead of molten material for alter recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas. Comply with all laws and regulations.

SECTION 7 - HANDLING AND STORAGE

HANDLING
Use normal precautions when handling hot, molten materials. Do not breathe fumes or vapor from molten material. Do not allow molten material to contact skin. The material can accumulate static charges which may cause an electrical spark (ignition source).

STORAGE
Store only in accordance with NFPA standards. This material can catch fire if over-heated. DO NOT heat this material above its flash point. Keep away from flames and open electrical coils.
Storage Temperature: < 80°C (176°F)

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Substance	Limit / Standard	SOURCE
Paraffin Wax fumes	TWA: 2 mg/m ³	ACGIH (United States)

MSDS: Paraffin Wax Revised: 15 January 2010 Page 3 of 8

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

NOTE: Limits / Standard shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. A control measure to consider: Adequate ventilation should be provided so that exposure limits are not exceeded. An eye wash station and safety shower should be located near the work station.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration, and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, a NIOSH-approved organic vapor respirator equipped with a mist pre-filter may be appropriate. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134).

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Contact the glove manufacturer for specific advice on glove selection for the intended use and conditions. Inspect and replace worn or damaged gloves. When handling the material at elevated temperatures, use long-cuffed leather or heat-resistant gloves.

Skin and Body Protection: Prevent skin contact when handling heated or molten material. Any specific clothing information provided is based on published literature or manufacturer data. Use heat-resistant clothing such as chemical-resistant apron and long sleeves. Use a full-body heat-resistant or internally cooled work suit if conditions dictate.

Eye Protection: If contact with the molten material may occur, safety glasses and face shields are recommended. If material is at ambient temperature, safety glasses equipped with side shields are recommended as minimal protection. A suitable eye wash station should be available in the work area.

Specific Hygiene Measures: Always practice good personal hygiene such as washing hands and other exposed skin areas with mild soap and water before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing or footwear that cannot be cleaned. Do not use harsh, abrasive skin cleansers. Use good housekeeping measures.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

MSDS: Paraffin Wax

Revised: 15 January 2010

Page 4 of 8

GENERAL INFORMATION

Physical State: Solid (at ambient temperatures)
Color: White (at ambient temperatures)
Odor: Faint to Mild Odor
Specific Gravity: 0.83 (Water = 1)
Flash Point [Method]: >193°C (>379°F) [ASTM D-92] LEL: N/D UEL: N/D
Flammability Limits (Approximate volume % in air):
Autoignition Temperature: N/D
Boiling Point / Range: >310°C (>590°F)
Melting / Freezing Point: >50°C (>122°F)
pH: Not applicable
Solubility in Water: Negligible
Vapor Pressure: 0.0134 Pa (0.1 mm Hg) at 20°C
Viscosity: [N/A at 40°C], 3.4–3.9 mm²/sec (cSt) at 100°C (212°F)
Log Pow (n-Octanol/Water Partition Coefficient): >6
Additional Properties:
Gravity, API [ASTM D-287] = 40.5–44.0 @ 60°F

SECTION 10 – STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Keep away from excessive heat and open flame.

MATERIALS TO AVOID: Strong Oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur

SECTION 11 – TOXICOLOGICAL INFORMATION

ACUTE TOXICITY	
Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity: No end point data	Not determined
Irritation: No end point data	Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes and respiratory tract. Based on assessment of components.
Ingestion	
Toxicity (Rat): LD50 >5000 mg/kg	Minimally toxic.
Skin	
Irritation (Rabbit): LD50 >2000 mg/kg	Negligible irritation to skin at ambient

MSDS: Paraffin Wax

Revised: 15 January 2010

Page 5 of 8

	temperatures.
Eye	
Irritation (Rabbit)	May cause mild, short-lasting discomfort to the eyes.

For the material itself:

Petroleum wax: Not carcinogenic in lifetime animal skin painting or oral feeding studies. It did not cause mutations in vitro. High oral doses in one rat strain (F-344) resulted in microscopic inflammatory changes (micro granulation) in liver, spleen, lymph nodes, some increased organ weights, inflammation of the cardiac mitral valve, and accumulation of saturated mineral hydrocarbons in certain tissues. It was found non-sensitizing in animal tests and human subjects.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity

Ecological effects testing have not been conducted on this material. Discharges are expected to cause only localized environmental damage and not expected to be harmful to aquatic organisms.

MOBILITY

Petroleum-based waxes normally float on water and have low solubility and are expected to migrate from water to land. The wax is expected to partition to soil and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Components of petroleum waxes will biodegrade over time.

SECTION 13 – DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal. Accordingly, it is the responsibility of the user to determine the proper storage, transportation, treatment, and/or disposal methodologies for spent materials and residues at the time of disposal.

DISPOSAL RECOMMENDATIONS

Suitable routes of disposal are supervised incineration, preferably with energy recovery, or recycling methods in accordance with applicable regulations and material characteristics at the time of disposal.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused material, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261.0), nor is it formulated to contain materials which are listed as hazardous wastes. The material does not exhibit the hazardous characteristics of ignitability, corrosivity, or reactivity. The material is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated. Contact your regional US EPA office for guidance concerning case specific disposal issues.

MSDS: Paraffin Wax

Revised: 15 January 2010

Page 6 of 8

SECTION 14 – TRANSPORT INFORMATION

The shipping description below may not represent requirements for all modes of transportation, shipping methods, or locations outside of the United States.

DOT Proper Shipping Name	Not regulated
DOT Hazardous Classification	Not regulated
DOT Haz. Mat Table 172.101	Not Listed
DOT Labels Required	None
DOT Placards Required	None for solid material None for molten material shipped under 100°C (212°F) Hot molten material greater than 100°C (212°F) requires class 9 'HOT' placard Bill of Lading must be carry the statement: Elevated temperature material, liquid, N.O.S. 9, UN3257, III (WAX)
MARPOL III Status	Not a DOT 'Marine Pollutant' per 49 CFR 171.8
TDG Classification	Not controlled under TDG (Canada)
Reportable Quantity	Not been established for this material

SECTION 15 – REGULATORY INFORMATION

TSCA Inventory	This material and/or its components are listed on the Toxic Substance Control Act (TSCA) inventory.
SARA 302/304	The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to Subparts 302/304 to submit emergency planning and notification information based on Threshold Planning Quantities (TPQs) and Reportable Quantities (RQs) for 'Extremely Hazardous Substances' listed in 40 CFR 302.4 and 40 CFR 355. No components were identified.
SARA 311/312	None
SARA 313	This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.
CERCLA	This material does not contain any chemical substances subject to this statute.
WHMIS	This is not controlled material as defined by the Canadian Hazardous Products Act (Bil C70)
CANADIAN DSL	Listed

MSDS: Paraffin Wax

Revised: 15 January 2010

Page 7 of 8

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

CONEG In compliance

CA Prop 65 This material is not known to contain any components for which the State of California has found to cause cancer, birth defects, or other reproductive harm.

NJ RTK For New Jersey Right to Know requirements, no components cited.

PA RTK For Pennsylvania Right to Know requirements, no components cited.

NATIONAL CHEMICAL INVENTORY LISTING AICS, EINECS, IECSC, ENCS, KECL, NZIoC, PICCS

MITI Listed

SECTION 16 – OTHER INFORMATION

THIS MATERIAL SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
No revision information is available.

ABBREVIATIONS

>: Greater Than N/D: No data N/A: Not Applicable

EPA: US Environmental Protection Agency NFPA: National Fire Protection Association

DISCLAIMER OF LIABILITY

The information and recommendations contained herein are, to the best of United Wax's knowledge and belief, accurate and reliable as of the date issued. However, the information is provided without any warranty, expressed or implied regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the material itself. This MSDS was prepared and is to be used only for this material. If the material is used as a component in another formulated product, this MSDS information may not be applicable. Users should make their own determination as to the suitability of the information for their particular purpose. Appropriate warnings and safe-handling procedures should be provided to handlers and users.

The conditions or methods of handling, storing, using, and disposing of the material are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out or in any way connected with handling, storing, using, or disposal of the material.

MSDS: Paraffin Wax Revised: 15 January 2010 Page 8 of 8

通創檢測 Tiftest Technology Co., Ltd. Cutting fluid SDS NO.:T190711022A

Safety Data Sheet (SDS)

Creation Date: 2019/07/11
Revision Date: 2019/07/11
Version: 20190711
Prepared according to UN GHS (the 7th revised edition)

Product Name:Cutting fluid
Model:SQXY-209

Company Name:FoShan FangXi Technology Co., Ltd.

Written by TJTest Technology (Shanghai) Co., Ltd.

TJTest GHS SDS Report(E)-SDS NO.:T190711022A 1/9 Date: 11-July-19

通創檢測 Tiftest Technology Co., Ltd. Cutting fluid SDS NO.:T190711022A

1. Identification of the chemical and supplier

1.1 Product identifier
Product Name: Cutting fluid
Product Model: SQXY-209

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses: Optical mirror glass processing.
Uses advised against: Please consult manufacturer.

1.3 Details of the supplier of the Safety Data Sheet
Name of the company: FoShan FangXi Technology Co., Ltd.
Address of the company: Rm 602 19th NanYi District, HaiSan Road,NanHai FoShan Guangdong
Telephone number: +86 (0) 757-86260662
Fax number: +86 (0) 757-86260662
Zip code: 529000
Email address: 448410561@qq.com

1.4 Emergency phone number
Emergency phone number: +86 (0) 13600309159

2. Hazards identification

2.1 Hazard classification according to GHS:
Skin corrosion/irritation Category 3
Harmful to aquatic environment Acute hazard Category 2
Harmful to aquatic environment Long-term danger Category 2

2.2 Label elements

Hazard pictograms:
Signal word: **Warning**

2.3 Hazard statements:
H316 Causes mild skin irritation
H411 Toxic to aquatic life with long lasting effects

2.4 Precautionary statements

2.4.1 Prevention
P273 Avoid release to the environment.

2.4.2 Response
P391 Collect spills.
P332+P313 If skin irritation occurs: Get medical advice/attention.

2.4.3 Storage
P405 The storage area must be locked.
P403+P233 Store in a well ventilated area. Keep the container closed.

2.4.4 Disposal

TJTest GHS SDS Report(E)-SDS NO.:T190711022A 2/9 Date: 11-July-19

通創檢測 Tiftest Technology Co., Ltd. Cutting fluid SDS NO.:T190711022A

3. Composition/information on ingredients

Substance ☐ Preparation ☒
Composition:

Component	CAS No.	EC No.	Concentration (weight percent, %)
Triethanolamine	102-71-6	203-049-8	5-20
Amine neutralized carboxylic acid	—	—	5-15
Polychloroquaternium	31075-24-8	—	0.1-0.5

4. First aid measures

4.1 Description of first aid measures
General advice: Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Skin contact: During production, take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes and consult a physician if fell uncomfortable.
Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if fell uncomfortable.
Inhalation: Under normal use conditions, no adverse effects will occur. If contact with decomposition products, irritation occurs. Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.
Intake: Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.
Protecting of first-aiders:
Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

4.2 Indication of any immediate medical attention and special treatment needed
1. Treat symptomatically.
2. Symptoms may be delayed.

5. Firefighting measures

TJTest GHS SDS Report(E)-SDS NO.:T190711022A 3/9 Date: 11-July-19

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited



SDS NO.:T190711022A

Cutting fluid

5.1 Extinguishing media
1. Suitable extinguishing media: Dry chemical, carbon dioxide or alcohol-resistant foam.
2. Unsuitable extinguishing media: Do not use a solid water stream as it may scatter or spread fire.

5.2 Specific hazards arising from the substance or mixture

1. Fire exposed containers may vent contents through pressure relief valves.

5.3 Advice for firefighters

1. As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.

2. Fight fire from a safe distance, with adequate cover.

3. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

1. Emergency personnel wear positive pressure self-contained breathing apparatus. Wear protective and anti-static clothing. Wear chemical impermeable gloves.

2. Ensure adequate ventilation. Remove all sources of ignition.

3. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

4. Use personal protective equipment. Avoid breathing vapours, mist, gas or dust.

6.2 Environmental precautions

1. Prevent further leakage or spillage if safe to do so.

2. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

1. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. Handling and storage

7.1 Precautions for handling

1. Closed operation, full ventilation.

2. Keep away from fire, heat, and smoking in the workplace.

3. Use explosion-proof ventilation systems and equipment.

4. Avoid contact with oxidizing agents, reducing agents, and halogens.

5. Equipped with the corresponding variety and quantity of fire-fighting equipment.

7.2 Precautions for storage

1. Store in a cool, ventilated warehouse.

2. The temperature of the reservoir should not exceed 37 °C, away from fire and heat.

3. It should be stored separately from oxidants, reducing agents, halogens, etc., and should not be mixed.

4. Use explosion-proof lighting and ventilation facilities.

5. It is forbidden to use mechanical equipment and tools that are prone to sparks.

6. The storage area should be equipped with leakage emergency treatment equipment and suitable containment materials.

8. Exposure controls/personal protection

Tiftest GHS SDS Report(E)-SDS NO.:T190711022A

4/9

Date: 11-July-19



Cutting fluid

SDS NO.:T190711022A

8.1 Control Parameters

8.1.1 Occupational exposure limits

Occupational Exposure limit values

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m ³	ppm	mg/m ³
All components	USA - OSHA	Unspecified	Unspecified	Unspecified	Unspecified
	South Korea	Unspecified	Unspecified	Unspecified	Unspecified
	Ireland	Unspecified	Unspecified	Unspecified	Unspecified
	Germany (AGS)	Unspecified	Unspecified	Unspecified	Unspecified
	Denmark	Unspecified	Unspecified	Unspecified	Unspecified
	Australia	Unspecified	Unspecified	Unspecified	Unspecified

8.1.2 Biological limit values

Biological limit values: No information available

8.1.3 Monitoring methods

1. EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

2. BZ/T 160.1-GB/Z 160.81-2004 Determination of toxic substances in workplace air (Series standard) .

8.2 Engineering controls

1. Ensure adequate ventilation, especially in confined areas.

2. Ensure that eyewash stations and safety showers are close to the workstation location.

3. Use explosion-proof electrical/ventilating/lighting/equipment.

4. Set up emergency exit and necessary risk-elimination area.

8.3 Personal protection equipment

General requirement:



Eye protection: Tightly fitting safety goggles (approved by EN 166(EU) or NIOSH (US).

Hand protection: Wear protective gloves (such as butyl rubber) , passing the tests according to EN 374(EU), US F739 or AS/NZS 2161.1 standard.

Respiratory protection: If exposure limits are exceeded or if irritation or other symptoms are experienced, use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges.

Skin and body protection: Wear fire/flamm resistant/retardant clothing and antistatic boots.

Other protection: Smoking, eating and drinking are forbidden on the job site. Maintain good hygiene habits.

9. Physical and chemical properties

Appearance: Light yellow transparent liquid.

Tiftest GHS SDS Report(E)-SDS NO.:T190711022A

5/9

Date: 11-July-19



SDS NO.:T190711022A

Cutting fluid

Odor: Weak odor.

Odor threshold: No data available.

PH value: 9.1.

Melting point/freezing point (°C) : No data available.

Initial boiling point and boiling range (°C) : No data available.

Flash point (closed cup, °C) : >70.

Evaporation rate: No data available.

Flammability (solid or gas) : No data available.

Explosion upper/lower limit [% (v/v)]: No data available.

Vapor pressure (kPa) : No data available.

Vapor density (air = 1) : No data available.

Relative density (water = 1) : No data available.

Solubility (mg/L) : No data available.

Octanol/water partition coefficients: No data available.

Auto-ignition temperature (°C) : No data available.

Decomposition temperature (°C) : No data available.

Viscosity: No data available.

Others:Resistance value: No data available.

10. Stability and Reactivity

Reactivity: Contact with incompatible materials can cause decomposition or other chemical reactions.

Chemical stability: stable under the correct conditions of use and storage.

Possibility of hazardous reactions: Reacts violently with oxidants, causing a risk of combustion explosion.

Conditions to avoid: Electrostatic discharge, heat, humidity, etc.

Incompatible materials: Strong oxides, strong acids, strong bases.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

11.1 Acute toxicity

Component	LD ₅₀ (oral)	LD ₅₀ (Transcutaneous)	LC ₅₀ (inhalation, 4h)
All components	Not available	Not available	Not available

11.2 Carcinogenicity

Component	IARC	NTP
All components	Not Listed	Not Listed

11.3 Others

Component	Corrosive skin/irritation	Serious eye damage/irritation	Skin sensitization	Respiratory sensitization	Reproductive toxic	Specific target organ toxic	Specific target organ toxic	Aspiration hazard	Germ cell mutagenicity	Reproductive toxic
All components	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available

Tiftest GHS SDS Report(E)-SDS NO.:T190711022A

6/9

Date: 11-July-19



Cutting fluid

SDS NO.:T190711022A

Component	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available
All components	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available

12. Ecological information

12.1 Acute aquatic toxicity

Component	Fish	Crustaceans	Algae
All components	Not available	Not available	Not available

12.2 Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae
All components	Not available	Not available	Not available

12.3 Others

Component	Persistence and degradability	Bioaccumulation or bioaccumulation	Soil mobility	Evaluation of PBT and vPvB results
All components	Not available	Not available	Not available	Not available

13. Disposal considerations

Disposal considerations: Recycle as much as possible. If it cannot be recycled, use incineration for disposal. Do not dispose of this product by means of discharge to the sewer.

Waste chemicals: Contaminated packaging: Residual hazards may still exist after the contents of the packaging are emptied. Keep away from heat and sources of ignition. If possible, recycle them to the supplier for recycling.

Disposal considerations: Refer to the "Disposal" section.

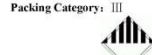
14. Transportation information

United Nations Dangerous Goods Number (UN No.): The product is not dangerous.

UN proper shipping name: None

UN Risk Classification: 9

Packing Category: III



Packaging label:

Marine Pollutants (Yes/No): Yes

Packing method: Pack according to the manufacturer's recommendations, for example: open

Tiftest GHS SDS Report(E)-SDS NO.:T190711022A

7/9

Date: 11-July-19

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

通創檢測
TJTest Technology Co., Ltd.

Cutting fluid SDS NO. TJ190711022A

drums, Ampoule bottle outside the ordinary wooden box. Threaded glass bottles, iron lids, glass bottles, plastic bottles or metal drums (cans) outside the ordinary wooden boxes.

Transportation Note: It is strictly prohibited to mix and transport with acids, alkalis, oxidants, foods and food additives. The exhaust pipe of the vehicle carrying this item must be equipped with a fire-retardant device, which prohibits the use of mechanical equipment and tools that generate sparks. Avoid exposure, rain, and high temperature during transportation. The tank (tank) used for transportation shall have a grounding chain, and a hole partition may be arranged in the tank to reduce the static electricity generated by the vibration.

It is strictly prohibited to mix and transport with oxidants, acids, foods and food additives. It is strictly forbidden to use wooden boats and cement ships for bulk transportation. Avoid exposure, rain, and high temperature during transportation. Transportation vehicles shall be equipped with fire fighting equipment and emergency response treatment equipment of corresponding types and quantities. Before shipping, check whether the packaging container is complete and sealed. On the transportation means, hazard signs and announcements should be posted in accordance with the relevant transportation requirements.

15. Regulatory information

International chemical inventory

Component	EINECS	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AICS
Tris(hydroxymethyl)aminomethane	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Amine neutralized carboxylic acid	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
Polyethyleneterephthalate	Not Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed

【EINECS】 European Inventory of Existing Commercial Chemical Substances
【TSCA】 United States Toxic Substances Control Act Inventory
【DSL】 Canadian Domestic Substances List
【IECSC】 China Inventory of Existing Chemical Substances
【NZIoC】 New Zealand Inventory of Chemicals
【PICCS】 Philippines Inventory of Chemicals and Chemical Substances

16. Others

16.1 References

【1】 IPCS: The International Chemical Safety Cards (ICSC) , website: <http://www.ilo.org/dyn/icsc/showcard.home>.
【2】 IARC: website: <http://www.iarc.fr/>.
【3】 OECD: The Global Portal to Information on Chemical Substances, website: http://www.chemportal.org/chemportal/index?pageID=0&request_locale=en.
【4】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>.
【5】 NLM: ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlife.jsp>.

TJTest GHS SDS Report(E)-SDS NO. TJ190711022A 8/9 Date: 11-July-19

通創檢測
TJTest Technology Co., Ltd.

Cutting fluid SDS NO. TJ190711022A

【6】 EPA: Integrated Risk Information System, website: <http://cfpub.epa.gov/iris/>.
【7】 U.S. Department of Transportation: ERG, website: <http://www.phmsa.dot.gov/hazmat/library/erg/>.
【8】 Germany GESTIS-database on hazard substance, website: <http://gestis-en.itrust.de/>.

16.2 Others:

1. Abbreviations and acronyms


CAS - Chemical Abstracts Service	PC-STEL - Short term exposure limit
DNEL - Derived No Effect Level	RPE - Respiratory Protective Equipment
LC50 - Lethal Concentration 50%	NOEC - No Observed Effect Concentration
PBT - Persistent, Bioaccumulative, Toxic	BCF - Bioconcentration factor (BCF)
IMDG-International Maritime Dangerous Goods UN-The United Nations	
NFPA-National Fire Protection Association	
CMR - Carcinogens, mutagens or substances toxic to reproduction	
PC-TWA - Time Weighted Average	ARC - International Agency for Research on Cancer
PNEC - Predicted No Effect Concentration	LD50 - Lethal Dose 50%
EC50 - Effective Concentration 50%	
POW - Partition coefficient Octanol:Water	vPvB - very Persistent, very Bioaccumulative
ICAO/IATA-International Civil Aviation	Organization/International Air Transportation Association

ACGIH-American Conference of Governmental Industrial Hygienists
OECD-Organization for Economic Co-operation and Development

2. Disclaimer

This Safety Data Sheet (SDS) was prepared according to UN GHS (the 7th revised edition). The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

Photograph of sample



*****END*****

SDS Creation Date: 2019/07/11 (valid for one year)

TJTest GHS SDS Report(E)-SDS NO. TJ190711022A 9/9 Date: 11-July-19

FULTECH

MATERIAL SAFETY DATA SHEET
SILICON CARBIDE POWDER
Version: 2.02
Jan 5th, 2017

1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

Product Name	Silicon Carbide Abrasive Powder
Manufacturer	Fultech Technology Co., Ltd. (Jiangsu, China)
Telephone Number	(86) 512 5360 5941
Additional information available from:	www.sicworld.com

2. HAZARDS IDENTIFICATION

PHYSICAL HAZARDS

Explosives	Off the subject
Flammable gases	Off the subject
Flammable aerosols	Off the subject
Oxidizing gases	Off the subject
Gases under pressure	Off the subject
Flammable liquids	Out of category
Flammable solids	Off the subject
Self-reactive substances and mixtures	Off the subject
Pyrophoric liquids	Off the subject
Pyrophoric solids	Off the subject
Self-heating substances and mixtures	Off the subject
Substances and mixtures which in contact with water, emit flammable gases	Off the subject
Oxidizing liquids	Off the subject
Oxidizing solids	Off the subject
Organic peroxides	Off the subject
Corrosive to metal	Not classified


HEALTH HAZARDS

Acute toxicity (Oral)	Not classified
Skin corrosion / Irritation	Not classified
Serious eye damage / eye irritation	Not classified
Respiratory or skin sensitization	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified

1 of 6 MSDS - Silicon Carbide Powder

FULTECH

MATERIAL SAFETY DATA SHEET
SILICON CARBIDE POWDER
Version: 2.02
Jan 5th, 2017

Specific target organ systemic toxicity (single exposure)	Category 1
Specific target organ systemic toxicity (repeat exposure)	Not classified
Aspiration hazard	Not classified
ENVIRONMENTAL HAZARDS	
Hazardous to the aquatic environment (acute hazard)	Not classified
Hazardous to the aquatic environment (chronic hazard)	Not classified
GHS LABEL MARK	
Pictogram or symbol	
Signal word: Danger	Danger
HAZARD INFORMATION	<ul style="list-style-type: none"> Eye irritation Causes damage to organs (respiratory apparatus) May cause damage to organs through prolonged or repeated exposure (lung) Skin irritation There is a possibility of stimulating the respiratory organ when dust is generated, by dryness. Weak stimulateness may be left to the skin and sys.
CAUTIONS	
Prevention measure	<ul style="list-style-type: none"> Do not eat, drink or smoke when using this product. Use only in well-ventilated area. Do not breathe dust After handling, the hand is washed well
Storage	Keep in dry area.
Disposal	Dispose of content and containers appropriately in accordance with related regulations.

2 of 6 MSDS - Silicon Carbide Powder

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

FULTECH		MATERIAL SAFETY DATA SHEET SILICON CARBIDE POWDER Version: 2.02 Jan 5 th , 2017											
3. COMPOSITION/INFORMATION ON INGREDIENTS/PRODUCTS													
Chemical Name	Silicon Carbide												
Chemical Formula	SiC												
Composition (JISGC#1000)	<table border="1"><tr><td>Silicon Carbide (SiC)</td><td>98.98 %</td></tr><tr><td>Free Carbon (F.C.)</td><td>0.15%</td></tr><tr><td>Free Silicon (Si)</td><td>0.31%</td></tr><tr><td>Free Silicon Dioxide (SiO₂)</td><td>0.29%</td></tr><tr><td>Ferric Oxide (Fe₂O₃)</td><td>0.07%</td></tr></table>			Silicon Carbide (SiC)	98.98 %	Free Carbon (F.C.)	0.15%	Free Silicon (Si)	0.31%	Free Silicon Dioxide (SiO ₂)	0.29%	Ferric Oxide (Fe ₂ O ₃)	0.07%
Silicon Carbide (SiC)	98.98 %												
Free Carbon (F.C.)	0.15%												
Free Silicon (Si)	0.31%												
Free Silicon Dioxide (SiO ₂)	0.29%												
Ferric Oxide (Fe ₂ O ₃)	0.07%												
4. FIRST AID MEASURES													
General advice	• Show this safety data sheet to the doctor in attendance												
Skin contact	• Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes • If skin irritation persists, call a physician												
Eye contact	• Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes • If symptoms persist, call a physician												
Inhalation	• Move to fresh air • If breathing is difficult, give oxygen • If not breathing, give artificial respiration • Consult a physician if necessary												
Ingestion	• Clean mouth with water and afterwards drink plenty of water • Never give anything by mouth to an unconscious person • Do not induce vomiting without medical advice • Consult a physician												
5. FIRE-FIGHTING MEASURES													
Suitable extinguishing media	• The product itself does not burn • Use extinguishing measures that are appropriate to local circumstances and the surrounding environment												
Special protective equipment for firefighters	• Wear self-contained breathing apparatus and protective suit												

3 of 6 MSDS - Silicon Carbide Powder

FULTECH		MATERIAL SAFETY DATA SHEET SILICON CARBIDE POWDER Version: 2.02 Jan 5 th , 2017	
6. ACCIDENTAL RELEASE MEASURES			
Personal precautions	• Wear personal protective equipment • Avoid dust formation		
Environmental precautions	• Do not flush into surface water or sanitary sewer system • Do not contaminate surface water		
Methods for cleaning up	• Take up mechanically and collect in suitable container for disposal		
7. HANDLING AND STORAGE			
Technical measures/ Precautions (handling)	• No special handling advice required		
Safe handling advice (handling)	• Avoid dust formation in confined areas		
Technical measures/ Precautions (storage)	• Keep in a dry place • Keep container tightly closed		
8. PERSONAL PROTECTIVE EQUIPMENT			
Respiratory protection	• In case of insufficient ventilation, wear suitable respiratory equipment • When workers are facing concentrations above the exposure limit they must use appropriate certified respirators		
Hand protection	• Protective gloves • Wear as appropriate		
Eye protection	• Tightly fitting safety goggles • Safety glasses with side-shields		
Skin and body protection	• No special protective equipment required		
Hygiene measures	• When using, do not eat, drink or smoke • Regular cleaning of equipment, work area and clothing		

4 of 6 MSDS - Silicon Carbide Powder

FULTECH		MATERIAL SAFETY DATA SHEET SILICON CARBIDE POWDER Version: 2.02 Jan 5 th , 2017	
9. PHYSICAL AND CHEMICAL PROPERTIES			
Form	• Powder		
Color	• Off-green		
Odor	• None		
Melting Point	• 2200°C and above		
Risk of explosion	• Not applicable		
Water solubility	• Insoluble		
pH	• Neutral		
Solubility in other solvents	• Insoluble		
10. STABILITY AND REACTIVITY			
Stability	• Stable under normal conditions • Hazardous polymerization does not occur		
Conditions to avoid	• No decomposition if stored and applied as directed		
Materials to avoid	• No information available		
Decomposition	• Not applicable		
11. TOXICOLOGICAL INFORMATION			
Skin irritation	• Severe skin irritation		
Eye irritation	• Severe eye irritation		
Inhalation	• May cause irritation of respiratory tract		
Ingestion	• Ingestion may cause irritation to mucous membranes		
12. ECOLOGICAL INFORMATION			
Hazardous to the aquatic environment (acute hazard)	• No data		
Hazardous to the aquatic environment (chronic hazard)	• No data		
Mobility	• Insoluble, settles easily		
Degradation	• Inert mineral product		
Bioaccumulation	• None		
Ecotoxicity	• None		

5 of 6 MSDS - Silicon Carbide Powder

FULTECH		MATERIAL SAFETY DATA SHEET SILICON CARBIDE POWDER Version: 2.02 Jan 5 th , 2017	
13. DISPOSAL CONSIDERATIONS			
Product	• Can be eliminated with regular industrial washes		
Used packing	• Empty and possibly wash with water before recycling. • Pay attention to eventual local regulation.		
14. TRANSPORT INFORMATION			
International / national regulation	• Not applicable		
15. REGULATORY INFORMATION			
Industrial Safety and Health Act	• Article 57-2, Appended table 9		
Pollutant Release and Transfer Register	• NA		
16. OTHER INFORMATION			
This sheet is given in addition to the technical data sheet. The information contained herein is given in good faith, according to our up-to-date knowledge. The use of this product for unusual application may possibly present a risk. The user must know and apply the regulation of his own activity and is responsible for the good use of this product in respect to the statutory information given in this sheet. Nevertheless, this sheet is not exhaustive and the user must pay attention to other regulations relative to the storage or using of this product. Information herein is given in good faith as authoritative and valid; however, no warranty, express or implied, can be made.			
*End of safety data sheet			

6 of 6 MSDS - Silicon Carbide Powder

 Material Safety Data Sheet E160924050E

MSDS REPORT

Product Name: OPTICA ADHESIVE


No: A-01

Company Name: FoShan FangXi Technology Co., Ltd.

Written by EBT Test Technology Service (Shanghai) Co., Ltd.



EBT Test Report-MSDS(E)-E160924050E 1/5 Date: 25-Sep-16

 Material Safety Data Sheet E160924050E

Section 1-Chemical Product and Company Identification

Product Name: OPTICA ADHESIVE
Company Name Identification: FoShan FangXi Technology Co., Ltd.
ADD: Fo Shan, Guangdong, China
TEL: +86 757-86260662
FAX: +86 757-86260662

Section 2-Hazards Identification

Fatality grade: In accordance with Directive 2001/58/EC, the product does not belong to dangerous article.
Invasion route: Eyes touch, skin touch ingestion.
Health Hazards: The pyrolysis product may effect irritation to respiratory tract.
Environment hazards: Heating the product will release irritant odor.
Burn & burst danger: The product is classified in flammable substance.

Section 3-Composition/Information on Ingredients

Admixture

CAS No.	Chemical Name	Percent
—	Cyanoacrylate	61-100 %
—	Thickening agent/Stabilizer	Small quantity

Section 4-First Aid Measures

Skin touch: In the production process, rinse the skin immediately.
Eyes touch: Lifting the eyelids, flush with plenty of water immediately. Get medical aid if necessary.
Inhalation: Keep respiratory tract unobstructed, provide fresh air.
Ingestion: Get medical aid immediately.

Section 5-Fire Fighting Measures


Danger characteristic: The product is flammable with fire and product irritate gas when meet high temperature.
Hazardous Combustion Products: CO, CO₂.
Fire-Fighting method & media: Move containers from the fire to the empty place as far as possible. Extinguisher: mist shape water, dry powder, and sand.

Section 6-Accidental Release Measures

Emergency treatment: Massive divulgence: Dig pit to accept. Shift into the special collector.

Section 7-Handling and Storage

EBT Test Report-MSDS(E)-E160924050E 2/5 Date: 25-Sep-16

 Material Safety Data Sheet E160924050E

Handling: With closed operation. Provide adequate local exhaust system. Keep away from fire and heating sources. Prevent contact the oxidizer. Equip relevant types and quantities of devices for divulgence handling.
Storage: Keep the product in the cool, well-ventilated, and dry place. Keep away from fire and heating sources. Keep the container closed. The storage place should equip devices for divulgence and suitable accept materials.

Section 8-Exposure Controls, Personal Protection

Maximum admissible concentration: No standard yet.
Monitoring Methods: Using automatic alarming device.
Engineering controls: Keep the workshop place ventilation.
Respiratory protection: Wearing a mask when in higher concentration air.
Eyes Protection: Wear working glasses.
Body protection: Wear working clothes.
Hands Protection: Wear working gloves.
Other Protections: No smoking, dining and drinking water in the workplace. Keep good habit of hygiene.

Section 9-Physical and Chemical Properties

Appearance: Transparent liquid, weak odor.
Flash Point: >80℃
Boiling point: >126℃
Melting point: 126℃-135℃
Proportion: 1.0-1.1 g/cm³.
PH Value: Not available.
Permission of solvent inhalation: Soluble in some organic solvents.


Section 10-Stability and Reactivity

Stability: Unstable and easy aggregation.
Distribution of Ban: Not available.
Conditions to Avoid: High temperature, water, moisture, strong acid, strong alkali.
Hazardous Polymerization: Not available.
Hazardous Decomposition Products: CO, CO₂.

Section 11-Toxicological Information

Acute Toxicity: The product is not classified in toxic and infectious substances.
Sub-acute and Chronic Toxicity: Not available.
Irritation: Cause irritate to skin and eyes.
Sensitization: Not available.
Mutagenicity: Not available.
Carcinogenicity: None.

EBT Test Report-MSDS(E)-E160924050E 3/5 Date: 25-Sep-16

 Material Safety Data Sheet E160924050E

Section 12-Ecological Information

Eco-toxicity: None.
Biodegradable: Not available.
Non-biodegradable: Not available.
Bio-concentration or biological accumulation: The product is not classified in corrosives.

Section 13-Disposal Considerations

Nature of waste: Not belong to dangerous waste.
Waste disposal methods: Refer to National or Local regulations before handling.
Attention abandoned: Not available.

Section 14-Transport Information

Number of dangerous goods: None.
UN Number: Not available.
Packaging Mark: No special mark.
Packaging Method: Use plastic or metal bottle.
Transport Attentions: Examine whether the package of the containers are integrate and tight-closed or not before transport. No divulgence, no collapse, no precipitation or no damage during the course of transportation. Avoid high temperature and rain. Don't put the goods together chief food chemicals. The transport vehicle and ship must be cleaned and sterilized otherwise it is not allowed to assemble articles. The assemble place should keep away from kitchen, engine room, power and fire source. Under the condition of Road Transportation, the driver should drive in accordance with regulated route.

Section 15 -Regulatory Information

Regulatory Information: None.

Section 16-Additional Information


Data Filling Departments: FoShan FangXi Technology Co., Ltd.
Data Audit unit: EBTtest.
Other Information: The above information is based on the data of which we are aware and is believed to correct as of the data hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the data hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

EBT Test Report-MSDS(E)-E160924050E 4/5 Date: 25-Sep-16

 Material Safety Data Sheet E160924050E

MSDS Creation Date: Sep. 25, 2016

Photograph of sample



***** END *****



EBTest Report-MSDS(E)-E160924050E 5/5 Date: 25-Sep-16

 Material Safety Data Sheet E170411091A

MSDS REPORT


Product Name: Cutting Fluid

Company Name: FoShan FangXi Technology Co., Ltd.



Written by EBTest Technology Service (Shanghai hai) Co., Ltd

EBTest Report-MSDS(E)-E170411091A 1/5 Date: 18-Apr-17

 Material Safety Data Sheet E170411091A

Section 1-Chemical Product and Company Identification

Product Name: Cutting Fluid
Company Name Identification: FoShan FangXi Technology Co., Ltd.
ADD: Fo Shan, Guangdong, China
TEL: +86 757-86260662
FAX: +86 757-86260662

Section 2-Hazards Identification

Fatality grade: In accordance with Directive 2001/58/EC, the product does not belong to dangerous article.
Invasion route: Eyes touch, skin touch ingestion.
Health Hazards: The pyrolysis product may effect irritation to respiratory tract.
Environment hazards: Heating the product will release irritant odor.
Burn & burst danger: The product is not belong to flammable article.

Section 3-Composition/Information on Ingredients

Admixture

CAS No.	Chemical Name	Percent
102-71-6	Triethanolamine	25%
—	Surface active agent	10%
—	Lubricant	20%
—	Others	45%

Section 4-First Aid Measures

Skin touch: In the production process, rinse the skin immediately.
Eyes touch: Lifting the eyelids, flush with plenty of water immediately. Get medical aid if necessary.
Inhalation: Keep respiratory tract unobstructed, provide fresh air.
Ingestion: Get medical aid immediately.


Section 5-Fire Fighting Measures

Danger characteristic: The product is not belong to flammable article.
Hazardous Combustion Products: CO, CO₂.
Fire-Fighting method & media: Move containers from the fire to the empty place as far as possible. Extinguisher: mist shape water, dry powder, and sand.

Section 6-Accidental Release Measures

Emergency treatment: Massive divulgence: Dig pit to accept. Shift into the

EBTest Report-MSDS(E)-E170411091A 2/5 Date: 18-Apr-17

 Material Safety Data Sheet E170411091A

special collector.

Section 7-Handling and Storage

Handling: With closed operation. Provide adequate local exhaust system. Keep away from fire and heating sources. Prevent contact strong acid and alkali. Equip relevant types and quantities of devices for divulgence handling.
Storage: Keep the product in the cool, well-ventilated, and dry place. Keep away from fire and heating sources. Keep the container closed. The storage place should equip devices for divulgence and suitable accept materials.

Section 8-Exposure Controls, Personal Protection

Maximum admissible concentration: No standard yet.
Monitoring Methods: Using automatic alarming device.
Engineering controls: Keep the workshop place ventilation.
Respiratory protection: Wearing a mask when in higher concentration air.
Eyes Protection: Wear working glasses.
Body protection: Wear working clothes.
Hands Protection: Wear working gloves.
Other Protections: No smoking, dining and drinking water in the workplace. Keep good habit of hygiene.

Section 9-Physical and Chemical Properties

Appearance: Light color transparent liquid, weak odor.
Flash Point: >80℃
Boiling point: Not available.
Melting point: Not available.
Proportion: 0.9-1.0 g/cm³.
PH Value: Not available.
Permission of solvent inhalation: Soluble in some organic solvents.

Section 10-Stability and Reactivity

Stability: Stable under normal usage.
Distribution of Ban: Not available.
Conditions to Avoid: High temperature, strong acid, strong alkali.
Hazardous Polymerization: Not available.
Hazardous Decomposition Products: CO, CO₂

Section 11-Toxicological Information

Acute Toxicity: The product is not classified in toxic and infectious substances.
Sub-acute and Chronic Toxicity: Not available.
Irritation: Cause irritate to skin and eyes.
Sensitization: Not available.

EBTest Report-MSDS(E)-E170411091A 3/5 Date: 18-Apr-17

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

ebt Material Safety Data Sheet E170411091A

Mutagenicity: Not available.
Carcinogenicity: None.

Section 12-Ecological Information
Eco-toxicity: None.
Biodegradable: Not available.
Non-biodegradable: Not available.
Bio-concentration or biological accumulation: The product is not classified in corrosives.

Section 13-Disposal Considerations
Nature of waste: Not belong to dangerous waste.
Waste disposal methods: Refer to National or Local regulations before handling.
Attention abandoned: Not available.

Section 14-Transport Information
Number of dangerous goods: None.
UN Number: Not available.
Packaging Mark: No special mark.
Packaging Method: Use plastic or glass bottle.
Transport Attentions: Examine whether the package of the containers are integrate and tight-closed or not before transport. No divulgence, no collapse, no precipitation or no damage during the course of transportation. Avoid high temperature and open fire. Don't put the goods together chief food chemicals. The transport vehicle and ship must be cleaned and sterilized otherwise it is not allowed to assemble articles. The assemble place should keep away from kitchen, engine room, power and fire source. Under the condition of Road Transportation, the driver should drive in accordance with regulated route.

Section 15 -Regulatory Information
Regulatory Information: None.

Section 16-Additional Information
Data Filling Departments: FoShan FangXi Technology Co., Ltd.
Data Audit unit: EBTtest.
Other Information: The above information is based on the data of which we are aware and is believed to correct as of the data hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the data hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his


EBTtest Report-MSDS(E)-E170411091A 4/5 Date: 18-Apr-17

ebt Material Safety Data Sheet E170411091A

particular purpose.

MSDS Creation Date: Apr. 18, 2017

Photograph of sample



***** END *****

EBTtest Report-MSDS(E)-E170411091A 5/5 Date: 18-Apr-17

ボンド G17(170mlチューブ) 1/9

Safety Data Sheet (SDS)

Creation Date 2010/12/16
Revision Date 2017/06/20

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name : G17 (170mlチューブ)
Product Code : 171315
Company Name : KONSHE CO., LTD.
Address : Kitahama TNK Bldg. 1-7-1 Dosho-machi, Chuo-ku, Osaka, Japan
Company Contact : Customer Relations
Phone Number (Osaka) : +81-6-6228-2994
Emergency Phone Number : +81-6-6228-2994
Recommended Use and Restriction on Use : Adhesive for fixture

Section 2 - HAZARDS IDENTIFICATION

GHS Classification
Physical Hazards : Flammable Liquids Category 2
Pyrophoric Liquids Not classified
Self-heating substances and mixtures Not classified
Substances and mixtures which, in contact with water, emit flammable gases Not classified
Oxidizing Liquids Not classified

Health Hazards : Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2B
Reproductive toxicity Category 2
Specific target organ toxicity, single exposure Category 2 (vascular system)
Specific target organ toxicity, single exposure Category 3 (narcotic effects, respiratory tract irritation)
Specific target organ toxicity, repeated exposure Category 2 (blood, central nervous system, peripheral nervous system)
Aspiration hazard Not classified

Environmental Hazards : Acute toxicity to the aquatic environment Category 1
Chronic toxicity to the aquatic environment Category 3
Other hazards than mentioned above are Not applicable or Classification not possible.

GHS Label Elements
Symbols

Signal Word : Danger
Hazard Statements : Highly flammable liquid and vapour (H225)
Causes skin and eye irritation (H315+H320)

20181004

ボンド G17(170mlチューブ) 2/9

May cause respiratory irritation (H335)
May cause drowsiness or dizziness (H336)
Suspected of damaging fertility or the unborn child (H361)
May cause damage to organs (vascular system) (H371)
May cause damage to organs (blood, central nervous system, peripheral nervous system) through prolonged repeated exposure (H373)
Very toxic to aquatic life (H400)
Harmful to aquatic life with long lasting effects (H412)

Precautional Statements
Prevention Precautionary Statements : Obtain special instructions before use. (P201)
Do not handle until all safety precautions have been read and understood. (P202)
Keep away from heat/sparks/open flames/hot surfaces. No smoking. (P210)
Keep container tightly closed. (P233)
Ground/bond container and receiving equipment. (P240)

Use explosion-proof electrical/ventilating/lighting/equipment. (P241)
Use only non-sparking tools. (P242)
Take precautionary measures against static discharge. (P243)
Do not breathe dust/fume/gas/mist/vapours/spray. (P260)
Avoid breathing dust/fume/gas/mist/vapours/spray. (P261)
Wash hands thoroughly after handling. (P264)
Wash eyes thoroughly after handling. (P264)
Do not eat, drink or smoke when using this product. (P270)
Use only outdoors or in a well-ventilated air. (P271)
Avoid release to the environment. (P273)
Wear protective gloves/protective clothing/eye protection/face protection. (P280)
Wear protective gloves. (P280)

Response Precautionary Statements : If on skin : Wash with plenty of soap and water. (P302+P352)
If on skin(or hair) : Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower. (P303+P361+P353)
If inhaled : Remove person to fresh air and keep comfortable for breathing. (P304+P340)
If in eyes : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305+P351+P338)
If exposed or concerned : Get medical advice/attention. (P308+P313)
Call a POISON CENTER or doctor/physician if you feel unwell. (P312)

20181004

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

ボンフ G17(170mlチューブ)

3/9

- Get medical advice/attention if you feel unwell. (P314)
Specific treatment: (P331)
If skin irritation occurs : Get medical advice/attention. (P332+P313)
If eye irritation persists : Get medical advice/attention. (P337+P313)
Take off contaminated clothing and wash it before reuse. (P362+P364)
In case of fire : Use appropriate extinguishant for extinction. (P370+P378)
Collect spillage. (P391)
Storage Precautionary Statements : Store in a well-ventilated place. Keep container tightly closed. (P403+P233)
Store in a well-ventilated place. Keep cool. (P403+P235)
Store locked up. (P405)
Disposal Precautionary Statements : Dispose of contents/container in accordance with local/regional/national/international regulation. (P501)
Specific Hazards : Organic solvent poisoning may be caused.

Section 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Distinction of Substance or Mixture : Mixture
Chemical Name or Generic Name : Chloroprene rubber solvent based adhesive

Chemical Name or Generic Name	Concentration or Its Range(wt%)	CAS No.
Chloroprene rubber	25-35	nondisclosure
Phenolic resin	30-40	110-82-7
Cyclohexane	10-20	67-64-1
Acetone	5-10	108-21-4
Isopropyl acetate	5-10	110-54-3
n-Hexane	1-5	listing
Methylpentane(mixture)	<1	8050-09-7
Rosin	<1	128-37-0
2,6-Di-tert-butyl-4-methylphenol (BHT)	<1	108-10-1
Methyl isobutyl ketone	<1	11295-00-8
Silica	<1	1314-13-2
Zinc oxide	<1	1314-13-2

Impurities and/or Stabilizing Additives which Contribute to the Classification : No information available

ボンフ G17(170mlチューブ)

4/9

Section 4 – FIRST AID MEASURES

- Inhalation : Move affected person to the open air. Keep him or her at rest to allow easier breathing.
Call a doctor if you feel unwell.
Skin Contact : Remove/Take off immediately all contaminated clothing and rinse skin with water/shower.
Wash with plenty of soap and water.
Call a doctor.
Eye Contact : Rinse carefully with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
Call a doctor.
Ingestion : Rinse mouth. Do not induce vomiting.
Call a doctor.
Protection of first-aiders : Wear appropriate protective equipment as required.

Section 5 – FIRE FIGHTING MEASURES

- Extinguishing media : Fire extinguisher (powder/foam), carbon dioxide, water spray, sand.
Extinguishing media that are NOT suitable : Water
Columnar water jet streams.
Specific Hazards : Highly combustible. Ignited easily by heat, sparks or fire.
Specific methods of fire-fighting : Extinguish fire from windward side in a place free of gas retention, and take steps against leakage.
Protection of Fire Fighter : In fire-extinguishing activity, wear an appropriate air breathing apparatus and full protective clothing for chemicals.

Section 6 – ACCIDENTAL RELEASE MEASURES

- Personal Precautions, Protective Equipment and Emergency Procedures : Isolate spill area. Prohibit unauthorized entry into the area.
Ventilate the closed area.
Do not touch the leakage.
Wear appropriate personal protective equipment (Refer to "Section 8") and avoid inhalation or contact with eyes and skin.
Environmental Precautions : Do not release into the environment.
Contamination of the terrestrial and aquatic environments should be avoided.
Diluent may cause pollution.
Ground all equipment used to handle leakage.
Methods and Equipment for Containment and Cleaning up : Stop leak if safe to do so.
For small amounts : Absorb spills with inert materials (such as dry sand or soil) and collect them into chemical-waste disposal container.

ボンフ G17(170mlチューブ)

5/9

- Prevention Measures for Secondary Accidents : For large amounts : Carefully collect remainder, then remove to safe place.
Removes all ignition sources promptly. (Prohibition of smoking, sparks, and flames in the surrounding area).
Prevent flowing into ditches, drains, basements, or other closed areas.
Remove thoroughly since the smooth and slippery surface will be formed on the floor.

Section 7 – HANDLING AND STORAGE

- Handling : Provide ventilation system and Use necessary personal protective equipment as described in "Section 8".
Technical Measures : Provide local ventilations and a full ventilation system as described in "Section 8".
Precautions for Safe Handling : Use in a well-ventilated place.
Do not get in eyes, on skin, or on clothing.
Wash hands thoroughly after handling.
No open flame. No static electricity.
Keep away from heat/sparks/open flames/hot surfaces.
Do not breathe mist/vapour/spray.
Refer to "Section 10".
Prevents Handling of Incompatible Substances or Mixtures : Wash hands thoroughly after handling.
Specific Hygiene Measures : Storage facilities should consist of walls, pillars and floors of a fire-resistant structure and beams of noncombustible material.
Storage Precautionary Statements : Refer to "Section 10".
Storage Conditions : Store at temperature : 2-40°C
Protect from sunlight.
Keep container tightly closed.
Store locked up.
Material Used in Packaging/Containers : Use containers conforming to the United Nations Recommendations on the Transport of Dangerous Goods.

Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

ボンフ G17(170mlチューブ)

6/9

Chemical Name or Generic Name	ACGIH
Cyclohexane	TWA 100 ppm, STEL –
Acetone	TWA 250 ppm, STEL 500 ppm
Isopropyl acetate	TWA 100 ppm, STEL 200 ppm
n-Hexane	TWA 50ppm(n-Hexane) TWA 500ppm, STEL 1000ppm(Hexane, Other isomers)
Methylpentane(mixture)	TWA 500 ppm, STEL 1000 ppm
Silica	–
Rosin	TWA – (L), STEL –
Methyl isobutyl ketone	TWA 20 ppm, STEL 75 ppm
2,6-Di-tert-butyl-4-methylphenol (BHT)	TWA 2 mg/m3 (FV), STEL –
Zinc oxide	TWA 2 mg/m3(R), STEL 10 mg/m3(R)

- Engineering Controls : Use in a well-ventilated place.
A workplace to store or handle this substance should be provided with an eye washing station and an emergency shower station.
Use local exhaust ventilation system.
Protection : Respiratory Protection : Use the chemical cartridge respirators.
Hand Protection : Wear protective gloves.
Eye Protection : Wear eye protection.
Skin and Body Protection : Wear protective clothing/protective boots.

Section 9 – PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Liquid
Physical state : Viscous liquid
Form : Pale yellow
Color : Aromatic odor
Odor : No data available
pH : 56°C (Acetone)
Initial boiling point and boiling ranges : Flash point : -22°C (Adopt minimum flash point)
Flammability or explosive limits : No data available
Lower : No data available
Upper : ≥1 (air = 1)
Vapour density : 0.87 g/cm3
Specific gravity (relative density) : Insoluble in water. Soluble in organic solvents.
Solubility : No information available
Auto-ignition temperature : 2000-3000 mPa.s
Viscosity :

Section 10 – STABILITY AND REACTIVITY

- Reactivity : No information available.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reaction : No information available.

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

ボンド G17(170mlチューブ) 7/9

Conditions to avoid : Vapor of solvent is heavier than air, and likely to move over the ground or floor, possibly causing ignition at distant area.

Incompatible Substances or Mixtures : Oxidizing agents.

Hazardous decomposition products : In combustion emits toxic gasses (CO, etc.).

Section 11 – TOXICOLOGICAL INFORMATION

Acute toxicity

Oral : ATEmix > 2000mg/kg
Unknown ingredients : 30%

Dermal : ATEmix > 2000mg/kg
Unknown ingredients : 40%

Inhalation : Inhalation (vapours) : ATEmix > 20.0mg/l
Unknown ingredients : 30%
Inhalation (dusts/mists) : No data available

Skin corrosion/irritation : Sum of ingredients classified as Skin Category 2 ≥ 10%

Serious eye damage/eye irritation : Sum of ingredients classified as Eye Category 2B ≥ 10%

Respiratory sensitization/Skin sensitization : Result of classification with convey hazards of the known ingredients : Not classified
Unknown ingredients : 80%
0.1% ≤ Respiratory sensitizer < 1.0%
Result of classification with convey hazards of the known ingredients : Not classified
Unknown ingredients : 80%
0.1% ≤ Skin sensitizer < 1.0%

Germ cell mutagenicity : Result of classification with convey hazards of the known ingredients : Not classified
Unknown ingredients : 70%

Cardiogenicity : Result of classification with convey hazards of the known ingredients : Not classified
Unknown ingredients : 80%
0.1% ≤ Category 2 carcinogen < 1.0%

Reproductive toxicity : Category 2 reproductive toxicant ≥ 3.0%

Specific target organ toxicity–Single exposure : Category 2 Target organ toxicant (vascular system) ≥ 10%
Category 3 Target organ toxicant (narcotic effects) ≥ 20%
Category 3 Target organ toxicant (respiratory tract irritation) ≥ 20%

Specific target organ toxicity–Repeated exposure : 1.0% ≤ Category 1 Target organ toxicant (central nervous system) < 10%
1.0% ≤ Category 1 Target organ toxicant (peripheral nervous system) < 10%
Category 2 Target organ toxicant (blood) ≥ 10%

Aspiration hazard : Kinematic viscosity measured at 40°C > 20.3mm²/s

Section 12 – ECOLOGICAL INFORMATION

20181006

ボンド G17(170mlチューブ) 8/9

Acute toxicity to the aquatic environment : Sum of ingredients classified as Acute 1 × M ≥ 25%

Chronic toxicity to the aquatic environment : Sum of ingredients classified as (M × 100 × Chronic 1)+(10 × Chronic 2)+(Chronic 3 > ≥ 25%

Ecotoxicity : No information available

Hazardous to the ozone layer : No data available

Other data : Dangerous for the environment if discharged into watercourses.

Section 13 – DISPOSAL CONSIDERATIONS

Residual Waste : If you would like to dispose of this chemical, you should properly dispose of this by yourself or ask qualified specific agents dispose of this according to related legislations and local regulations. If you would like to ask the agents dispose of this chemical, you should provide sufficient information on dangerousness and hazard of this chemical.

Contaminated Container and Packaging : Container should be recycled after cleaning or if you would like to dispose of container of this chemical, you should properly dispose of this by yourself or ask qualified specific agents dispose of this according to related legislations and local regulations. If you would like to ask the agents dispose of this container, you should provide sufficient information on dangerousness and hazard of this chemical in this container and information on ingredient and notice of container.

Section 14 – TRANSPORT INFORMATION

International Regulations

Regulatory Information by Sea : Conform to the provisions of IMO.

UN No. : 1133

Proper Shipping Name : ADHESIVES

Class : 3

Packing Group : II

Marine Pollutant : applicable

Transport in bulk according to MARPOL 73/78 Annex II, and the IBC code : Not applicable

Regulatory Information by Air : Conform to the provisions of ICAO/IATA.

UN No. : 1133

Proper Shipping Name : ADHESIVES

Class : 3

Packing Group : II

Special safety measures : Please refer to "Section 7" in detail.

Under loading, containers must be carefully handled to prevent damage of containers and must be fixed them tightly to prevent falling of containers.

20181006

ボンド G17(170mlチューブ) 9/9

Section 15 – REGULATORY INFORMATION

Regulatory information with regard to this substance in your country or region should be examined by your own responsibility.

Section 16 – OTHER INFORMATION

Where to make contact : Please refer to "Section 1" in detail.

Reference : Hazard communication of chemicals based on GHS– Labelling and Safety Data Sheet (SDS) (JIS (JAPANESE INDUSTRIAL STANDARD) Z 7253:2012).
Classification of chemicals on "Globally Harmonized System of Classification and Labelling of Chemicals(GHS)" (JIS(JAPANESE INDUSTRIAL STANDARD) Z 7252:2014).
GHS Classification Guidance for Enterprises (July, 2013; Ministry of Economy, Trade and Industry in JAPAN).
Formaldehyde emission grade : JIS F★★★★(JAPANESE INDUSTRIAL STANDARD : A5540)

NOTICE : This SDS was made out as English translated version of the SDS based on the Japanese laws and regulations. Therefore, it was not applicable to the domestic distribution in the importing country.

20181006

No.1407024MJ0

物質安全特性表(MSDS)

1. Identification of the substance/preparation and of the company/undertaking

Identification of the substance or preparation
AUTOSOL®Edel-Chromglanz/Metal Polish
Use of the substance/preparation
Cleaning and care product for metal surface (金属擦亮膏)
Company/undertaking identification
Dursol-Fabrik Otto Durst GmbH&Co.KG Martinstrabe 22.D-42655 Solingen
Telephone +49(0)212-2718-0,Fax:+49(0)212-208795
eMail:info@autosol.de
Home page:www.autosol.de
E-mail address of the competent person:info@chemical-check.de,
k.schmurbusch@chemical-check.de.
Emergency telephone
Advisory office in case of poisoning:
Tel:---
Telephone number of the company in case of emergencies:
Tel:+49(0)212-2718-0(8.00h-16.00h)

2. Hazards identification

To people
See point 11 and 15.
Preparation is not classified as hazardous in the sense of directive 1999/45/EC.
The following may occur:
Repeated exposure may cause skin dryness or cracking.

To the environment
See point 12.
Regulation(EC)No 648/2004
15% or over but less than 30%
Aliphatic hydrocarbons
5% or over but less than 15%
Aromatic hydrocarbons
Soap
Less than 5%
Anionic surfactants

3. Composition/Information on Ingredients

Chemical name			
Content%	Symbol	R-phrases	Einecs,elines
	Registration number (ECHA)	DNEL	PNEC
Kerosine (petroleum)			
10-50	Xn	65-66	232-366-4

Page 1 of 7

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

CAS 8008-20-6			
Castor oil,sulfated sodium salt			
1-5	Xi	36	269-123-7
CAS 68187-76-8			

For complete wording of the R-phrases, refer to point 16.

4. First-Aid Measures

4.1 Inhalation

Remove person from danger areas.

Supply person with fresh air and consult doctor according to symptoms.

4.2 Eye contact

Wash thoroughly for several minutes using copious water; seek medical help if necessary.

Keep Data Sheet available.

4.3 Skin contact

Wash thoroughly with soap and copious water; remove contaminated clothing immediately. If skin irritation occurs (redness etc.), consult doctor.

4.4 Ingestion

Rinse the mouth thoroughly with water.

Call doctor immediately; have Data Sheet available.

Do not induce vomiting.

4.5 Special resources necessary for first aid

n.e.

5. Fire-Fighting Measures

5.1 Suitable extinguishing media

Foam

CO2

Sand

Dry extinguisher

Water jet spray

5.2 Extinguishing media which shall not be used for safety reasons

High volume water jet

5.3 Special exposure hazards arising from the substance or preparation

Itself, combustion products, resulting gases.

In case of fire the following can develop:

Oxides of carbon

Toxic pyrolysis products.

5.4 Special protective equipment for fire-fighters

In case of fire and/or explosion do not breathe fumes.

Protective respirator with independent air supply

5.5 Further information

Dispose of contaminated extinction water according to official regulations.

6. Accidental Release Measures

Refer to point 13, and for personal protection refer to point 8.

Page 2 of 7

6.1 Personal precautions

Ensure sufficient supply of air.

Avoid inhalation, and contact with eyes or skin.

If applicable, caution-risk of slipping.

6.2 Environmental precautions

If leakage occurs, dam up.

Do not pour down the drain undiluted.

Prevent surface and ground-water infiltration, as well as ground penetration.

6.3 Methods for cleaning up

Collect mechanically and dispose of according to point 13.

7. Handling and Storage

7.1 Handling

Tips for safe handling:

See point 6.1

Ensure good ventilation.

Avoid long lasting or intensive contact with skin.

Wash hands before breaks and at end of work.

Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.

General hygiene measures for the handling of chemicals are applicable.

Observe directions on label and instructions for use.

7.2 Storage

Requirements for storage rooms and containers:

Not to be stored in gangways or stair wells.

Store product closed and only in original packing.

Suitable container,

Aluminium

Sheet metal

Special storage conditions:

See point 10

Store at room temperature.

8. Exposure Controls/Personal Protection

8.1 Exposure limit values

Chemical Name	Kerosine (petroleum)	Content% $\geq 10 < 50$
WEL-TWA: 100mg/m ³ (AGW)	WEL-STEL: 2(1)(AGW)	---
BMGV:---		Other information:---

Chemical Name	Aluminium oxide	Content%:
WEL-TWA: 10mg/m ³ (total inhal.dust), 4mg/m ³ (resp.dust/aluminium oxides)	WEL-STEL:----	----
BMGV:---		Other information:---

WEL-TWA=Workplace Exposure Limit-Long-term exposure limit (8-hour TWA (time weighted average/reference period)); H40, AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany); WEL-STEL=Workplace Exposure limit-Short-term exposure limit (15-minute reference period); BMGV=Biological monitoring guidance value; H40, BGV = "Biologischer Grenzwert" (biological limit value, Germany); Other

Page 3 of 7

information: Sen =Capable of causing occupational asthma. Sk =Can be absorbed through skin. Carc=Capable of causing cancer and/or heritable genetic damage.

*** The exposure limit for this substance is repealed through the TRGS 900(Germany) of January 2006 with the goal of revision.

8.2 Exposure controls

8.2.1 Occupational exposure controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.

If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.

Applies only if maximum permissible exposure values are listed here.

General hygiene measure for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feeding stuffs.

Respiratory protection: Normally not necessary.

HFOES or MEL is exceeded.

Filter A2P2 (UN 141)

Observe wearing time limitations for respiratory protection equipment.

Hand protection:

Recommended

Protective nitrile gloves (EN 166).

Protective hand cream recommended.

Eye protection: Normally not necessary.

With danger of contact with eyes

Tight fitting protective goggles with side protection (EN 166).

Skin protection: Protective working garments(e.g. safety shoes

EN 344, lingsheved protective working

garments)

Additional information on hand protection-No tests have been performed.

Selection made for preparations according to the best available knowledge and

information on the ingredients.

Selection of materials derived from glove manufacturer's indications.

Final selection of glove material must be made taking the breakthrough times,

permeation rates and degradation into account.

Selection of a suitable glove depends not only on the material but also on other quality

characteristics and varies from manufacturer to manufacturer.

In the case of preparations the resistance of glove materials cannot be calculated in

advance so it has to be tested before use. The exact breakthrough time of the glove

material can be requested from the protective glove manufacturer and must be observed.

8.2.2 Environmental exposure controls

n.av.

9. Physical and Chemical Properties

Physical state:	Paste
Colour:	White
Odour:	Ammoniac
pH-value undiluted:	9.5
10% pH-value:	n.a.
Boiling point/boiling range(°C):	≥ 100

Page 4 of 7

Melting point/melting range(°C):	n.av.
Flash point(°C):	> 100
Oxidising properties:	No
Minimum limit of explosion:	n.a.
Maximum limit of explosion:	n.a.
Product is not explosive	
Density (g/ml):	1.26
Water solubility:	$< < 10\%$
Viscosity:	1500 -2000 mPas/20°C DIN 53 211, $> 7\text{mm}^2/\text{s}/40^\circ\text{C}$

10. Stability and Reactivity

Conditions to avoid

See point 7

Stable when handled and stored correctly.

Materials to avoid

See point 7

No dangerous reactions are known.

Hazardous decomposition products

See point 5.3

No decomposition when used as directed.

11. Toxicological Information

Acute toxicity and immediate effects

Ingestion, LD50 rat oral (mg/kg): n.av.

Inhalation, LC50 rat inhal.(mg/l/4h): n.av.

Skin contact, LD50 rat dermal(mg/kg): n.av.

Eye contact: n.av.

Delayed and chronic effects

Sensitization: n.e.

Carcinogenicity: n.e.

Mutagenicity: n.e.

Reproductive toxicity: n.e.

Narcosis: n.e.

Further information

Classification according to calculation procedure.

The following may occur.

Repeated exposure may cause skin dryness or cracking.

12. Ecological Information

Water hazard class (Germany):	2
Self classification:	Yes (VvVvS)

Persistence and degradability:

The surfactant(s) contained in this preparation complies (comply) with the

biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents.

Data to support this assertion are held at the disposal of the competent authorities of the

Page 5 of 7

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Member States and will be made available to them ,at their direct request or at the request of a detergent manufacturer.
Not totally biodegradable.
Behaviour in sewage plants: Mechanical precipitation possible.
According to the recipe ,contains no AOX
Aquatic toxicity: n.a.
Ecological toxicity: n.a.
*Kerosine (petroleum)

13. Disposal Considerations

13.1. for the material/preparation/residue

EC disposal code no.
The waste codes are recommendations based on the scheduled use of this product.
Owing to the user's specific conditions for use and disposal ,other waste codes may be allocated under certain circumstances ,(2001/1118/EC;2001/119/EC;2001/573/EC) 12 01 14 machining sludges containing dangerous substances

Recommendation:
Pay attention to local and national official regulations
E.g. suitable incineration plant.
E.g. dispose at suitable refuse site.

13.2 for contaminated packing material

See point 13.1.
Pay attention to local and national official regulations.
Empty container completely.
Uncontaminated packaging can be recycled.
Dispose of packaging that cannot be cleaned in the same manner as the substance.
15 01 04 metallic packaging

14. Transport Information

General statements

UN-Number: n.a.

Road/Rail-transport (ADR/RID)

Class/packing group: n.a.

Classification code: n.a.

I/Q: n.a.

Transport by sea

MDG-code: n.a. (class/packing group)

Marine pollutant: n.a.

Transport by air

IATA: n.a (class/secondary danger/packing group)

Additional information:

Non-dangerous material according to Transport Regulations.

15. Regulatory Information

Classification according to Dangerous Product Regulations incl. EC Directives (67/548/EEC and 1999/45/EC)

Page 6 of 7

Symbolic: Not applicable
Indications of danger: --
R-phrases:
S-phrases:
Additions: n.a.
Observe restrictions: a

16. Other Information

These details refer to the product as it is delivered.
Storage class VCI(Germany): 10-13
Revised points: B
The following phrases represent the prescribed R-phrases for the ingredients (designated in point 3).
65 Harmful: may cause lung damage if swallowed.
65 Also harmful: may cause lung damage if swallowed.
66 Repeated exposure may cause skin dryness or cracking.
36 Irritating to eyes.

Legend:

n.a. = not applicable / n.v.k. D.v. n.av. = not available / n.g. = not checked
WEL=Workplace Exposure Limit EH40,TWA=Long-term exposure limit (8-hour TWA) (=time weighted average) reference period,STEL=Short-term exposure limit (15-Minute reference period) / BMGV=Biological monitoring guidance value III/40
AGW="Arbeitsplatzgrenzwert"(workplace limit value, Germany) BGW="Biologischer Grenzwert" (biological limit value, Germany)
Vb1 Regulations for flammable liquids (Austria)
WGK = water hazard class (Germany) WGK3 = very hazardous, WGK2 = Hazardous, WGK1 =slightly hazardous to water
VOC = volatile organic compounds/ AOX = Adsorbable organic halogen compounds
VwVwS=Administrative Order relating to substances hazardous to water (Germany)
The statements made here should describe the product with regard to the necessary safety Precautions, they are not meant to guarantee definite characteristics-but they are based on our present up-to-date knowledge.
No responsibility:
These statements were made by:
Chemical Check GmbH , Wobbeier Strabe 2-4,D-32839 Steinheim,Tel: +49 5233 94-17 0, +49 1805 CHEMICAL +49 180 52 43 642, Fax: +49 5233 94 17 90, +49 180 50-50 455
® by Chemical Check GmbH Gefahrstoffberatung . The copying or changing of this document is forbidden except with consent of the Chemical Check GmbH Gefahrstoffberatung .

Page 7 of 7

Appendix 11 Controlled Precursor Chemical Permit (Form 21)

ပုံစံ(၂၁)

ပြည်ထောင်စုမြန်မာနိုင်ငံတော်အစိုးရ

ပြည်ထဲရေးဝန်ကြီးဌာန

မူးယစ်ဆေးဝါးနှင့်စိတ်ကိုပြောင်းလဲစေသောဆေးဝါးများအန္တရာယ်

တားဆီးကာကွယ်ရေးဗဟိုအဖွဲ့

မိတ္ထီမှန်

ပြည်နယ်၊ တိုင်း မူးယစ်ဆေးဝါးနှင့်စိတ်ကိုပြောင်းလဲစေသော
ဆေးဝါးများအန္တရာယ်တားဆီးကာကွယ်ရေးအဖွဲ့

ရန်ကုန် ပြည်နယ်၊ တိုင်းဒေသကြီး

ထိန်းချုပ်ဓာတုပစ္စည်း သိုလှောင်ထိန်းသိမ်းခြင်း လုပ်ငန်းလုပ်ကိုင်ရန်

ခွင့်ပြုချက်

(နည်းဥပဒေ-၃၆)

ခွင့်ပြုချက်အမှတ်၊ ၁/၂၀၀၇ ရက်စွဲ၊ ၁. ၃. ၂၀၀၇

ရန်ကုန် ပြည်နယ်၊ တိုင်းမူးယစ်ဆေးဝါးနှင့်စိတ်ကိုပြောင်းလဲစေသော ဆေးဝါးများအန္တရာယ်
တားဆီးကာကွယ်ရေးအဖွဲ့သည် ထိန်းချုပ်ဓာတုပစ္စည်း သိုလှောင်ထိန်းသိမ်းခြင်း လုပ်ငန်းလုပ်ကိုင်ရန် ထိန်းချုပ်
ဓာတု ပစ္စည်းကြီးကြပ်ရေးဆိုင်ရာ နည်းဥပဒေများ၏ နည်းဥပဒေ ၃၆ အရ အောက်ပါလုပ်ငန်းဌာန၊ ကုမ္ပဏီ၊
အဖွဲ့အစည်း၊ ပုဂ္ဂိုလ်အား ခွင့်ပြုချက်ကို ထုတ်ပေးလိုက်သည်-

၁။ ခွင့်ပြုချက်ရရှိသည့် လုပ်ငန်း၊ ဌာန၊ ကုမ္ပဏီ၊ အဖွဲ့အစည်း၊ ပုဂ္ဂိုလ်၏ အမည်နှင့်လိပ်စာ
Mr. Yuzo Asano (Myanmar Asia Optical International Co.,Ltd.) မ/အေ-၂/၃၊ မင်္ဂလာဒုံ
စက်မှုဇုန်၊ မင်္ဂလာဒုံမြို့နယ်၊ ရန်ကုန်မြို့။ ဖုန်း ၄၂၀၀၉၂၈၁

၂။ သိုလှောင်ထိန်းသိမ်းရန် ခွင့်ပြုသည့် ထိန်းချုပ်ဓာတုပစ္စည်းများ

အ မှတ် စဉ်	အမျိုးအမည် (ခါတုအမည်)	တံဆိပ် အမှတ် အသား	ပုံသဏ္ဌာန် (အရည်၊အခဲ၊ အမှုန့်)	ထုပ်ပိုးပုံ အထုပ်အရေ အတွက်	တစ်ယူနစ် အလေးချိန် ပမာဏ	စုစုပေါင်း အလေးချိန် ပမာဏ	မှတ်ချက်
၁	Acetone	-	အရည်	ပေပါ	-	၂၀ တန်	-
၂	Ethyl Ether	-	။	ပေပါ	-	၂၀ တန်	

D/2016/Drug(29) 3

၃။ သိုလှောင်ထိန်းသိမ်းမည့် သိုလှောင်ရုံ အဆောက်အအုံ အမျိုးအစား၊ တည်နေရာ၊ လိပ်စာနှင့် အကျယ်အဝန်း Myanmar Asia Optical International Co.,Ltd. သွပ်မိုး၊ ကွန်ကရစ်ခင်း။

၄။ သိုလှောင်ရုံ အဆောက်အအုံကို စီမံခန့်ခွဲသူ၊ မန်နေဂျာ၏ အမည်နှင့် လိပ်စာ Mr. Yuzo-Asano
မ/အေ-၂/၃၊ မင်္ဂလာဒုံ၊ စက်မှုဇုန်၊ မင်္ဂလာဒုံမြို့နယ်။

၅။ ထိန်းချုပ်စာတုပစ္စည်းသိုလှောင်ထိန်းသိမ်းခြင်း ခွင့်ပြုချက်ရရှိသူက လိုက်နာရမည့် စည်းကမ်းချက်များ-

- (က) ခွင့်ပြုချက်ကို သိုလှောင်ထိန်းသိမ်းထားသည့်သိုလှောင်ရုံအဆောက်အအုံတွင် ချိတ်ဆွဲထားရမည်။
- (ခ) သိုလှောင်ထိန်းသိမ်းခြင်းလုပ်ငန်းနှင့်စပ်လျဉ်း၍ လစဉ်မှတ်တမ်းကို ပုံစံ(၂၂)ဖြင့် ပြုစုထားရှိရမည်။
- (ဂ) လစဉ်မှတ်တမ်းများကို (၃)လတစ်ကြိမ် စုစည်းပြီး ပုံစံ(၅)ဖြင့် ထိန်းချုပ်စာတုပစ္စည်းကြီးကြပ်ရေးကော်မတီသို့ တင်ပြအစီရင်ခံပြီး မိတ္တူကို ပြည်နယ်၊ တိုင်း၊ ခရိုင်၊ မြို့နယ် မူးယစ်ဆေးဝါးနှင့် စိတ်ကိုပြောင်းလဲစေသော ဆေးဝါးများအန္တရာယ်တားဆီးကာကွယ်ရေးအဖွဲ့သို့ ပေးပို့ရမည်။
- (ဃ) လစဉ်မှတ်တမ်းများ (၃)လတစ်ကြိမ် အစီရင်ခံစာများ၊ ပြေစာဘောက်ချာများ၊ စာရင်းဇယားများကို အနည်းဆုံး၂ နှစ်အထိ ထိန်းသိမ်းထားရှိရမည်။
- (င) ထိန်းချုပ်စာတုပစ္စည်းများကို တရားမဝင်သော လမ်းကြောင်းသို့ပြောင်းလဲပြီးအသုံးပြုခြင်း မရှိစေရန် အထူးဂရုပြု၍ သိုလှောင်ထိန်းသိမ်းထားရမည်။
- (စ) သိုလှောင်ထားရှိရာတွင် အကြောင်းတစ်ခုခုကြောင့်ပျက်စီးခြင်း၊ ပျောက်ဆုံးခြင်း၊ လိုအပ်သည်ထက်ပို၍ လျော့နည်းခြင်းဖြစ်ပါက ချက်ချင်း ထိန်းချုပ်စာတုပစ္စည်းကြီးကြပ်ရေးကော်မတီနှင့် သက်ဆိုင်ရာ ပြည်နယ်၊ တိုင်း၊ ခရိုင်၊ မြို့နယ် မူးယစ်ဆေးဝါးနှင့်စိတ်ကိုပြောင်းလဲစေသောဆေးဝါးများအန္တရာယ်တားဆီးကာကွယ်ရေးအဖွဲ့များသို့ သတင်းပို့ရမည်။
- (ဆ) မူးယစ်ဗဟိုအဖွဲ့ကဖြစ်စေ၊ ထိန်းချုပ်စာတုပစ္စည်းကြီးကြပ်ရေးကော်မတီကဖြစ်စေ အခါအားလျော်စွာသတ်မှတ်သော စည်းကမ်းချက်များကို လိုက်နာရမည်။



D/2016/Drug(29) 4




မှတ်ချက်။ မလိုသည့် စာသားကိုဖျက်ရန်။

ဥက္ကဋ္ဌ (ကိုယ်စား)



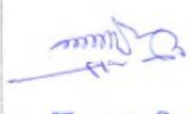
ပြည်နယ်၊ တိုင်း မူးယစ်ဆေးဝါးနှင့်စိတ်ကိုပြောင်းလဲစေသော
 ဆေးဝါးများအန္တရာယ်တားဆီးကာကွယ်ရေးအဖွဲ့
 ရန်ကုန် ပြည်နယ်၊ တိုင်း

ပုံစံ (၂၁) အဆက်

ခွင့်ပြုချက်လက်မှတ် သတ်တမ်းတိုးမြှင့်ပေးခြင်းများ




အမှတ် စဉ်	ခွင့်ပြုချက်သက်တမ်း တိုးမြှင့်ပေးသည့်ရက်စွဲ	ခွင့်ပြုချက်သက်တမ်း ကုန်ဆုံးသည့် ရက်စွဲ	ခွင့်ပြုသူလက်မှတ်၊ အမည် နှင့် ရာထူး	မှတ်ချက်
၁။	၁ - ၃ - ၂၀၀၈	၁ - ၃ - ၂၀၀၉	 ဦးကြီး ဦး (လူကြီးအား)	
			ဦးကြီးမူလဆေးဝါးနှင့်ပတ်သက်သည့်အသေးစား ဆေးဝါးများအန္တရာယ်ကင်းစင်စေရန်အတွက် ရန်ကုန်တိုင်း။	
၂။	၁ - ၃ - ၂၀၀၉	၁ - ၃ - ၂၀၁၀	 ဦးကြီး ဦး (လူကြီးအား)	
			ဦးကြီးမူလဆေးဝါးနှင့်ပတ်သက်သည့်အသေးစား ဆေးဝါးများအန္တရာယ်ကင်းစင်စေရန်အတွက် ရန်ကုန်တိုင်း။	
၃။	၁ - ၃ - ၂၀၁၀	၁ - ၃ - ၂၀၁၁	 ဦးကြီး ဦး (လူကြီးအား)	
			ဦးကြီးမူလဆေးဝါးနှင့်ပတ်သက်သည့်အသေးစား ဆေးဝါးများအန္တရာယ်ကင်းစင်စေရန်အတွက် ရန်ကုန်တိုင်း။	

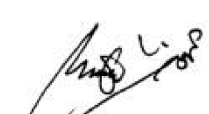


ပုံစံ (သ)

အမှတ်စဉ်	ခွင့်ပြုချက် သက်တမ်းတိုးပြန် ပေးသည့်ရက်စွဲ	ခွင့်ပြုချက် သက်တမ်းကုန်ဆုံး သည့်ရက်စွဲ	ခွင့်ပြုသူ လက်မှတ်အမည် နှင့် ရာထူး	မှတ်ချက်
၄။	၁၀.၃.၂၀၁၁	၁၀.၃.၂၀၁၂	 ဦး ကို ဖွဲ့ (ကိုယ်စား) တိုင်းမှူးယစ်ဆေးဝါးနှင့်စိတ်ကိုပြောင်းလွှဲစေသော ဆေးဝါးများအန္တရာယ်ကင်းဆေးကုသရေးအဖွဲ့ ရန်ကုန်တိုင်း။	
၅။	၁၀.၃.၂၀၁၂	၁၀.၃.၂၀၁၃	 ဦး ကို ဖွဲ့ (ကိုယ်စား) တိုင်းမှူးယစ်ဆေးဝါးနှင့်စိတ်ကိုပြောင်းလွှဲစေသော ဆေးဝါးများအန္တရာယ်ကင်းဆေးကုသရေးအဖွဲ့ ရန်ကုန်တိုင်း။	
၆။	၁၆.၁.၂၀၁၃	၁၀.၃.၂၀၁၄	 ဦး ကို ဖွဲ့ (ကိုယ်စား) တိုင်းမှူးယစ်ဆေးဝါးနှင့်စိတ်ကိုပြောင်းလွှဲစေသော ဆေးဝါးများအန္တရာယ်ကင်းဆေးကုသရေးအဖွဲ့ ရန်ကုန်တိုင်း။	

ပုံစံ ()

ခွင့်ပြုချက်လက်မှတ်သက်တမ်း တိုးမြှင့်ပေးခြင်းများ

စဉ်	ခွင့်ပြုချက်သက်တမ်း တိုးမြှင့်ပေးသည့်ရက်စွဲ	ခွင့်ပြုချက်သက်တမ်း ကုန်ဆုံးသည့်ရက်စွဲ	ခွင့်ပြုသူလက်မှတ် အမည်နှင့်ရာထူး	မှတ်ချက်
၇.	၁. ၃. ၂၀၁၇	၁. ၃. ၂၀၁၇	 ဦး ကျီ ဖွဲ့ (ကိုယ်စား) ဘိုင်းဖူးယစ်ဆေးဝါးနှင့်စိတ်ကိုပြောင်းလဲစေသော ဆေးဝါးများအန္တရာယ်ကင်းရှင်းရေးအဖွဲ့ ရန်ကုန်တိုင်း။	
၈.	၁. ၃. ၂၀၁၇	၁. ၃. ၂၀၁၆	 ဦး ကျီ ဖွဲ့ (ကိုယ်စား) ဘိုင်းဖူးယစ်ဆေးဝါးနှင့်စိတ်ကိုပြောင်းလဲစေသော ဆေးဝါးများအန္တရာယ်ကင်းရှင်းရေးအဖွဲ့ ရန်ကုန်တိုင်း။	
၉	၁. ၃. ၂၀၁၆	၁. ၃. ၂၀၁၇	 ဦး ကျီ ဖွဲ့ (ကိုယ်စား) ဘိုင်းဖူးယစ်ဆေးဝါးနှင့်စိတ်ကိုပြောင်းလဲစေသော ဆေးဝါးများအန္တရာယ်ကင်းရှင်းရေးအဖွဲ့ ရန်ကုန်တိုင်း။	

ပုံစံ(၂၁)အဆက်				
ခွင့်ပြုချက်လက်မှတ်သက်တမ်းတိုးမြှင့်ပေးခြင်းများ				
အမှတ်စဉ်	ခွင့်ပြုချက်သက်တမ်းတိုးမြှင့်ပေးသည့် ရက်စွဲ	ခွင့်ပြုသက်တမ်းကုန်ဆုံးသည့် ရက်စွဲ	ခွင့်ပြုသူလက်မှတ်၊ အမည်နှင့်ရာထူး	မှတ်ချက်
၁၀.	၁. ၃. ၂၀၁၇	၁. ၃. ၂၀၁၈	 ဦးကြီး ဦးကြီး (ကိုယ်စား) နိုင်ငံရေးအဖွဲ့အစည်းများ၊ အသင်းအဖွဲ့များ၊ အဖွဲ့အစည်းများ၊ အဖွဲ့အစည်းများ နှင့် ကုန်သည်များ	
၁၁.	၁. ၃. ၂၀၁၈	၁. ၃. ၂၀၁၉	 ဦးကြီး ဦးကြီး (ကိုယ်စား) နိုင်ငံရေးအဖွဲ့အစည်းများ၊ အသင်းအဖွဲ့များ၊ အဖွဲ့အစည်းများ၊ အဖွဲ့အစည်းများ နှင့် ကုန်သည်များ	
၁၂.	၁. ၃. ၂၀၁၉	၁. ၃. ၂၀၂၀	 ဦးကြီး ဦးကြီး (ကိုယ်စား) နိုင်ငံရေးအဖွဲ့အစည်းများ၊ အသင်းအဖွဲ့များ၊ အဖွဲ့အစည်းများ၊ အဖွဲ့အစည်းများ နှင့် ကုန်သည်များ	

Appendix 12 Controlled Precursor Chemical Permit (Form 28)

ပုံစံ (၂၈)

ပြည်ထောင်စုမြန်မာနိုင်ငံတော်သမ္မတမြန်မာနိုင်ငံတော်
ပြည်ထောင်စုမြန်မာနိုင်ငံတော်သမ္မတမြန်မာနိုင်ငံတော်
မူဝါဒဆေးကြမ်းစစ်ဆေးရေးဦးစီးဌာန
တားဆီးကာကွယ်ရေးဗဟိုအဖွဲ့

စရိတ်မူဝါဒဆေးကြမ်းစစ်ဆေးရေးဦးစီးဌာန
တားဆီးကာကွယ်ရေး ဗဟိုအဖွဲ့
၇၄၇ နယ်လမ်းမိုင် - ဝန်ထမ်း

ထိန်းချုပ်စာတုပ်စွဲများကို လက်ဝယ်ထားပြီး အသုံးပြုခြင်းအတွက်
ခွင့်ပြုချက်

(နည်းဥပဒေ ၄၆)

ခွင့်ပြုချက်အမှတ် - ၁၃ - - - - - ရက်စွဲ - ၁၆. ၃. ၂၀၀၇

ခရိုင် မူဝါဒဆေးကြမ်းစစ်ဆေးရေးဦးစီးဌာန အဖွဲ့အစည်းတားဆီးကာကွယ်ရေး အဖွဲ့သည် ခွင့်ပြုချက်
ရယူရန် လိုအပ်သော ထိန်းချုပ်စာတုပ်စွဲများကို လက်ဝယ်ထားပြီး အသုံးပြုခြင်း
အတွက် ထိန်းချုပ်စာတုပ်စွဲများ ကြီးကြပ်ရေးဆိုင်ရာ နည်းဥပဒေများ၏ နည်းဥပဒေ ၄၆ အရ အောက်ပါ လုပ်ငန်း၊ ဌာန၊
ကုမ္ပဏီ၊ အဖွဲ့အစည်း၊ ပုဂ္ဂိုလ်စား ဤခွင့်ပြုချက်ကို ထုတ်ပေးလိုက်သည် -

၁။ ခွင့်ပြုချက်ရရှိသည့် လုပ်ငန်း၊ ဌာန၊ ကုမ္ပဏီ၊ အဖွဲ့အစည်း၊ ပုဂ္ဂိုလ်၏အမည်၊ လိပ်စာနှင့် အကယ်၍ ရန် ပုဒ်၊ ဝက်စ်၊
အီးမေးလ်အမှတ် Myanmar Asia Optical International Co., Ltd., Mr. Wisetana Hsu., Director
Plot No. A-2, 3 Mingalardon Industrial Park, Yangon. Tel. 951-539232, 32, 706372
Fax 639034-35

၂။ လက်ဝယ်ထားပြီး အသုံးပြုခွင့်ရသော ထိန်းချုပ်စာတုပ်စွဲများ

စာတုပ်စွဲ စဉ်	အမျိုးအမည် (စာတုပ်စွဲအမည်)	ထိန်းချုပ် အမည် အသုံးပြု အသုံးပြု	စီမံကိန်း (အမည်) အသုံးပြု	အသုံးပြု အသုံးပြု အသုံးပြု	စရိတ် အသုံးပြု အသုံးပြု	အသုံးပြု အသုံးပြု အသုံးပြု	မှတ်ချက်
1.	Acetone		ကျပ်		4MT		မရှိပါနှင့် အသုံးပြု အသုံးပြု အသုံးပြု အသုံးပြု
2.	Ethyl Ether		ကျပ်		10MT		

လက်ဝယ်ထားပြီး အသုံးပြုခွင့်ရရှိသူက-လိုက်နာရမည့် စည်းကမ်းချက်များ

- (က) ခွင့်ပြုချက်ကိုလက်ဝယ်ထားသည့် နေရာတွင် ချိတ်ဆွဲထားရမည်။
- (ခ) လက်ဝယ်ထားပြီး အသုံးပြုခြင်းနှင့်ပတ်သက်၍ လံစပ်မှတ်တမ်းများကို ပုံစံ (၃၀) ဖြင့် ပြုရမည်။
- (ဂ) လစဉ်မှတ်တမ်းများကို ၃ လတင်ကြိမ်စုစည်း၍ ထိန်းချုပ်စာတုပ်စုစည်းကြီးကြပ်ရေး ကော်မတီသို့ ပုံစံ(၅) ဖြင့် တင်ပြအပ်ရန်မိတ္တူကို သက်ဆိုင်ရာ ခရိုင်၊ မြို့နယ် မူးယစ်ဆေးဝါးနှင့် ဗီဇကွဲပြောင်းလဲစေသော ဆေးဝါးများအဖွဲ့မှတ်တမ်း တားဆီးကာကွယ်ရေးအဖွဲ့သို့ပေးပို့ ရမည်။
- (ဃ) ထိန်းချုပ်စာတုပ်စုစည်းကို တရားမဝင်သောလမ်းကြောင်းသို့ ပြောင်းလဲ၍ အသုံးပြုခြင်း မရှိစေရန်အထူး ဂရုပြု၍ လက်ဝယ်ထားအသုံးပြုရမည်။
- (င) မူးယစ်ဗဟိုအဖွဲ့ကပြင်ပထိန်းချုပ်စာတုပ်စုစည်းကြီးကြပ်ရေးကော်မတီပြင်ပ အခြားအရာရှိများ သတ်မှတ်သည့် စည်းကမ်းချက်များကို လိုက်နာရမည်။



နောက်ဆိပ်



ဥက္ကဋ္ဌ


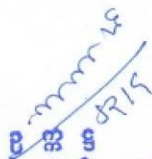
ခရိုင် မူးယစ်ဆေးဝါးနှင့် ဗီဇကွဲပြောင်းလဲစေသော
 ဆေးဝါးများအဖွဲ့မှတ်တမ်း တားဆီးကာကွယ်ရေးအဖွဲ့
 မှတ်တမ်း

မှတ်ချက်။ မလိုသည့်-စာအားကို ဖျက်ရန်။



ပုံစံ (၂၈) အဆက်

ခွင့်ပြုချက်လက်မှတ်သက်တမ်း တိုးမြှင့်ပေးခြင်းများ

အမှတ်စဉ်	ခွင့်ပြုချက်သက်တမ်းတိုးမြှင့်ပေးသည့်ရက်စွဲ	ခွင့်ပြုချက်သက်တမ်းကုန်ဆုံးသည့်ရက်စွဲ	ခွင့်ပြုသူလက်မှတ်အမည်နှင့်ရာထူး	မှတ်ချက်
၁။	၁၈.၆.၂၀၁၈ 	၁၆.၃.၂၀၁၉	 ဥက္ကဋ္ဌ ခရိုင်မှူးယစ်ဆေးဝါးနှင့်စိတ်ကိုပြောင်းလဲစေသောဆေးဝါးများအန္တရာယ်တားဆီးကာကွယ်ရေးအဖွဲ့	


<div>  <div> <div>စွန့်ပြုချက်လက်မှတ်သက်တမ်းတိုးမြှင့်ပေးခြင်းများ</div> </div> </div>					
အမှတ် ရက်စွဲ စဉ်	တိုးမြှင့်ပေးသည့် ကာလ	စွန့်ပြုချက် သက်တမ်းတိုးမြှင့် ပေးသည့်ရက်စွဲ	သက်တမ်း ကုန်ဆုံးသည့် ရက်စွဲ	စွန့်ပြုသူ လက်မှတ်၊ အမည်နှင့် ရာထူး	မှတ်ချက်
၁။	၂၃.၄.၂၀၀၉ ရက်နေ့မှ ၃.၄.၂၀၁၀ ရက်နေ့ထိ	၂၃.၄.၂၀၀၉	၃.၄.၂၀၁၀	<div>  <div> <div>ခရိုင်မှူး ယစ်ဆေးဝါး</div> <div>တောင်ပေါ်ကော့ကုန်းရေအဖွဲ့</div> </div> </div>	

ခွင့်ပြုချက်လက်မှတ်သက်တမ်းတိုးမြှင့်ပေးခြင်းများ

ခွင့်ပြုချက် သက်တမ်းတိုးမြှင့် ပေးသည့်ရက်စွဲ	သက်တမ်း ကုန်ဆုံးသည့် ရက်စွဲ	ခွင့်ပြုသူ လက်မှတ် အမည်နှင့်ရာထူး	မှတ်ချက်
 <p>၂၀၁၁.၁၁.၁၀ ဂျက်အု-ဗွ ၂၂.၃.၂၀၁၁ ဂျက်အု-ဗွ</p>	၂၂.၃.၂၀၁၁	၂၂.၃.၂၀၁၁	 ဦးအု ခရိုင်မူးယစ်ဆေးတားဆီးကာကွယ်ရေးအဖွဲ့

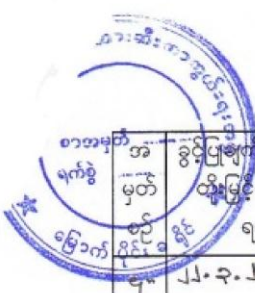

ပုံစံ (၂၈) အဆက်

ခွင့်ပြုချက်လက်မှတ် သက်တမ်းတိုးမြှင့်ပေးခြင်းများ

အမှတ်စဉ်	ခွင့်ပြုချက်သက်တမ်းတိုးမြှင့်ပေးသည့် ရက်စွဲ	ခွင့်ပြုသက်တမ်းကုန်ဆုံးသည့် ရက်စွဲ	ခွင့်ပြုသူ လက်မှတ်၊ အမည်နှင့် ရာထူး	မှတ်ချက်
	၂၂.၃.၂၀၁၁	၂၂.၃.၂၀၁၂	 ဦးအိန် ခရိုင်မှူး၊ ယခင်ဆေးဝါးတားဆီးကာကွယ်ရေးအဖွဲ့ ဗဟိုဌာနမှူး၊ ရန်ကုန်မြို့၊ ရန်ကုန်မြို့နယ်	


ပုံစံ (၂၈)အဆက်

ခွင့်ပြုချက်လက်မှတ် သက်တမ်းတိုးမြှင့်ပေးခြင်းများ

ခွင့်ပြုချက်သက်တမ်း တိုးမြှင့်ပေးသည့် ရက်စွဲ	ခွင့်ပြုချက်သက်တမ်း ကုန်ဆုံးသည့် ရက်စွဲ	ခွင့်ပြုသူလက်မှတ်၊ အမည်နှင့် ရာထူး	မှတ်ချက်
 ၂၂.၃.၂၀၁၂	၂၂.၃.၂၀၁၃	 ဦး ကီ ကီ ခရိုင်မူးယစ်ဆေးဝါးတားဆီးကာကွယ်ရေးအဖွဲ့	

ပုံစံ (၂၈) အဆက်

ခွင့်ပြုချက်လက်မှတ်သက်တမ်းတိုးမြှင့်ပေးခြင်းများ

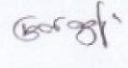
အ မှတ် စဉ်	ခွင့်ပြုချက်သက်တမ်း တိုးမြှင့်ပေးသည့် ရက်စွဲ	ခွင့်ပြုချက်သက်တမ်း ကုန်ဆုံးသည့် ရက်စွဲ	ခွင့်ပြုသူလက်မှတ် အမည်နှင့်ရာထူး	မှတ် ချက်
၁	၂၂. ၃. ၂၀၁၃	၂၂. ၃. ၂၀၁၄	 ဥက္ကဋ္ဌ ခရိုင်မှူး၊ ယန်ဆေးဝါးနှင့်ဝိတ်ကိုပြောင်းလဲစေသော ဆေးဝါးများအန္တရာယ်တားဆီးကာကွယ်ရေးအဖွဲ့ ရန်ကုန်မြောက်ပိုင်းခရိုင်	ခွင့်ပြုချက် သက်တမ်း မကုန်ဆုံးမီ (၁)လကြိုတင် ချ်သက်တမ်း တိုးမြှင့်ပါရန်

ပုံစံ (၂၈) အဆက်

စာအမှတ်- _____


ရက်စွဲ- _____

ခွင့်ပြုချက်လက်မှတ်သက်တမ်းတိုးမြှင့်ပေးခြင်းများ


စဉ်	ခွင့်ပြုချက်သက်မှတ် တိုးမြှင့်ပေးသည့် ရက်စွဲ	ခွင့်ပြုကုန်ဆုံး သည့်ရက်စွဲ	ခွင့်ပြုသူလက်မှတ် အမည်နှင့်ရာထူး	မှတ်ချက်
၁	၂၂. ၃. ၂၀၁၄	၂၂. ၃. ၂၀၁၅	 ဦးကြည် ခရိုင်ပူးယစ်ဆေးဝါးနှင့်စိတ်ကိုပြောင်းလဲစေသော ဆေးဝါးများအန္တရာယ်တားဆီးကာကွယ်ရေးအဖွဲ့ ရန်ကုန်မြောက်ပိုင်းခရိုင်	ခွင့်ပြုချက် သက်တမ်း မကုန်ဆုံးမီ (၁)လကြိုတင် ၍ သက်တမ်း တိုးမြှင့်ပါရန်

A - Lumue - 725

ပုံစံ (၂၈)အဆက်




ခွင့်ပြုချက်လက်မှတ်သက်တမ်းတိုးမြှင့်ပေးခြင်းများ


စဉ်	ခွင့်ပြုချက်လက်မှတ် တိုးမြှင့်ပေးသည့်ရက်စွဲ	ခွင့်ပြုကုန်ဆုံး သည့်ရက်စွဲ	ခွင့်ပြုသူလက်မှတ် အမည်နှင့်ရာထူး	မှတ်ချက်
၁	၂၂. ၃. ၂၀၁၅	၂၁. ၃. ၂၀၁၆	 နိုင်ငံခြားသက်တမ်းတိုးမြှင့်ရေး ဝန်ကြီးဌာန၊ ဝန်ကြီးရုံး၊ ဝန်ကြီးရုံးအတွင်း ဝန်ကြီးရုံးအတွင်း	ခွင့်ပြုချက်သက်တမ်း မကုန်ဆုံးမီ(၁)လကြိုတင် ၍သက်တမ်းတိုးမြှင့်ပါရန်

2015 lumu pyantanSheet4

ပုံစံ (၂၈)အဆက်




ပြုချက်လက်မှတ်သက်တမ်းတိုးမြှင့်ပေးခြင်းများ

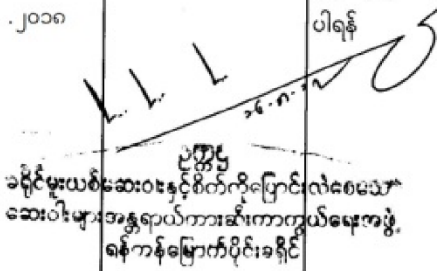
စဉ်	ခွင့်ပြုချက်လက်မှတ် သက်တမ်းတိုးမြှင့်ရက်စွဲ	ခွင့်ပြုချက်ဆုံး သက်တမ်းရက်စွဲ	ခွင့်ပြုသူလက်မှတ် အမည်နှင့်ရာထူး	မှတ်ချက်
၁	၂၂.၃.၂၀၁၆	၂၁.၃.၂၀၁၇	 ဦးကျော် ခရိုင်မှူး၊ ယင်းဒီးမြို့နယ်၊ ခရိုင် ဆေးကုသရေးအဖွဲ့အစည်း၊ ရန်ကုန်မြို့နယ်၊ ခရိုင်	ခွင့်ပြုချက်သက်တမ်း မကုန်ဆုံးမီ(၁)လကြိုတင် ချိတ်သက်တမ်းတိုးမြှင့်ပါရန်

2016 lumu pyantanSheet4

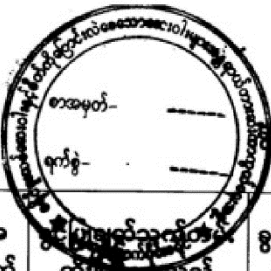
ပုံစံ (၂၈)အဆက်



ခွင့်ပြုချက်လက်မှတ်သက်တမ်းတိုးမြှင့်ပေးခြင်းများ


စာမျက်နှာ	ခွင့်ပြုချက်သက်တမ်းတိုးမြှင့်ပေးသည့်ရက်စွဲ	ခွင့်ပြုချက်သက်တမ်းကုန်ဆုံးသည့်ရက်စွဲ	ခွင့်ပြုသူ လက်မှတ်အမည်နှင့်ရာထူး	မှတ်ချက်
၂၂ - ၃ - ၂၀၁၇	၂၁ - ၃ - ၂၀၁၈	 <p>ဦးစီး ခန့်မှန်းယစ်ဆေးဝေးနှင့်စက်မှုပြောင်းလဲမှုဆေးပါးမှုအန္တရာယ်ကူးစက်မှုကွယ်ပေးမှုရန်ကန်မြောက်ပိုင်းခရိုင်</p>		ခွင့်ပြုချက်သက်တမ်း မကုန်ဆုံးမီ (၁)လကြိုတင်၍ သက်တမ်းတိုးမြှင့်ပါရန်

ပုံစံ(၂၈)အဆက်




စာအမှတ်- _____
ရက်စွဲ- _____

ခွင့်ပြုချက်လက်မှတ်သက် တမ်းတိုးမြှင့်ပေးခြင်းများ

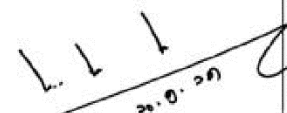
အမှတ်စဉ်	ခွင့်ပြုချက်သက်တမ်းတိုးမြှင့်ပေးသည့် ရက်စွဲ	ခွင့်ပြုချက်သက်တမ်းကုန်ဆုံးသည့် ရက်စွဲ	ခွင့်ပြုသူလက်မှတ်အမည်နှင့်ရာထူး	မှတ်ချက်
	၂၁-၃-၂၀၁၉	၂၀-၃-၂၀၂၀	 ဥက္ကဋ္ဌ(ကိုယ်စား) (အောင်ဇင်၊ ဧတ္တခရိုင်အုပ်ချုပ်ရေးမှူး) ခရိုင်မှူးယစ်ဆေးဝါးနှင့် စိတ်ကို ပြောင်းလဲစေတတ်သော ဆေးဝါးများ အန္တရာယ်တားဆီး ကာကွယ်ရေးအဖွဲ့ ရန်ကုန်မြောက်ပိုင်းခရိုင်	ခွင့်ပြုချက်သက်တမ်းမကုန်ဆုံးမီ(၁)လ ကြိုတင်၍ သက်တမ်းတိုးမြှင့်ပါရန်။

2019-SPO WPT37

ပုံစံ(၂၈)အဆက်



ခွင့်ပြုချက်လက်မှတ်သက်တမ်းတိုးမြှင့်ပေးခြင်းများ

	ခွင့်ပြုချက်သက်တမ်းတိုးမြှင့်ပေးသည့်ရက်စွဲ	ခွင့်ပြုချက်သက်တမ်းကုန်ဆုံးသည့်ရက်စွဲ	ခွင့်ပြုသူလက်မှတ်အမည်နှင့်ရာထူး	မှတ်ချက်
	၂၁.၃.၂၀၁၈	၂၀.၃.၂၀၁၉	 ပုထိုး ခရိုင်မှူးယစ်ဆေးဝေးနှင့်စိတ်ကိုပြောင်းလဲစေသောဆေးဝါးများအန္တရာယ်တားဆီးကာကွယ်ရေးအဖွဲ့ ရန်ကုန်မြောက်ပိုင်းခရိုင်	ခွင့်ပြုချက်သက်တမ်းမကုန်ဆုံးမီ(၁)လ ကြိုတင်၍ သက်တမ်းတိုးမြှင့်ပါရန်။

2018 Chemical N.W.O 2

Appendix 13 L-License for Petroleum Storage

PETROLEUM 12.

Fee Ks 190,000 /-



The Republic of the Union of Myanmar

Ministry of Mines

Department of Mines

Fax & Phone .067409376

"L" - Licence

(ARTICLE 5 OF SCHEDULE 1)

License to import dangerous petroleum and to store Petroleum in Installations.

Licence No. 221 / 1 / 722(B) L

Dated 20th February, 2014

License is hereby to Myanmar Asia Optical International Co., Ltd. valid only for the importation of 45,000 Gallons of petroleum in the place described below and shown on the plan attached here to subject to the provisions to the Petroleum Act, 1934 and the rules made there under and to the further condition to the attached of this license.

This licence shall be renewable for one year in the absence of contravention of the provision of the Petroleum Act, 1934, or of the rules framed there under or of any condition of this licence.

This license shall remain in force till the **31st day of December 2014.**

Sr.	Description	Capacity in Gallons
1.	Dangerous petroleum in bulk	-
2.	Non- Dangerous petroleum in bulk (H.S.D)	(15000 x 3)
	Total	45,000

U Win Htein
Director General
Chief Inspector of Explosives

Plan No. /221/Approval/2004 Date 26.1.2004

DESCRIPTION OF THE PLACE REFERRED TO ABOVE

The Licensed premises are situated Plot A(2,3), Mingaladon Township, Yangon Region, and consist of a gas-tight tank (tanks) of a capacity of 45,000 gallons above ground.


N.B_ Petroleum Rule 107 requires that a copy of the conditions on the back of this license together with a copy of Rules 90 to 106 relating to storage of petroleum shall be exhibited in a conspicuous place in every licensed installation or storage shed. A copy of the above rules and of the conditions are issued free with this license for the above purpose.

This license is liable to be cancelled of the licensed premises when inspected are not found conforming to the description and conditions attached hereto and contravention of any of the rules and conditions under which this license is granted is also punishable with fine which may extend to five hundred kyats for a first offence and which may extend to two thousand kyat's for any subsequent offence.

Date of renewal	Date of expiry	Signature of licensing authority
01 JAN 2015	31 DEC 2015	 for Director General
01 JAN 2016	31 DEC 2016	 for Director General
01 JAN 2017	31 DEC 2017	 for Director General
01 JAN 2018	31 DEC 2018	 Director General
01 JAN 2019	31 DEC 2019	 Director General
01 JAN 2020	31 DEC 2020	 Director General

(Note- Conditions are attached)

Appendix 14 EI Permit



စက်မှုဝန်ကြီးဌာန
ရန်ကုန်တိုင်းဒေသကြီးစက်မှုကြီးကြပ်ရေးနှင့် စစ်ဆေးရေးဦးစီးဌာန
လျှပ်စစ် - စစ်ဆေးရေး

အမှတ်(၁၉၂)၊ ကမ္ဘာအေးဘုရားလမ်း၊ ဗဟန်းမြို့နယ်၊ ရန်ကုန်မြို့၊
လျှပ်စစ်ဓာတ်အားအသုံးပြုခြင်းဆိုင်ရာ အန္တရာယ်ကင်းရှင်းကြောင်းလက်မှတ်

လက်မှတ်အမှတ်စဉ် **EI/YD - ၀၂၂ /10-2019**

၂၀၁၄ ခုနှစ် လျှပ်စစ်ဥပဒေ ပုဒ်မ ၃၂(ဃ) တွင် ပြဌာန်းချက်အရ လျှပ်စစ်ဓာတ်အား အသုံးပြုခြင်း လုပ်ငန်းကို စစ်ဆေးရာတွင် လျှပ်စစ်ဥပဒေ ဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများနှင့် ကိုက်ညီကြောင်း စစ်ဆေး တွေ့ရှိရသဖြင့် အောက်ဖော်ပြပါ နေရာဒေသ၌ လျှပ်စစ်ဓာတ်အားအသုံးပြုခြင်း လုပ်ငန်းကို အန္တရာယ် ကင်းရှင်းကြောင်း လက်မှတ် ထုတ်ပေးလိုက်သည်-

၁။ လျှပ်စစ်ဓာတ်အားအသုံးပြုခြင်း

(က) သတ်မှတ်ဦးအား	၄၀၀/၂၃၀ ဗို့
(ခ) လုပ်ငန်းအမျိုးအမည်	မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်းလုပ်ငန်း
(ဂ) ခွင့်ပြုဝန်အား	2681 HP + 1609 HP + 1609 HP + (1400 kVA x 5Nos + 1250 kVA x 3Nos+ 1000 kVA+ 550 kVA + 160 kVA) Generator

၂။ နေရာဒေသ

Mr Yuzo Asano

အမှတ်(A-2 , A-3)

မင်္ဂလာဒုံစက်မှုဇုန်၊ မင်္ဂလာဒုံမြို့နယ်။

၃။ လက်မှတ်ထုတ်ပေးသည့်ရက်


၈.၁၀.၂၀၁၉

၄။ လက်မှတ်ကုန်ဆုံးသည့်ရက်

၇.၁၀.၂၀၂၀

(ကျောဘက်တွင် ဖော်ပြထားသော စည်းကမ်းချက်များကို လိုက်နာရပါမည်။)

မှတ်ချက်။


စစ်ဆေးရေးမှူး
ရန်ကုန်တိုင်းဒေသကြီး လျှပ်စစ်စစ်ဆေးရေး



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
 စက်မှုဝန်ကြီးဌာန
 ရန်ကုန်တိုင်းဒေသကြီးစက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန
 (လျှပ်စစ်စစ်ဆေးရေး)

အမှတ်-၁၉၂ ၊ ကမ္ဘာအေးဘုရားလမ်း၊ ဗဟန်းမြို့နယ်၊ ရန်ကုန်မြို့

အကြောင်းအရာ။ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် နှစ်ပတ်လည်စစ်ဆေးခြင်း

၁။ အထက်အကြောင်းအရာပါကိစ္စနှင့်စပ်လျဉ်း၍ အောက်ဖော်ပြပါ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် ကို (၂၀၁၉-၂၀၂၀) ခုဘဏ္ဍာရေးနှစ်အတွက် ဤတိုင်းလျှပ်စစ်စစ်ဆေးရေးဌာနမှ (၅. ၁၀. ၂၀၁၉)ရက်နေ့တွင် စစ်ဆေးခဲ့ပြီး ဖြစ်သည်။

၂။ လျှပ်ထုတ်စက် စစ်ဆေးခအတွက် ပေးသွင်းလာသော (၈. ၁၀. ၂၀၁၉) ရက်စွဲပါ ချလန်အမှတ် (၃၉) ကိုလည်း လက်ခံရရှိပြီးကြောင်း ပြန်ကြားအပ်ပါသည်။


(က) လျှပ်ထုတ်စက်ကေဗီအေ	1000 kVA
(ခ) သတ်မှတ်ဗို့အား	230/400V
(ဂ) လျှပ်ထုတ်စက်အမျိုးအစား	800 DF JC (CUMMINS)
(ဃ) လျှပ်ထုတ်စက်နံပါတ်	C97A002424
(င) လျှပ်ထုတ်စက်တည်နေရာ	အမှတ် (A-2, A-3)..... မင်္ဂလာဒုံစက်မှုဇုန်၊ မင်္ဂလာဒုံမြို့နယ်။


Mr Yuzo Asano

မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်း

အမှတ်(A-2, A-3) မင်္ဂလာဒုံစက်မှုဇုန်၊

မင်္ဂလာဒုံမြို့နယ်။


 တိုင်းလျှပ်စစ်စစ်ဆေးရေးမှူး
 (ရန်ကုန်တိုင်းဒေသကြီး)



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
စက်မှုဝန်ကြီးဌာန
ရန်ကုန်တိုင်းဒေသကြီးစက်မှုကြီးကြပ်ရေးနှင့် စစ်ဆေးရေးဦးစီးဌာန
(လျှပ်စစ်စစ်ဆေးရေး)
အမှတ်-၁၉၂ ၊ ကမ္ဘာအေးဘူရားလမ်း၊ ဗဟန်းမြို့နယ်၊ ရန်ကုန်မြို့


အကြောင်းအရာ။ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် နှစ်ပတ်လည်စစ်ဆေးခြင်း

၁။ အထက်အကြောင်းအရာပါကိစ္စနှင့်စပ်လျဉ်း၍ အောက်ဖော်ပြပါ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် ကို (၂၀၁၉-၂၀၂၀) ခုဘဏ္ဍာရေးနှစ်အတွက် ဤတိုင်းလျှပ်စစ်စစ်ဆေးရေးဌာနမှ (ဇူ. ၁၀. ၂၀၁၉)ရက်နေ့တွင် စစ်ဆေးခဲ့ပြီး ဖြစ်သည်။

၂။ လျှပ်ထုတ်စက် စစ်ဆေးခအတွက် ပေးသွင်းလာသော (ဇူ. ၁၀. ၂၀၁၉) ရက်စွဲပါ ချလန်အမှတ် (၃၆) ကိုလည်း လက်ခံရရှိပြီးကြောင်း ပြန်ကြားအပ်ပါသည်။

(က) လျှပ်ထုတ်စက်ကေဗီအေ	1250 kVA
(ခ) သတ်မှတ်ဗို့အား	230/400V
(ဂ) လျှပ်ထုတ်စက်အမျိုးအစား	(CUMMINS)
(ဃ) လျှပ်ထုတ်စက်နံပါတ်	73698-317
(င) လျှပ်ထုတ်စက်တည်နေရာ	အမှတ် (A-2, A-3)..... မင်္ဂလာဒုံစက်မှုဇုန်၊ မင်္ဂလာဒုံမြို့နယ်။

Mr Yuzo Asano
မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်း
အမှတ်(A-2, A-3)၊ မင်္ဂလာဒုံစက်မှုဇုန်၊
မင်္ဂလာဒုံမြို့နယ်။


တိုင်းလျှပ်စစ်စစ်ဆေးရေးမှူး
(ရန်ကုန်တိုင်းဒေသကြီး)



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
 စက်မှုဝန်ကြီးဌာန
 ရန်ကုန်တိုင်းဒေသကြီးစက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန
 (လျှပ်စစ်စစ်ဆေးရေး)


အမှတ်-၁၉၂ ၊ ကမ္ဘာအေးဘူရားလမ်း၊ ဗဟန်းမြို့နယ်၊ ရန်ကုန်မြို့

အကြောင်းအရာ။ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် နှစ်ပတ်လည်စစ်ဆေးခြင်း

၁။ အထက်အကြောင်းအရာပါကိစ္စနှင့်စပ်လျဉ်း၍ အောက်ဖော်ပြပါ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် ကို (၂၀၁၉-၂၀၂၀) ခုနှစ်အတွက် ဤတိုင်းလျှပ်စစ်စစ်ဆေးရေးဌာနမှ (၅. ၁၀. ၂၀၁၉)ရက်နေ့တွင် စစ်ဆေးခဲ့ပြီး ဖြစ်သည်။


၂။ လျှပ်ထုတ်စက် စစ်ဆေးခံအတွက် ပေးသွင်းလာသော (၈. ၁၀. ၂၀၁၉) ရက်စွဲပါ ချလန်အမှတ် (၃၆) ကိုလည်း လက်ခံရရှိပြီးကြောင်း ပြန်ကြားအပ်ပါသည်။

(က) လျှပ်ထုတ်စက်ကေပီအေ	1250 kVA
(ခ) သတ်မှတ်ဗို့အား	230/400V
(ဂ) လျှပ်ထုတ်စက်အမျိုးအစား	N1120 DFLC (CUMMINS)
(ဃ) လျှပ်ထုတ်စက်နံပါတ်	J98A005766
(င) လျှပ်ထုတ်စက်တည်နေရာ	အမှတ် (A-2, A-3)
	မင်္ဂလာဒုံစက်မှုဇုန်၊ မင်္ဂလာဒုံမြို့နယ်။


 တိုင်းလျှပ်စစ်စစ်ဆေးရေးမှူး
 (ရန်ကုန်တိုင်းဒေသကြီး)

Mr Yuza Asano

မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်း
 အမှတ်(A-2, A-3) မင်္ဂလာဒုံစက်မှုဇုန်၊
 မင်္ဂလာဒုံမြို့နယ်။



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
စက်မှုဝန်ကြီးဌာန
ရန်ကုန်တိုင်းဒေသကြီးစက်မှုကြီးကြပ်ရေးနှင့် စစ်ဆေးရေးဦးစီးဌာန
(လျှပ်စစ်စစ်ဆေးရေး)
အမှတ်-၁၉၂ ၊ ကမ္ဘာအေးဘုရားလမ်း၊ ဗဟန်းမြို့နယ်၊ ရန်ကုန်မြို့

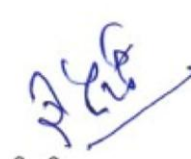

အကြောင်းအရာ။ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် နှစ်ပတ်လည်စစ်ဆေးခြင်း

၁။ အထက်အကြောင်းအရာပါကိစ္စနှင့်စပ်လျဉ်း၍ အောက်ဖော်ပြပါ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက်ကို (၂၀၁၉-၂၀၂၀) ခုနှစ်အတွက် ဤတိုင်းလျှပ်စစ်စစ်ဆေးရေးဌာနမှ (၅. ၁၀. ၂၀၁၉)ရက်နေ့တွင် စစ်ဆေးခဲ့ပြီး ဖြစ်သည်။

၂။ လျှပ်ထုတ်စက် စစ်ဆေးခံအတွက် ပေးသွင်းလာသော (၈. ၁၀. ၂၀၁၉) ရက်စွဲပါ ချလန်အမှတ် (၃၆) ကိုလည်း လက်ခံရရှိပြီးကြောင်း ပြန်ကြားအပ်ပါသည်။

(က) လျှပ်ထုတ်စက်ကေဗီအေ	1250 kVA
(ခ) သတ်မှတ်ဗို့အား	230/400V
(ဂ) လျှပ်ထုတ်စက်အမျိုးအစား	(CUMMINS)
(ဃ) လျှပ်ထုတ်စက်နံပါတ်	J98A005767
(င) လျှပ်ထုတ်စက်တည်နေရာ	အမှတ်. (A-2, A-3)
	မင်္ဂလာဒုံစက်မှုဇုန်၊ မင်္ဂလာဒုံမြို့နယ်။

Mr Yuzo Asano
 မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်း
 အမှတ်(A-2, A-3)၊ မင်္ဂလာဒုံစက်မှုဇုန်၊
 မင်္ဂလာဒုံမြို့နယ်။


 တိုင်းလျှပ်စစ်စစ်ဆေးရေးမှူး
 (ရန်ကုန်တိုင်းဒေသကြီး)




ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
 စက်မှုဝန်ကြီးဌာန
 ရန်ကုန်တိုင်းဒေသကြီးစက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန
 (လျှပ်စစ်စစ်ဆေးရေး)
 အမှတ်-၁၉၂ ၊ ကမ္ဘာအေးဘုရားလမ်း၊ ဗဟန်းမြို့နယ်၊ ရန်ကုန်မြို့

အကြောင်းအရာ။ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် နှစ်ပတ်လည်စစ်ဆေးခြင်း


၁။ အထက်အကြောင်းအရာပါကိစ္စနှင့်စပ်လျဉ်း၍ အောက်ဖော်ပြပါ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက်
 ကို (၂၀၁၉-၂၀၂၀) ခုဘဏ္ဍာရေးနှစ်အတွက် ဤတိုင်းလျှပ်စစ်စစ်ဆေးရေးဌာနမှ (၅. ၁၀. ၂၀၁၉)ရက်နေ့တွင်
 စစ်ဆေးခဲ့ပြီး ဖြစ်သည်။

၂။ လျှပ်ထုတ်စက် စစ်ဆေးခံအတွက် ပေးသွင်းလာသော (၈. ၁၀. ၂၀၁၉) ရက်စွဲပါ ချလန်အမှတ်
 (၃၆) ကိုလည်း လက်ခံရရှိပြီးကြောင်း ပြန်ကြားအပ်ပါသည်။

(က) လျှပ်ထုတ်စက်ကေဗီအေ	1400 kVA
(ခ) သတ်မှတ်ဗို့အား	230/400V
(ဂ) လျှပ်ထုတ်စက်အမျိုးအစား	(CUMMINS)
(ဃ) လျှပ်ထုတ်စက်နံပါတ်	C9873036
(င) လျှပ်ထုတ်စက်တည်နေရာ	အမှတ်. (A-2, A-3)..... မင်္ဂလာဒုံစက်မှုဇုန်၊ မင်္ဂလာဒုံမြို့နယ်။

Mr Yuzo Asano

မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်း
 အမှတ်(A-2, A-3)၊ မင်္ဂလာဒုံစက်မှုဇုန်၊
 မင်္ဂလာဒုံမြို့နယ်။


 တိုင်းလျှပ်စစ်စစ်ဆေးရေးမှူး
 (ရန်ကုန်တိုင်းဒေသကြီး)



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
 စက်မှုဝန်ကြီးဌာန
 ရန်ကုန်တိုင်းဒေသကြီးစက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန
 (လျှပ်စစ်စစ်ဆေးရေး)


အမှတ်-၁၉၂ ၊ ကမ္ဘာအေးဘုရားလမ်း၊ ဗဟန်းမြို့နယ်၊ ရန်ကုန်မြို့

အကြောင်းအရာ။ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် နှစ်ပတ်လည်စစ်ဆေးခြင်း

၁။ အထက်အကြောင်းအရာပါကိစ္စနှင့်စပ်လျဉ်း၍ အောက်ဖော်ပြပါ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် ကို (၂၀၁၉-၂၀၂၀) ခုဘဏ္ဍာရေးနှစ်အတွက် ဤတိုင်းလျှပ်စစ်စစ်ဆေးရေးဌာနမှ (၅. ၁၀. ၂၀၁၉)ရက်နေ့တွင် စစ်ဆေးခဲ့ပြီး ဖြစ်သည်။

၂။ လျှပ်ထုတ်စက် စစ်ဆေးခအတွက် ပေးသွင်းလာသော (၈. ၁၀. ၂၀၁၉) ရက်စွဲပါ ချလန်အမှတ် (၃၉) ကိုလည်း လက်ခံရရှိပြီးကြောင်း ပြန်ကြားအပ်ပါသည်။

(က) လျှပ်ထုတ်စက်ကေဗီအေ	1400 kVA
(ခ) သတ်မှတ်ဗို့အား	230/400V
(ဂ) လျှပ်ထုတ်စက်အမျိုးအစား	(CUMMINS)
(ဃ) လျှပ်ထုတ်စက်နံပါတ်	C9873037
(င) လျှပ်ထုတ်စက်တည်နေရာ	အမှတ် (A-2, A-3)..... မင်္ဂလာဒုံစက်မှုဇုန်၊ မင်္ဂလာဒုံမြို့နယ်။


 တိုင်းလျှပ်စစ်စစ်ဆေးရေးမှူး
 (ရန်ကုန်တိုင်းဒေသကြီး)

Mr Yuza Asano
 မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်း
 အမှတ်(A-2, A-3) မင်္ဂလာဒုံစက်မှုဇုန်၊
 မင်္ဂလာဒုံမြို့နယ်။



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
စက်မှုဝန်ကြီးဌာန
ရန်ကုန်တိုင်းဒေသကြီးစက်မှုကြီးကြပ်ရေးနှင့် စစ်ဆေးရေးဦးစီးဌာန
(လျှပ်စစ်စစ်ဆေးရေး)

အမှတ်-၁၉၂၊ ကမ္ဘာအေးဘုရားလမ်း၊ ဗဟန်းမြို့နယ်၊ ရန်ကုန်မြို့

အကြောင်းအရာ။ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် နှစ်ပတ်လည်စစ်ဆေးခြင်း

၁။ အထက်အကြောင်းအရာပါကိစ္စနှင့်စပ်လျဉ်း၍ အောက်ဖော်ပြပါ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက်ကို (၂၀၁၉-၂၀၂၀) ခုဘဏ္ဍာရေးနှစ်အတွက် ဤတိုင်းလျှပ်စစ်စစ်ဆေးရေးဌာနမှ (၅. ၁၀. ၂၀၁၉)ရက်နေ့တွင် စစ်ဆေးခဲ့ပြီး ဖြစ်သည်။

၂။ လျှပ်ထုတ်စက် စစ်ဆေးခံအတွက် ပေးသွင်းလာသော (၈. ၁၀. ၂၀၁၉) ရက်စွဲပါ ချလန်အမှတ် (၃၆) ကိုလည်း လက်ခံရရှိပြီးကြောင်း ပြန်ကြားအပ်ပါသည်။

(က) လျှပ်ထုတ်စက်ကေဗီအေ	1400 kVA
(ခ) သတ်မှတ်ဗို့အား	230/400V
(ဂ) လျှပ်ထုတ်စက်အမျိုးအစား	1120 DFLC (CUMMINS)
(ဃ) လျှပ်ထုတ်စက်နံပါတ်	J98A005768
(င) လျှပ်ထုတ်စက်တည်နေရာ	အမှတ် (A-2, A-3)..... မင်္ဂလာဒုံစက်မှုဇုန်၊ မင်္ဂလာဒုံမြို့နယ်။

Mr Yuzo Asano

မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်း

အမှတ်(A-2, A-3)၊ မင်္ဂလာဒုံစက်မှုဇုန်၊

မင်္ဂလာဒုံမြို့နယ်။

တိုင်းလျှပ်စစ်စစ်ဆေးရေးမှူး
(ရန်ကုန်တိုင်းဒေသကြီး)



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
 စက်မှုဝန်ကြီးဌာန
 ရန်ကုန်တိုင်းဒေသကြီးစက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန
 (လျှပ်စစ်စစ်ဆေးရေး)


အမှတ်--၁၉၂ ၊ ကမ္ဘာအေးဘုရားလမ်း၊ ဗဟန်းမြို့နယ်၊ ရန်ကုန်မြို့

အကြောင်းအရာ။ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် နှစ်ပတ်လည်စစ်ဆေးခြင်း

၁။ အထက်အကြောင်းအရာပါကိစ္စနှင့်စပ်လျဉ်း၍ အောက်ဖော်ပြပါ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် ကို (၂၀၁၉-၂၀၂၀) ခုဘဏ္ဍာရေးနှစ်အတွက် ဤတိုင်းလျှပ်စစ်စစ်ဆေးရေးဌာနမှ (၅. ၁၀. ၂၀၁၉)ရက်နေ့တွင် စစ်ဆေးခဲ့ပြီး ဖြစ်သည်။

၂။ လျှပ်ထုတ်စက် စစ်ဆေးခံအတွက် ပေးသွင်းလာသော (၈. ၁၀. ၂၀၁၉) ရက်စွဲပါ ချလန်အမှတ် (၃၆) ကိုလည်း လက်ခံရရှိပြီးကြောင်း ပြန်ကြားအပ်ပါသည်။

(က) လျှပ်ထုတ်စက်ကေပီအေ	1400 kVA
(ခ) သတ်မှတ်ဗို့အား	230/400V
(ဂ) လျှပ်ထုတ်စက်အမျိုးအစား	1120 DFCC (CUMMINS)
(ဃ) လျှပ်ထုတ်စက်နံပါတ်	C9873038
(င) လျှပ်ထုတ်စက်တည်နေရာ	အမှတ်..(A-2, A-3)..... မင်္ဂလာဒုံစက်မှုဇုန်၊ မင်္ဂလာဒုံမြို့နယ်။


 တိုင်းလျှပ်စစ်စစ်ဆေးရေးမှူး
 (ရန်ကုန်တိုင်းဒေသကြီး)

Mr Yuza Asano

မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်း
 အမှတ်(A-2, A-3)၊ မင်္ဂလာဒုံစက်မှုဇုန်၊
 မင်္ဂလာဒုံမြို့နယ်။



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
 စက်မှုဝန်ကြီးဌာန
 ရန်ကုန်တိုင်းဒေသကြီးစက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန
 (လျှပ်စစ်စစ်ဆေးရေး)

အမှတ်-၁၉၂ ၊ ကမ္ဘာ့အေးတူရားလမ်း၊ ဗဟန်းမြို့နယ်၊ ရန်ကုန်မြို့

အကြောင်းအရာ။ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် နှစ်ပတ်လည်စစ်ဆေးခြင်း

၁။ အထက်အကြောင်းအရာပါကိစ္စနှင့်စပ်လျဉ်း၍ အောက်ဖော်ပြပါ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် ကို (၂၀၁၉-၂၀၂၀) ခုဘဏ္ဍာရေးနှစ်အတွက် ဤတိုင်းလျှပ်စစ်စစ်ဆေးရေးဌာနမှ (၅. ၁၀. ၂၀၁၉)ရက်နေ့တွင် စစ်ဆေးခဲ့ပြီး ဖြစ်သည်။

၂။ လျှပ်ထုတ်စက် စစ်ဆေးခံအတွက် ပေးသွင်းလာသော (၈. ၁၀. ၂၀၁၉) ရက်စွဲပါ ချလန်အမှတ် (၃၆) ကိုလည်း လက်ခံရရှိပြီးကြောင်း ပြန်ကြားအပ်ပါသည်။

(က) လျှပ်ထုတ်စက်ကေပီအေ	1400 kVA
(ခ) သတ်မှတ်ဗို့အား	230/400V
(ဂ) လျှပ်ထုတ်စက်အမျိုးအစား	1120 DFJD (CUMMINS)
(ဃ) လျှပ်ထုတ်စက်နံပါတ်	E80A00062
(င) လျှပ်ထုတ်စက်တည်နေရာ	အမှတ် (A-2, A-3)
	မင်္ဂလာဒုံစက်မှုဇုန်၊ မင်္ဂလာဒုံမြို့နယ်။


Mr Yuzo Asano

မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်း

အမှတ်(A-2, A-3)၊ မင်္ဂလာဒုံစက်မှုဇုန်၊

မင်္ဂလာဒုံမြို့နယ်။

တိုင်းလျှပ်စစ်စစ်ဆေးရေးမှူး
 (ရန်ကုန်တိုင်းဒေသကြီး)



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်

စက်မှုဝန်ကြီးဌာန

ရန်ကုန်တိုင်းဒေသကြီးစက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန

(လျှပ်စစ်စစ်ဆေးရေး)

အမှတ်-၁၉၂ ၊ ကမ္ဘာအေးဘုရားလမ်း၊ ဗဟန်းမြို့နယ်၊ ရန်ကုန်မြို့

အကြောင်းအရာ။ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် နှစ်ပတ်လည်စစ်ဆေးခြင်း

၁။ အထက်အကြောင်းအရာပါကိစ္စနှင့်စပ်လျဉ်း၍ အောက်ဖော်ပြပါ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် ကို (၂၀၁၉-၂၀၂၀) ခုဘဏ္ဍာရေးနှစ်အတွက် ဤတိုင်းလျှပ်စစ်စစ်ဆေးရေးဌာနမှ (၅. ၁၀. ၂၀၁၉)ရက်နေ့တွင် စစ်ဆေးခဲ့ပြီး ဖြစ်သည်။

၂။ လျှပ်ထုတ်စက် စစ်ဆေးခအတွက် ပေးသွင်းလာသော (၅. ၁၀. ၂၀၁၉) ရက်စွဲပါ ချလန်အမှတ် (၃၆) ကိုလည်း လက်ခံရရှိပြီးကြောင်း ပြန်ကြားအပ်ပါသည်။


(က) လျှပ်ထုတ်စက်ကေပီအေ	550kVA
(ခ) သတ်မှတ်ဗို့အား	400V
(ဂ) လျှပ်ထုတ်စက်အမျိုးအစား	(CUMMINS)
(ဃ) လျှပ်ထုတ်စက်နံပါတ်	C087855/05
(င) လျှပ်ထုတ်စက်တည်နေရာ	အမှတ် (A-2, A-3) မင်္ဂလာဒုံစက်မှုဇုန်၊ မင်္ဂလာဒုံမြို့နယ်။

Mr Yuzo Asano

မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်း


အမှတ်(A-2, A-3) မင်္ဂလာဒုံစက်မှုဇုန်၊

မင်္ဂလာဒုံမြို့နယ်။



တိုင်းလျှပ်စစ်စစ်ဆေးရေးမှူး

(ရန်ကုန်တိုင်းဒေသကြီး)



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
စက်မှုဝန်ကြီးဌာန
ရန်ကုန်တိုင်းဒေသကြီးစက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန
(လျှပ်စစ်စစ်ဆေးရေး)
အမှတ်-၁၉၂ ၊ ကမ္ဘာအေးဘုရားလမ်း၊ ဗဟန်းမြို့နယ်၊ ရန်ကုန်မြို့


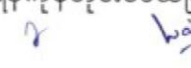
အကြောင်းအရာ။ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် နှစ်ပတ်လည်စစ်ဆေးခြင်း

၁။ အထက်အကြောင်းအရာပါကိစ္စနှင့်စပ်လျဉ်း၍ အောက်ဖော်ပြပါ ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် ကို (၂၀၁၉-၂၀၂၀) ခုနှစ်အတွက် ဤတိုင်းလျှပ်စစ်စစ်ဆေးရေးဌာနမှ (၅. ၁၀. ၂၀၁၉)ရက်နေ့တွင် စစ်ဆေးခဲ့ပြီး ဖြစ်သည်။

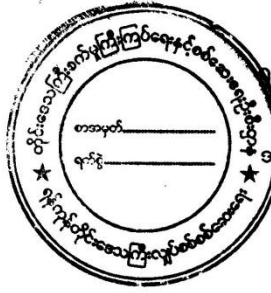
၂။ လျှပ်ထုတ်စက် စစ်ဆေးခံအတွက် ပေးသွင်းလာသော (၈. ၁၀. ၂၀၁၉) ရက်စွဲပါ ချလန်အမှတ် (၃၉) ကိုလည်း လက်ခံရရှိပြီးကြောင်း ပြန်ကြားအပ်ပါသည်။

(က) လျှပ်ထုတ်စက်ကေပီအေ	160 kVA
(ခ) သတ်မှတ်ဗို့အား	230/400V
(ဂ) လျှပ်ထုတ်စက်အမျိုးအစား	GEH175(OLYMPIAN)
(ဃ) လျှပ်ထုတ်စက်နံပါတ်	OLY00000 ARNS 00707
(င) လျှပ်ထုတ်စက်တည်နေရာ	အမှတ် (A-2, A-3)..... မင်္ဂလာဒုံစက်မှုဇုန်၊ မင်္ဂလာဒုံမြို့နယ်။

Mr Yuzo Asano
 မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်း
 အမှတ်(A-2, A-3) မင်္ဂလာဒုံစက်မှုဇုန်၊
 မင်္ဂလာဒုံမြို့နယ်။


 တိုင်းလျှပ်စစ်စစ်ဆေးရေးမှူး
 (ရန်ကုန်တိုင်းဒေသကြီး)


Appendix 15 Generator Permit



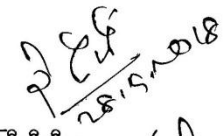
စက်မှုဝန်ကြီးဌာန
 ရန်ကုန်တိုင်းဒေသကြီးစက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန
 လျှပ်စစ်-စစ်ဆေးရေး
 အမှတ်-၁၉၂၊ ကမ္ဘာအေးဘုရားလမ်း၊ ဗဟန်းမြို့နယ်၊ ရန်ကုန်မြို့။

စာအမှတ် ၊ ၁၅၁၅(၇)ရက-လဆရ/၂၁/၂၀၁၈(၃၁၉၀)
 ရက်စွဲ ၊ ၂၀၁၈ ခုနှစ် မေ လ ၂၈ ရက်

အကြောင်းအရာ။ ရန်ကုန်တိုင်းဒေသကြီး၊မင်္ဂလာဒုံမြို့နယ်၊မင်္ဂလာဒုံစက်မှုဇုန်၊အမှတ်(အေ-၂၊၃) ၏ Myanmar Asia Optical International Co.,Ltd ၏ မှန်ဘီလူးအမျိုးမျိုး ထုတ်လုပ်ခြင်းလုပ်ငန်းအတွက်တပ်ဆင်အသုံးပြုလျက်ရှိသော ၄၀၀ ဗို့၊ ၅၅၀ ကေဗွီအေ (တစ်)လုံး၊ ၂၃၀/၄၀၀ ဗို့ ၁၀၀၀ ကေဗွီအေ(တစ်)လုံး၊ ၁၂၅၀ ကေဗွီအေ (သုံး) လုံး နှင့် ၁၄၀၀ ကေဗွီအေ(ငါး)လုံး၊စုစုပေါင်း ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် (တစ်ဆယ်)လုံး အား လျှပ်စစ်ဓာတ်အားထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်း ဆိုင်ရာ မှတ်ပုံတင်လက်မှတ် သက်တမ်းတိုးမြှင့် ထုတ်ပေးခြင်း။

ရည် ညွှန်း ချက်။ Mr Yuzo Asano, Managing Director, Myanmar Asia Optical International Co.,Ltd ၏ ၇. ၅. ၂၀၁၈ ရက်စွဲပါ လျှောက်လွှာအရ


အထက်အကြောင်းအရာပါကိစ္စနှင့်ပတ်သက်၍ ရန်ကုန်တိုင်းဒေသကြီး၊ မင်္ဂလာဒုံမြို့နယ်၊ မင်္ဂလာဒုံ စက်မှုဇုန်၊ အမှတ်(အေ-၂၊ ၃) ၏ Myanmar Asia Optical International Co.,Ltd ၏ မှန်ဘီလူးအမျိုးမျိုး ထုတ်လုပ်ခြင်းလုပ်ငန်း အတွက် တပ်ဆင်အသုံးပြုလျက်ရှိသော ၄၀၀ ဗို့၊ ၅၅၀ ကေဗွီအေ (တစ်)လုံး၊ ၂၃၀/၄၀၀ ဗို့ ၁၀၀၀ ကေဗွီအေ(တစ်)လုံး၊ ၁၂၅၀ ကေဗွီအေ (သုံး)လုံး နှင့် ၁၄၀၀ ကေဗွီအေ (ငါး)လုံး၊ စုစုပေါင်း ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက် (တစ်ဆယ်)လုံး ဖြင့် လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်ကို ၂၀၁၈ ခုနှစ် မေ လ (၂၂)ရက်နေ့မှ စတင်၍ သက်တမ်း တိုးမြှင့် ထုတ်ပေးလိုက်သည်။


 တိုင်းဒေသကြီးဦးစီးဌာနမှူး (M/W)
 ခိုင်မြင့် - ဒုတိယညွှန်ကြားရေးမှူး
 ရန်ကုန်တိုင်းဒေသကြီး လျှပ်စစ်စစ်ဆေးရေးမှူး

Myanmar Asia Optical International Co.,Ltd
 အမှတ် (အေ-၂၊၃) ၊ မင်္ဂလာဒုံစက်မှုဇုန်၊
 မင်္ဂလာဒုံမြို့နယ်၊
 မိတ္ထ။

- ရုံးလက်ခံ၊
- မျှောစာတွဲ။

Appendix 16 Generator License



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်

စက်မှုဝန်ကြီးဌာန

စက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန

(လျှပ်စစ်စစ်ဆေးရေး)

လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်

ခွင့်ပြုမိန့် အမှတ်စဉ် - YD(N) ၀၃၀ / ၂၀၁၈

၁။ ၂၀၁၄ ခုနှစ် လျှပ်စစ်ဥပဒေပုဒ်မ ၃၂(င) နှင့် တည်ဆဲလျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများအရ Myanmar Asia Optical International Co.,Ltd ၏ မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်းလုပ်ငန်း အတွက် တပ်ဆင်အသုံးပြုလျက်ရှိသော ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက်အား အောက်ဖော်ပြပါ နယ်မြေဒေသအတွင်း မှတ်ပုံတင်လက်မှတ်တွင်ပါရှိသော စည်းကမ်းချက်များနှင့်အညီ ၂၀၁၈ ခုနှစ် မေလ (၂၂) ရက်နေ့မှစတင်၍ လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်ကို သက်တမ်းတိုးမြှင့် ထုတ်ပေးလိုက်သည်-

(က) ခွင့်ပြုသည့် နယ်မြေဒေသ	- အမှတ်(အေ-၂၊ ၃)၊ မင်္ဂလာဒုံစက်မှုဇုန်၊
မြို့နယ်	- မင်္ဂလာဒုံမြို့နယ်။
တိုင်း	- ရန်ကုန်တိုင်းဒေသကြီး
(ခ) အများဆုံးထုတ်လုပ်သည့် ဓာတ်အားပမာဏ	- 550 kVA
(ဂ) သတ်မှတ်ဗို့အား	- 400 V
(ဃ) လျှပ်ထုတ်စက်အမျိုးအစား	- CUMMINS
(င) လျှပ်ထုတ်စက်နံပါတ်	- C087855/05


၂။ ဓာတ်အားထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းတို့အတွက် အသုံးပြုသော လျှပ်စစ်ပစ္စည်း ကိရိယာ တည်ဆောက်မှုဆိုင်ရာနည်းစနစ်များသည် လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများပါ ပြဌာန်းချက်များ အရ ဖြစ်ရမည့်အပြင် စစ်ဆေးရေးမှူး ၏ စစ်ဆေးစမ်းသပ်ခြင်းကို ခံယူရပါမည်။

၃။ လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းပါ ပြဌာန်းချက်များကို တိကျစွာ လိုက်နာဆောင်ရွက်ရမည်။

၄။ လျှပ်စစ်ဥပဒေဆိုင်ရာလုပ်ထုံးလုပ်နည်းများနှင့် ဤလက်မှတ်တွင်ပါရှိသော အကြောင်းအရာများကို လိုက်နာခြင်းမရှိပါက ထုတ်ပေးထားသော လက်မှတ်ကို ပြန်လည်ရုတ်သိမ်းမည်။

၅။ ဤမှတ်ပုံတင်လက်မှတ် သက်တမ်းသည် ခွင့်ပြုသည့်နေ့မှစတင်၍ (၄) နှစ် အချိန်ကာလအတွင်းသာ အကျိုးသက်ရောက်စေရမည်။

စတင်ခွင့်ပြုသည့်နေ့	- ၂၂.၅.၂၀၁၈
ကုန်ဆုံးသည့်နေ့	- ၂၁.၅.၂၀၂၂


 လျှပ်စစ်စစ်ဆေးရေးမှူးချုပ် ()
 ရန်ကုန်တိုင်းဒေသကြီး လျှပ်စစ်စစ်ဆေးရေးမှူး



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
စက်မှုဝန်ကြီးဌာန
စက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန
(လျှပ်စစ်စစ်ဆေးရေး)

လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်

ခွင့်ပြုမိန့် အမှတ်စဉ် - YD(N) ၀၃၁ / ၂၀၁၈

၁။ ၂၀၁၄ ခုနှစ် လျှပ်စစ်ဥပဒေပုဒ်မ ၃၂(င) နှင့် တည်ဆဲလျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများအရ Myanmar Asia Optical International Co., Ltd ၏ မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်းလုပ်ငန်း အတွက် တပ်ဆင်အသုံးပြုလျက်ရှိသော ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက်အား အောက်ဖော်ပြပါ နယ်မြေဒေသအတွင်း မှတ်ပုံတင်လက်မှတ်တွင်ပါရှိသော စည်းကမ်းချက်များနှင့်အညီ ၂၀၁၈ ခုနှစ် မေလ (၂၂) ရက်နေ့မှစတင်၍ လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်ကို သက်တမ်းတိုးမြှင့် ထုတ်ပေးလိုက်သည်-

- (က) ခွင့်ပြုသည့် နယ်မြေဒေသ - အမှတ်(အေ-၂၊ ၃)၊ မင်္ဂလာဒုံစက်မှုဇုန်၊
မြို့နယ် - မင်္ဂလာဒုံမြို့နယ်။
တိုင်း - ရန်ကုန်တိုင်းဒေသကြီး
- (ခ) အများဆုံးထုတ်လုပ်သည့် - 1000 kVA
ဓာတ်အားပမာဏ
- (ဂ) သတ်မှတ်ဗို့အား - 230/400 V
- (ဃ) လျှပ်ထုတ်စက်အမျိုးအစား - 800 DF JC (CUMMINS)
- (င) လျှပ်ထုတ်စက်နံပါတ် - C97A002424

၂။ ဓာတ်အားထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းတို့အတွက် အသုံးပြုသော လျှပ်စစ်ပစ္စည်း ကိရိယာ တည်ဆောက်မှုဆိုင်ရာနည်းစနစ်များသည် လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများပါ ပြဌာန်းချက်များ အရ ဖြစ်ရမည့်အပြင် စစ်ဆေးရေးမှူး ၏ စစ်ဆေးစမ်းသပ်ခြင်းကို ခံယူရပါမည်။

၃။ လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းပါ ပြဌာန်းချက်များကို တိကျစွာ လိုက်နာဆောင်ရွက်ရမည်။

၄။ လျှပ်စစ်ဥပဒေဆိုင်ရာလုပ်ထုံးလုပ်နည်းများနှင့် ဤလက်မှတ်တွင်ပါရှိသော အကြောင်းအရာများကို လိုက်နာခြင်းမရှိပါက ထုတ်ပေးထားသော လက်မှတ်ကို ပြန်လည်ရုတ်သိမ်းမည်။

၅။ ဤမှတ်ပုံတင်လက်မှတ် သက်တမ်းသည် ခွင့်ပြုသည့်နေ့မှစတင်၍ (၄) နှစ် အချိန်ကာလအတွင်းသာ အကျိုးသက်ရောက်စေရမည်။

စတင်ခွင့်ပြုသည့်နေ့ - ၂၂ . ၅ . ၂၀၁၈
ကုန်ဆုံးသည့်နေ့ - ၂၁ . ၅ . ၂၀၂၂

လျှပ်စစ်စစ်ဆေးရေးမှူးချုပ် (ရန်ကုန်တိုင်းဒေသကြီး) လျှပ်စစ်စစ်ဆေးရေးမှူး



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
 စက်မှုဝန်ကြီးဌာန
 စက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန
 (လျှပ်စစ်စစ်ဆေးရေး)

လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်

ခွင့်ပြုမိန့် အမှတ်စဉ် - YD(N) ၀၃၂ / ၂၀၁၈

၁။ ၂၀၁၄ ခုနှစ် လျှပ်စစ်ဥပဒေပုဒ်မ ၃၂(c) နှင့် တည်ဆဲလျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများအရ Myanmar Asia Optical International Co.,Ltd ၏ မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်းလုပ်ငန်း အတွက် တပ်ဆင်အသုံးပြုလျက်ရှိသော ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက်အား အောက်ဖော်ပြပါ နယ်မြေဒေသအတွင်း မှတ်ပုံတင်လက်မှတ်တွင်ပါရှိသော စည်းကမ်းချက်များနှင့်အညီ ၂၀၁၈ ခုနှစ် မေ လ (၂၂) ရက်နေ့မှစတင်၍ လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်ကို သက်တမ်းတိုးမြှင့် ထုတ်ပေးလိုက်သည်-

- (က) ခွင့်ပြုသည့် နယ်မြေဒေသ - အမှတ်(အေ-၂၊ ၃)၊ မင်္ဂလာဒုံစက်မှုဇုန်၊
 မြို့နယ် - မင်္ဂလာဒုံမြို့နယ်။
 တိုင်း - ရန်ကုန်တိုင်းဒေသကြီး
- (ခ) အများဆုံးထုတ်လုပ်သည့် - 1250 kVA
 ဓာတ်အားပမာဏ
- (ဂ) သတ်မှတ်ဗို့အား - 230/400 V
- (ဃ) လျှပ်ထုတ်စက်အမျိုးအစား - CUMMINS
- (င) လျှပ်ထုတ်စက်နံပါတ် - 73698-317

၂။ ဓာတ်အားထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းတို့အတွက် အသုံးပြုသော လျှပ်စစ်ပစ္စည်း ကိရိယာ တည်ဆောက်မှုဆိုင်ရာနည်းစနစ်များသည် လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများပါ ပြဌာန်းချက်များ အရ ဖြစ်ရမည့်အပြင် စစ်ဆေးရေးမှူး ၏ စစ်ဆေးစမ်းသပ်ခြင်းကို ခံယူရပါမည်။

၃။ လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းပါ ပြဌာန်းချက်များကို တိကျစွာ လိုက်နာဆောင်ရွက်ရမည်။

၄။ လျှပ်စစ်ဥပဒေဆိုင်ရာလုပ်ထုံးလုပ်နည်းများနှင့် ဤလက်မှတ်တွင်ပါရှိသော အကြောင်းအရာများကို လိုက်နာခြင်းမရှိပါက ထုတ်ပေးထားသော လက်မှတ်ကို ပြန်လည်ရုတ်သိမ်းမည်။

၅။ ဤမှတ်ပုံတင်လက်မှတ် သက်တမ်းသည် ခွင့်ပြုသည့်နေ့မှစတင်၍ (၄) နှစ် အချိန်ကာလအတွင်းသာ အကျိုးသက်ရောက်စေရမည်။

စတင်ခွင့်ပြုသည့်နေ့ - ၂၂ . ၅ . ၂၀၁၈
 ကုန်ဆုံးသည့်နေ့ - ၂၁ . ၅ . ၂၀၂၂

လျှပ်စစ်စစ်ဆေးရေးမှူးချုပ် (ရန်ကုန်တိုင်းဒေသကြီး လျှပ်စစ်စစ်ဆေးရေးမှူး)



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
 စက်မှုဝန်ကြီးဌာန
 စက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန
 (လျှပ်စစ်စစ်ဆေးရေး)

လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်

ခွင့်ပြုမိန့် အမှတ်စဉ် - YD(N) ၀၃၃ / ၂၀၁၈

၁။ ၂၀၁၄ ခုနှစ် လျှပ်စစ်ဥပဒေပုဒ်မ ၃၂(င) နှင့် တည်ဆဲလျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများအရ Myanmar Asia Optical International Co., Ltd ၏ မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်းလုပ်ငန်း အတွက် တပ်ဆင်အသုံးပြုလျက်ရှိသော ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက်အား အောက်ဖော်ပြပါ နယ်မြေဒေသအတွင်း မှတ်ပုံတင်လက်မှတ်တွင်ပါရှိသော စည်းကမ်းချက်များနှင့်အညီ ၂၀၁၈ ခုနှစ် မေလ (၂၂) ရက်နေ့မှစတင်၍ လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်ကို သက်တမ်းတိုးမြှင့် ထုတ်ပေးလိုက်သည်။

- (က) ခွင့်ပြုသည့် နယ်မြေဒေသ - အမှတ်(အေ-၂၊ ၃)၊ မင်္ဂလာဒုံစက်မှုဇုန်၊
 မြို့နယ် - မင်္ဂလာဒုံမြို့နယ်။
 တိုင်း - ရန်ကုန်တိုင်းဒေသကြီး
- (ခ) အများဆုံးထုတ်လုပ်သည့် - 1250 kVA
 ဓာတ်အားပမာဏ
- (ဂ) သတ်မှတ်ဗို့အား - 230/400 V
- (ဃ) လျှပ်ထုတ်စက်အမျိုးအစား - N 1120 DFLC (CUMMINS)
- (င) လျှပ်ထုတ်စက်နံပါတ် - J98A005766

၂။ ဓာတ်အားထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းတို့အတွက် အသုံးပြုသော လျှပ်စစ်ပစ္စည်း ကိရိယာ တည်ဆောက်မှုဆိုင်ရာနည်းစနစ်များသည် လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများပါ ပြဌာန်းချက်များ အရ ဖြစ်ရမည့်အပြင် စစ်ဆေးရေးမှူး ၏ စစ်ဆေးစမ်းသပ်ခြင်းကို ခံယူရပါမည်။

၃။ လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းပါ ပြဌာန်းချက်များကို တိကျစွာ လိုက်နာဆောင်ရွက်ရမည်။

၄။ လျှပ်စစ်ဥပဒေဆိုင်ရာလုပ်ထုံးလုပ်နည်းများနှင့် ဤလက်မှတ်တွင်ပါရှိသော အကြောင်းအရာများကို လိုက်နာခြင်းမရှိပါက ထုတ်ပေးထားသော လက်မှတ်ကို ပြန်လည်ရုတ်သိမ်းမည်။

၅။ ဤမှတ်ပုံတင်လက်မှတ် သက်တမ်းသည် ခွင့်ပြုသည့်နေ့မှစတင်၍ (၄) နှစ် အချိန်ကာလအတွင်းသာ အကျိုးသက်ရောက်စေရမည်။

စတင်ခွင့်ပြုသည့်နေ့ - ၂၂ . ၅ . ၂၀၁၈
 ကုန်ဆုံးသည့်နေ့ - ၂၁ . ၅ . ၂၀၂၂

လျှပ်စစ်စစ်ဆေးရေးမှူးချုပ် (ရန်ကုန်)
 ရန်ကုန်တိုင်းဒေသကြီး လျှပ်စစ်စစ်ဆေးရေးမှူး



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
 စက်မှုဝန်ကြီးဌာန
 စက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန
 (လျှပ်စစ်စစ်ဆေးရေး)

လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်

ခွင့်ပြုမိန့် အမှတ်စဉ် - YD(N) ၀၃၄ / ၂၀၁၈

၁။ ၂၀၁၄ ခုနှစ် လျှပ်စစ်ဥပဒေပုဒ်မ ၃၂(င) နှင့် တည်ဆဲလျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများအရ Myanmar Asia Optical International Co., Ltd ၏ မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်းလုပ်ငန်း အတွက် တပ်ဆင်အသုံးပြုလျက်ရှိသော ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက်အား အောက်ဖော်ပြပါ နယ်မြေဒေသအတွင်း မှတ်ပုံတင်လက်မှတ်တွင်ပါရှိသော စည်းကမ်းချက်များနှင့်အညီ ၂၀၁၈ ခုနှစ် မေ လ (၂၂) ရက်နေ့မှစတင် ၍ လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်ကို သက်တမ်းတိုးမြှင့် ထုတ်ပေးလိုက်သည်-

- (က) ခွင့်ပြုသည့် နယ်မြေဒေသ - အမှတ်(အေ-၂၊ ၃)၊ မင်္ဂလာဒုံစက်မှုဇုန်၊
 မြို့နယ် - မင်္ဂလာဒုံမြို့နယ်။
 တိုင်း - ရန်ကုန်တိုင်းဒေသကြီး
- (ခ) အများဆုံးထုတ်လုပ်သည့် - 1250 kVA
 ဓာတ်အားပမာဏ
- (ဂ) သတ်မှတ်ဗို့အား - 230/400 V
- (ဃ) လျှပ်ထုတ်စက်အမျိုးအစား - CUMMINS
- (င) လျှပ်ထုတ်စက်နံပါတ် - J98A005767

၂။ ဓာတ်အားထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းတို့အတွက် အသုံးပြုသော လျှပ်စစ်ပစ္စည်း ကိရိယာ တည်ဆောက်မှုဆိုင်ရာနည်းစနစ်များသည် လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများပါ ပြဌာန်းချက်များ အရ ဖြစ်ရမည့်အပြင် စစ်ဆေးရေးမှူး ၏ စစ်ဆေးစမ်းသပ်ခြင်းကို ခံယူရပါမည်။

၃။ လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းပါ ပြဌာန်းချက်များကို တိကျစွာ လိုက်နာဆောင်ရွက်ရမည်။

၄။ လျှပ်စစ်ဥပဒေဆိုင်ရာလုပ်ထုံးလုပ်နည်းများနှင့် ဤလက်မှတ်တွင်ပါရှိသော အကြောင်းအရာများကို လိုက်နာခြင်းမရှိပါက ထုတ်ပေးထားသော လက်မှတ်ကို ပြန်လည်ရုတ်သိမ်းမည်။

၅။ ဤမှတ်ပုံတင်လက်မှတ် သက်တမ်းသည် ခွင့်ပြုသည့်နေ့မှစတင် ၍ (၄) နှစ် အချိန်ကာလအတွင်းသာ အကျိုးသက်ရောက်စေရမည်။

စတင်ခွင့်ပြုသည့်နေ့ - ၂၂ . ၅ . ၂၀၁၈
 ကုန်ဆုံးသည့်နေ့ - ၂၁ . ၅ . ၂၀၂၂

လျှပ်စစ်စစ်ဆေးရေးမှူးချုပ် (ရန်ကုန်တိုင်းဒေသကြီး) လျှပ်စစ်စစ်ဆေးရေးမှူး



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
စက်မှုဝန်ကြီးဌာန
စက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန
(လျှပ်စစ်စစ်ဆေးရေး)

လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်

ခွင့်ပြုမိန့် အမှတ်စဉ် - YD(N) ၀၃၉ / ၂၀၁၈

၁။ ၂၀၁၄ ခုနှစ် လျှပ်စစ်ဥပဒေပုဒ်မ ၃၂(င) နှင့် တည်ဆဲလျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများအရ Myanmar Asia Optical International Co.,Ltd ၏ မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်းလုပ်ငန်း အတွက် တပ်ဆင်အသုံးပြုလျက်ရှိသော ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက်အား အောက်ဖော်ပြပါ နယ်မြေဒေသအတွင်း မှတ်ပုံတင်လက်မှတ်တွင်ပါရှိသော စည်းကမ်းချက်များနှင့်အညီ ၂၀၁၈ ခုနှစ် မေလ (၂၂) ရက်နေ့မှစတင်၍ လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်ကို သက်တမ်းတိုးမြှင့် ထုတ်ပေးလိုက်သည်။

- (က) ခွင့်ပြုသည့် နယ်မြေဒေသ - အမှတ်(အေ-၂၊ ၃)၊ မင်္ဂလာဒုံစက်မှုဇုန်၊
မြို့နယ် - မင်္ဂလာဒုံမြို့နယ်။
တိုင်း - ရန်ကုန်တိုင်းဒေသကြီး
- (ခ) အများဆုံးထုတ်လုပ်သည့် - 1400 kVA
ဓာတ်အားပမာဏ
- (ဂ) သတ်မှတ်ဗို့အား - 230/400 V
- (ဃ) လျှပ်ထုတ်စက်အမျိုးအစား - 1120 DFLC (CUMMINS)
- (င) လျှပ်ထုတ်စက်နံပါတ် - J98A005768

၂။ ဓာတ်အားထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းတို့အတွက် အသုံးပြုသော လျှပ်စစ်ပစ္စည်း ကိရိယာ တည်ဆောက်မှုဆိုင်ရာနည်းစနစ်များသည် လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများပါ ပြဌာန်းချက်များ အရ ဖြစ်ရမည့်အပြင် စစ်ဆေးရေးမှူး ၏ စစ်ဆေးစမ်းသပ်ခြင်းကို ခံယူရပါမည်။

၃။ လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းပါ ပြဌာန်းချက်များကို တိကျစွာ လိုက်နာဆောင်ရွက်ရမည်။

၄။ လျှပ်စစ်ဥပဒေဆိုင်ရာလုပ်ထုံးလုပ်နည်းများနှင့် ဤလက်မှတ်တွင်ပါရှိသော အကြောင်းအရာများကို လိုက်နာခြင်းမရှိပါက ထုတ်ပေးထားသော လက်မှတ်ကို ပြန်လည်ရုတ်သိမ်းမည်။

၅။ ဤမှတ်ပုံတင်လက်မှတ် သက်တမ်းသည် ခွင့်ပြုသည့်နေ့မှစတင်၍ (၄) နှစ် အချိန်ကာလအတွင်းသာ အကျိုးသက်ရောက်စေရမည်။

စတင်ခွင့်ပြုသည့်နေ့ - ၂၂ . ၅ . ၂၀၁၈
ကုန်ဆုံးသည့်နေ့ - ၂၁ . ၅ . ၂၀၂၂

လျှပ်စစ်စစ်ဆေးရေးမှူးချုပ် (Signature)
ရန်ကုန်တိုင်းဒေသကြီး လျှပ်စစ်စစ်ဆေးရေးမှူး



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
 စက်မှုဝန်ကြီးဌာန
 စက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန
 (လျှပ်စစ်စစ်ဆေးရေး)

လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်

ခွင့်ပြုမိန့် အမှတ်စဉ် - YD(N) ၀၃၈ / ၂၀၁၈

၁။ ၂၀၁၄ ခုနှစ် လျှပ်စစ်ဥပဒေပုဒ်မ ၃၂(င) နှင့် တည်ဆဲလျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများအရ Myanmar Asia Optical International Co., Ltd ၏ မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်းလုပ်ငန်း အတွက် တပ်ဆင်အသုံးပြုလျက်ရှိသော ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက်အား အောက်ဖော်ပြပါ နယ်မြေဒေသအတွင်း မှတ်ပုံတင်လက်မှတ်တွင်ပါရှိသော စည်းကမ်းချက်များနှင့်အညီ ၂၀၁၈ ခုနှစ် မေ လ (၂၂) ရက်နေ့မှစတင်၍ လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်ကို သက်တမ်းတိုးမြှင့် ထုတ်ပေးလိုက်သည်။

- (က) ခွင့်ပြုသည့် နယ်မြေဒေသ - အမှတ်(အေ-၂၊ ၃)၊ မင်္ဂလာဒုံစက်မှုဇုန်၊
 မြို့နယ် - မင်္ဂလာဒုံမြို့နယ်။
 တိုင်း - ရန်ကုန်တိုင်းဒေသကြီး
- (ခ) အများဆုံးထုတ်လုပ်သည့် - 1400 kVA
 ဓာတ်အားပမာဏ
- (ဂ) သတ်မှတ်ဗို့အား - 230/400 V
- (ဃ) လျှပ်ထုတ်စက်အမျိုးအစား - 1120 DFJD (CUMMINS)
- (င) လျှပ်ထုတ်စက်နံပါတ် - E80A00062

၂။ ဓာတ်အားထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းတို့အတွက် အသုံးပြုသော လျှပ်စစ်ပစ္စည်း ကိရိယာ တည်ဆောက်မှုဆိုင်ရာနည်းစနစ်များသည် လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများပါ ပြဌာန်းချက်များ အရ ဖြစ်ရမည့်အပြင် စစ်ဆေးရေးမှူး ၏ စစ်ဆေးစမ်းသပ်ခြင်းကို ခံယူရပါမည်။

၃။ လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းပါ ပြဌာန်းချက်များကို တိကျစွာ လိုက်နာဆောင်ရွက်ရမည်။

၄။ လျှပ်စစ်ဥပဒေဆိုင်ရာလုပ်ထုံးလုပ်နည်းများနှင့် ဤလက်မှတ်တွင်ပါရှိသော အကြောင်းအရာများကို လိုက်နာခြင်းမရှိပါက ထုတ်ပေးထားသော လက်မှတ်ကို ပြန်လည်ရုတ်သိမ်းမည်။

၅။ ဤမှတ်ပုံတင်လက်မှတ် သက်တမ်းသည် ခွင့်ပြုသည့်နေ့မှစတင်၍ (၄) နှစ် အချိန်ကာလအတွင်းသာ အကျိုးသက်ရောက်စေရမည်။

စတင်ခွင့်ပြုသည့်နေ့ - ၂၂ . ၅ . ၂၀၁၈
 ကုန်ဆုံးသည့်နေ့ - ၂၁ . ၅ . ၂၀၂၂

လျှပ်စစ်စစ်ဆေးရေးမှူးချုပ် (ရန်ကုန်တိုင်းဒေသကြီး) လျှပ်စစ်စစ်ဆေးရေးမှူး



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
 စက်မှုဝန်ကြီးဌာန
 စက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန
 (လျှပ်စစ်စစ်ဆေးရေး)

လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ
 မှတ်ပုံတင်လက်မှတ်

ခွင့်ပြုမိန့် အမှတ်စဉ် - YD(N) ၀၃၇/၂၀၁၈

၁။ ၂၀၁၄ ခုနှစ် လျှပ်စစ်ဥပဒေပုဒ်မ ၃၂(င) နှင့် တည်ဆဲလျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများအရ Myanmar Asia Optical International Co.,Ltd ၏ မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်းလုပ်ငန်း အတွက် တပ်ဆင်အသုံးပြုလျက်ရှိသော ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက်အား အောက်ဖော်ပြပါ နယ်မြေဒေသအတွင်း မှတ်ပုံတင်လက်မှတ်တွင်ပါရှိသော စည်းကမ်းချက်များနှင့်အညီ ၂၀၁၈ ခုနှစ် မေလ (၂၂) ရက်နေ့မှစတင်၍ လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်ကို သက်တမ်းတိုးမြှင့် ထုတ်ပေးလိုက်သည်။

- (က) ခွင့်ပြုသည့် နယ်မြေဒေသ - အမှတ်(အေ-၂၊ ၃)၊ မင်္ဂလာဒုံစက်မှုဇုန်၊
 မြို့နယ် - မင်္ဂလာဒုံမြို့နယ်။
 တိုင်း - ရန်ကုန်တိုင်းဒေသကြီး
- (ခ) အများဆုံးထုတ်လုပ်သည့် - 1400 kVA
 ဓာတ်အားပမာဏ
- (ဂ) သတ်မှတ်ဗို့အား - 230/400 V
- (ဃ) လျှပ်ထုတ်စက်အမျိုးအစား - 1120 DFCC (CUMMINS)
- (င) လျှပ်ထုတ်စက်နံပါတ် - C9873038


၂။ ဓာတ်အားထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းတို့အတွက် အသုံးပြုသော လျှပ်စစ်ပစ္စည်း ကိရိယာ တည်ဆောက်မှုဆိုင်ရာနည်းစနစ်များသည် လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများပါ ပြဌာန်းချက်များ အရ ဖြစ်ရမည့်အပြင် စစ်ဆေးရေးမှူး ၏ စစ်ဆေးစမ်းသပ်ခြင်းကို ခံယူရပါမည်။

၃။ လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းပါ ပြဌာန်းချက်များကို တိကျစွာ လိုက်နာဆောင်ရွက်ရမည်။

၄။ လျှပ်စစ်ဥပဒေဆိုင်ရာလုပ်ထုံးလုပ်နည်းများနှင့် ဤလက်မှတ်တွင်ပါရှိသော အကြောင်းအရာများကို လိုက်နာခြင်းမရှိပါက ထုတ်ပေးထားသော လက်မှတ်ကို ပြန်လည်ရုတ်သိမ်းမည်။

၅။ ဤမှတ်ပုံတင်လက်မှတ် သက်တမ်းသည် ခွင့်ပြုသည့်နေ့မှစတင်၍ (၄) နှစ် အချိန်ကာလအတွင်းသာ အကျိုးသက်ရောက်စေရမည်။

စတင်ခွင့်ပြုသည့်နေ့ - ၂၂.၅.၂၀၁၈
 ကုန်ဆုံးသည့်နေ့ - ၂၁.၅.၂၀၂၂


 လျှပ်စစ်စစ်ဆေးရေးမှူးချုပ် (ရန်ကုန်တိုင်းဒေသကြီး လျှပ်စစ်စစ်ဆေးရေးမှူး)



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
 စက်မှုဝန်ကြီးဌာန
 စက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန
 (လျှပ်စစ်စစ်ဆေးရေး)

လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်

ခွင့်ပြုမိန့် အမှတ်စဉ် - YD(N) ၀၃၅ / ၂၀၁၈

၁။ ၂၀၁၄ ခုနှစ် လျှပ်စစ်ဥပဒေပုဒ်မ ၃၂(င) နှင့် တည်ဆဲလျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများအရ Myanmar Asia Optical International Co., Ltd ၏ မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်းလုပ်ငန်း အတွက် တပ်ဆင်အသုံးပြုလျက်ရှိသော ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက်အား အောက်ဖော်ပြပါ နယ်မြေဒေသအတွင်း မှတ်ပုံတင်လက်မှတ်တွင်ပါရှိသော စည်းကမ်းချက်များနှင့်အညီ ၂၀၁၈ ခုနှစ် မေ လ (၂၂) ရက်နေ့မှစတင်၍ လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်ကို သက်တမ်းတိုးမြှင့် ထုတ်ပေးလိုက်သည်-

- (က) ခွင့်ပြုသည့် နယ်မြေဒေသ - အမှတ်(အေ-၂၊ ၃)၊ မင်္ဂလာဒုံစက်မှုဇုန်၊
 မြို့နယ် - မင်္ဂလာဒုံမြို့နယ်။
 တိုင်း - ရန်ကုန်တိုင်းဒေသကြီး
- (ခ) အများဆုံးထုတ်လုပ်သည့် - 1400 kVA
 ဓာတ်အားပမာဏ
- (ဂ) သတ်မှတ်ဗို့အား - 230/400 V
- (ဃ) လျှပ်ထုတ်စက်အမျိုးအစား - CUMMINS
- (င) လျှပ်ထုတ်စက်နံပါတ် - C9873036

၂။ ဓာတ်အားထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းတို့အတွက် အသုံးပြုသော လျှပ်စစ်ပစ္စည်း ကိရိယာ တည်ဆောက်မှုဆိုင်ရာနည်းစနစ်များသည် လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများပါ ပြဌာန်းချက်များ အရ ဖြစ်ရမည့်အပြင် စစ်ဆေးရေးမှူး ၏ စစ်ဆေးစမ်းသပ်ခြင်းကို ခံယူရပါမည်။

၃။ လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းပါ ပြဌာန်းချက်များကို တိကျစွာ လိုက်နာဆောင်ရွက်ရမည်။

၄။ လျှပ်စစ်ဥပဒေဆိုင်ရာလုပ်ထုံးလုပ်နည်းများနှင့် ဤလက်မှတ်တွင်ပါရှိသော အကြောင်းအရာများကို လိုက်နာခြင်းမရှိပါက ထုတ်ပေးထားသော လက်မှတ်ကို ပြန်လည်ရုတ်သိမ်းမည်။

၅။ ဤမှတ်ပုံတင်လက်မှတ် သက်တမ်းသည် ခွင့်ပြုသည့်နေ့မှစတင်၍ (၄) နှစ် အချိန်ကာလအတွင်းသာ အကျိုးသက်ရောက်စေရမည်။

စတင်ခွင့်ပြုသည့်နေ့ - ၂၂ . ၅ . ၂၀၁၈
 ကုန်ဆုံးသည့်နေ့ - ၂၁ . ၅ . ၂၀၂၂

လျှပ်စစ်စစ်ဆေးရေးမှူးချုပ် (Signature)
 ရန်ကုန်တိုင်းဒေသကြီး လျှပ်စစ်စစ်ဆေးရေးမှူး



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
 စက်မှုဝန်ကြီးဌာန
 စက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန
 (လျှပ်စစ်စစ်ဆေးရေး)

လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်

ခွင့်ပြုမိန့် အမှတ်စဉ် - YD(N) ၀၃၆ / ၂၀၁၈

၁။ ၂၀၁၄ ခုနှစ် လျှပ်စစ်ဥပဒေပုဒ်မ ၃၂(င) နှင့် တည်ဆဲလျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများအရ Myanmar Asia Optical International Co., Ltd ၏ မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်းလုပ်ငန်း အတွက် တပ်ဆင်အသုံးပြုလျက်ရှိသော ဒီဇယ်အင်ဂျင်လျှပ်ထုတ်စက်အား အောက်ဖော်ပြပါ နယ်မြေဒေသအတွင်း မှတ်ပုံတင်လက်မှတ်တွင်ပါရှိသော စည်းကမ်းချက်များနှင့်အညီ ၂၀၁၈ ခုနှစ် မေလ (၂၂) ရက်နေ့မှစတင်၍ လျှပ်စစ်ဓာတ်အား ထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းဆိုင်ရာ မှတ်ပုံတင်လက်မှတ်ကို သက်တမ်းတိုးမြှင့် ထုတ်ပေးလိုက်သည်။

- | | |
|---------------------------------------|---|
| (က) ခွင့်ပြုသည့် နယ်မြေဒေသ | - အမှတ်(အေ-၂၊ ၃)၊ မင်္ဂလာဒုံစက်မှုဇုန်၊ |
| မြို့နယ် | - မင်္ဂလာဒုံမြို့နယ်။ |
| တိုင်း | - ရန်ကုန်တိုင်းဒေသကြီး |
| (ခ) အများဆုံးထုတ်လုပ်သည့် ဓာတ်အားပမာဏ | - 1400 kVA |
| (ဂ) သတ်မှတ်ဗို့အား | - 230/400 V |
| (ဃ) လျှပ်ထုတ်စက်အမျိုးအစား | - CUMMINS |
| (င) လျှပ်ထုတ်စက်နံပါတ် | - C9873037 |

၂။ ဓာတ်အားထုတ်လုပ်ခြင်း နှင့် အသုံးပြုခြင်းတို့အတွက် အသုံးပြုသော လျှပ်စစ်ပစ္စည်း ကိရိယာ တည်ဆောက်မှုဆိုင်ရာနည်းစနစ်များသည် လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများပါ ပြဌာန်းချက်များ အရ ဖြစ်ရမည့်အပြင် စစ်ဆေးရေးမှူး ၏ စစ်ဆေးစမ်းသပ်ခြင်းကို ခံယူရပါမည်။

၃။ လျှပ်စစ်ဥပဒေဆိုင်ရာ လုပ်ထုံးလုပ်နည်းပါ ပြဌာန်းချက်များကို တိကျစွာ လိုက်နာဆောင်ရွက်ရမည်။

၄။ လျှပ်စစ်ဥပဒေဆိုင်ရာလုပ်ထုံးလုပ်နည်းများနှင့် ဤလက်မှတ်တွင်ပါရှိသော အကြောင်းအရာများကို လိုက်နာခြင်းမရှိပါက ထုတ်ပေးထားသော လက်မှတ်ကို ပြန်လည်ရုတ်သိမ်းမည်။

၅။ ဤမှတ်ပုံတင်လက်မှတ် သက်တမ်းသည် ခွင့်ပြုသည့်နေ့မှစတင်၍ (၄) နှစ် အချိန်ကာလအတွင်းသာ အကျိုးသက်ရောက်စေရမည်။

စတင်ခွင့်ပြုသည့်နေ့ - ၂၂ . ၅ . ၂၀၁၈
 ကုန်ဆုံးသည့်နေ့ - ၂၁ . ၅ . ၂၀၂၂

လျှပ်စစ်စစ်ဆေးရေးမှူးချုပ် (ရန်ကုန်တိုင်းဒေသကြီး) လျှပ်စစ်စစ်ဆေးရေးမှူး

Appendix 17 Certificate of Nurse

M M C

No000878..... Date28 JUL 2011.....

Certificate for the Training of
NURSE AID

This is to certify that
.....MA WIN NWE.....
son / daughter of ..U MAR KHIN.....


has successfully completed
The Nursing Aid Course
in the under mentioned subjects

(1) *Anatomy and Physiology*
(2) *Nutrition*
(3) *Microbiology*
(4) *Pharmacology*
(5) *General Nursing*
(6) *Public Health and Social Services*
(7) *Nursing Trends and Professional Responsibilities*

Chairman
U Maung Maung Oo (B.A.) *U. Maung Oo*

Members
Dr. Kyi Kyi Mar (M.B.,B.S.) *Dr. Kyi Kyi Mar*
M.B.,B.S.
SAMA-5524
Daw Wathan Hlaing B.Sc.(Maths.), B.N.Sc *Daw Wathan Hlaing*

DAW WATHAN HLAING
B.N.Sc, B.Sc (Maths)



Appendix 18 Social Security

အလုပ်သမား၊ လူဝင်မှုကြီးကြပ်ရေးနှင့်ပြည်သူ့အင်အားဝန်ကြီးဌာန
မူရင်း
လူမှုပူလုံရေးအဖွဲ့ (၅) 340249
ပြောစာအမှတ်-ခ

အမှတ်စဉ် ၄၁၁
ရက်စွဲ ၁၄-၁-၂၀၂၀

Asia Optical
ထံမှ လက်ခံရရှိပါသည်။
ငွေပေါင်း (သား) ကျပ် ၁၀၀,၀၀၀.၀၀ / ၀၅ (ဆယ်သိန်းတစ်ရာ) ဘဏ်လက်ထောက်
လက်ခံရရှိသည့်ကိစ္စ ၁၂၇၀ တစ်ရာဘဏ်လက်ထောက်
လက်ထောက်ကြေးရုံး
လူမှုပူလုံရေးအဖွဲ့
ဦးစီးအရာရှိ
လူမှုပူလုံရေးအဖွဲ့

မှတ်ချက် : ဤပြောစာသည် အဖွဲ့မှ အရာရှိလက်မှတ်မပါလျှင် အတည်မဖြစ်ပါ။

T.F. No.1 NOTE - To be prepared by the payer in duplicate. Art. 5, C.A.C.
မှတ်ချက်အချက် : ငွေပေးသွင်းသူက မိတ္တူနှစ်စောင်ရေးသွင်းရမည်။

ချလန်နံပါတ် မင်္ဂလာ ၇-၈ လမေ ဝံခွဲ (၅) Myanmar Asia Optical ငွေပေါင်း (စာဖြင့်) သုံးရာသိန်းသုံးဆယ့်သုံးရာ တစ်ရာ သုံးဆယ့်ငါး နှစ် (ဂဏန်းဖြင့်) 30733135/05 ကိုလက်ခံပါမည့်အကြောင်း မင်္ဂလာ ၁၄.၁.၂၀၂၀ နေ့စွဲ Examined and entered.	Chalan No. Credit. To THE TREASURER OFFICER PLEASE receive the sum of Kyat (in words) K (in figures) being the amount payable by on account of * Authority under which payment is made as STATION : Dated 14.1.2020 Signatures of the payer. Head Accountant Treasurer Treasury officer.
---	--

Received the sum of kyat (in words) 30733135/05 on the above account
K (in figures) STATION :
Dated, Treasurer. Head Account. Treasury officer.

* Full details should be given. If on account of previous payment, the month, date of payment, number of voucher, etc. should also be stated.
* အကြောင်းအရာများကို ပြည့်စုံစွာရေးထည့်ရမည်။ အလျဉ်းက ထုတ်ပေးထားသည့်ငွေအတွက်ဖြစ်လျှင်၊ ထိုသို့ ထုတ်ပေးသည့် ဘောက်ချာနံပါတ်၊ လနှင့် နေ့ရက် စသည်တို့ကို ရေးထည့်ရမည်။

Appendix 19 Working Permit for Overtime

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
 အလုပ်သမား၊ လူဝင်မှုကြီးကြပ်ရေးနှင့် ပြည်သူ့အင်အား ဝန်ကြီးဌာန
 အလုပ်ရုံနှင့်အလုပ်သမားဥပဒေစစ်ဆေးရေးဦးစီးဌာန (ဖုန်း - ၀၁- ၆၅၀၂၉၅)
 ရန်ကုန်တိုင်းဒေသကြီးရုံး

စာအမှတ်၊ ၁၁၄/၄/အလရ-စီစစ်ရေး ၂/၂၀၂၀ (၂၃၈၃)
 ရက်စွဲ၊ ၂၀၂၀ ပြည့်နှစ်၊ ဖေဖော်ဝါရီလ ၂၄ ရက်

သို့

လုပ်ငန်းပိုင်ရှင်/ မန်နေဂျာ
Asia Optical
မိမိ

အကြောင်းအရာ။ အချိန်ပို လုပ်ကိုင်ခွင့်ပြုခြင်း

ရည်ညွှန်းချက်။ လူကြီးမင်း စက်ရုံ၏ (၂၄ - ၂ - ၂၀၂၀) ရက်စွဲပါစာ

၁။ အထက်ရည်ညွှန်းပါ အကြောင်းအရာနှင့် ပတ်သက်၍ ၁၉၅၁ခုနှစ်၊ အလုပ်ရုံများ အက်ဥပဒေ ပုဒ်မ - ၇၁ (၂) အရ အပ်နှံထားသော အာဏာများကို သုံးစွဲလျက် လူကြီးမင်း၏ အလုပ်ရုံတွင် ဖော်ပြပါ အလုပ်သမားများအား အလုပ်ရုံများ အက်ဥပဒေ ပုဒ်မ (၅၉ ၊ ၆၀ ၊ ၆၂၊ ၆၄) တို့၏ ပြဌာန်းချက်များနှင့် သက်ဆိုင်ခြင်းမှ ကင်းလွတ်စေ၍ အလုပ်သမား (၂၆၅)ဦးအား တစ်ဦးလျှင် (၂၀) နာရီနှုန်းဖြင့် စုစုပေါင်း (၅၃၀၀)နာရီ အချိန်ပို လုပ်ကိုင်ခွင့် ပြုလိုက်သည်။

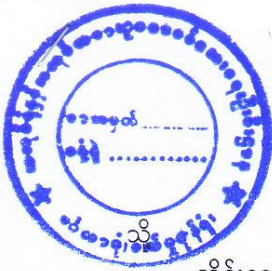
၂။ အလုပ်သမား (၂၆၅) ဦးအား (၂၄-၂-၂၀၂၀) နေ့မှ (၂၉-၂-၂၀၂၀)နေ့အထိ ရက်သတ္တပတ် ကာလအတွင်း အချိန်ပို လုပ်ကိုင်ခွင့်ပြုသည်။

၃။ အချိန်ပိုလုပ်ကိုင်ခွင့် အမိန့်စာကို အလုပ်ရုံအတွင်းမြင်သာသောနေရာတွင်ပြသထားရှိရမည်။

မှတ်ချက်။ သတ်မှတ် အလုပ်ချိန်၊ လုပ်ကိုင်ခွင့်တောင်းခံသည့် အလုပ်သမား၊ ခွင့်ပြု ထားသည့် အချိန်ပို နာရီထက် ပိုမို လုပ်ကိုင်ခြင်း လုံးဝ (လုံးဝ)မပြုရန်။

ညွှန်ကြားရေးမှူးချုပ်(ကိုယ်စား)
 (ပြင်ဆင်ရေးမှူး၊ အလုပ်ရုံစီစစ်ရေးမှူး)

မိမိ



အလုပ်ရုံနှင့်အလုပ်သမားဥပဒေစစ်ဆေးရေးဦးစီးဌာန
 မင်္ဂလာဒုံစက်မှုဇုန်ရုံး၊ မင်္ဂလာဒုံမြို့နယ်
 စာအမှတ်၊ ၁၃၅ / ၃ / အလရ - ဥပဒေ / ၂၀ (၁၂၀)
 ရက်စွဲ၊ ၂၀၂၀ ပြည့်နှစ်၊ ဇန်နဝါရီလ ၂၀ ရက်

တိုင်းဒေသကြီးစစ်ဆေးရေးမှူး
 အလုပ်ရုံနှင့်အလုပ်သမားဥပဒေစစ်ဆေးရေးဦးစီးဌာန
 ရန်ကုန်တိုင်းဒေသကြီးရုံး

အကြောင်းအရာ။ အဆိုင်း (၂) ဆိုင်း လုပ်ကိုင်ခွင့် တောင်းခံခြင်းအား စိစစ်တင်ပြခြင်း

၁။ အထက်အကြောင်းအရာပါ ကိစ္စနှင့်စပ်လျဉ်း၍ ရန်ကုန်တိုင်းဒေသကြီး၊ မင်္ဂလာဒုံမြို့နယ်၊ မင်္ဂလာဒုံစက်မှုဇုန်၊ အကွက်အမှတ် (A2, A3)ရှိ Mr. Yuzo Asano ပိုင်ဆိုင်သည့် ကျား(၅၇၀) ဦး၊ မ (၃၂၀၀) ဦးစုစုပေါင်း (၃၇၇၀) ဦးဖြင့် လုပ်ကိုင်လျက်ရှိသော Myanmar Asia Optical မှန်ဘီလူးစက်ရုံမှ ကျား (၅၇၀) ဦး၊ မ (၃၂၀၀) ဦး၊ စုစုပေါင်း (၃၇၇၀) ဦး တို့အား ၂၀၂၀ ပြည့်နှစ်၊ ဖေဖော်ဝါရီလအတွက် အဆိုင်း (၂) ဆိုင်း (၀၇:၀၀ မှ ၁၉:၃၀ နာရီထိ၊ ၁၉:၃၀ မှ ၀၇:၃၀ နာရီထိ) လုပ်ကိုင်ခွင့် တောင်းခံ လာမှုအပေါ် (၂၁-၈-၂၀၁၉) ရက်နေ့တွင် စက်ရုံသို့ သွားရောက်စစ်ဆေးခဲ့ရာ အောက်ပါအချက်များ ဆောင်ရွက်ထားပြီးဖြစ်ပါကြောင်း စစ်ဆေးတွေ့ရှိရပါသည်။

- (က) အဆိုင်း(၂)ဆိုင်း စနစ်အား အလုပ်သမားများ၏ သဘောဆန္ဒနှင့်အညီ လုပ်ကိုင် ဆောင်ရွက်မည်ဖြစ်ပါသည်။
- (ခ) စက်ရုံမှ အလုပ်သမားများအတွက် နေ့လည်စာနှင့် ညစာများ စီစဉ်ပေးထားပါသည်။
- (ဂ) ညဆိုင်းဆင်း အလုပ်သမားများအတွက် အရေးပေါ်ကိစ္စများ၊ သဘာဝဘေး အန္တရာယ်များ ဖြစ်ပေါ်လာပါက ကယ်ဆယ်ရေးနှင့် ပို့ဆောင်ရေးအစီအစဉ်များ စက်ရုံမှ ဆောင်ရွက်ပေးထားပါသည်။
- (ဃ) စက်ရုံမှ အလုပ်လုပ်ရန်ကာလအပိုင်းအခြားဆိုင်ရာ နို့တစ်စာပါ အလုပ်ချိန်အတိုင်း လုပ်ကိုင်လျက်ရှိပါသည်။
- (င) ထမင်းစားဆောင်အား သန့်ရှင်းသပ်ရပ်စွာ ထားရှိပါသည်။
- (စ) အလုပ်သမားများ နေထိုင်ရန် အဆောင်များ ပြုလုပ်ပေးထားပါသည်။
- (ဆ) စက်ရုံတွင် ဆေးခန်း ထားရှိထားပါသည်။
- (ဇ) ဘေးအန္တရာယ်ကင်းရှင်းနှင့် ကျန်းမာရေးစီမံချက် ရေးဆွဲဆောင်ရွက်ထားပြီး ဖြစ်ပါ သည်။
- (ဈ) စက်ရုံတွင် အလုပ်ရှင်၊ အလုပ်သမား အလုပ်ခန့်ထားမှုဆိုင်ရာ EC စာချုပ် ချုပ်ဆို ထားပြီးဖြစ်ပါသည်။
- (ည) ဝန်ထမ်းများအတွက် PPE ပစ္စည်းများကိုလည်း ပြည့်စုံစွာ ထုတ်ပေးထားပါသည်။
- (ဋ) စက်ရုံအတွင်း အလုပ်သမားရေးရာ လုပ်ငန်းညှိနှိုင်းရေးကော်မတီ ဖွဲ့စည်းထားရှိ ပြီး အဆိုပါကော်မတီမှ အဆိုင်း (၂) ဆိုင်း လုပ်ကိုင်ခြင်းအတွက် ကန့်ကွက်ရန် မရှိကြောင်း လက်မှတ်ရေးထိုးထားပါသည်။

J

(ဌ) အဆိုင်းများအား နေ့ဆိုင်း/ညဆိုင်း အလှည့်ထပ်ခိုင်းစေခြင်း မပြုလုပ်ပါ။

၂။ Myanmar Asia Optical မှန်ဘီလူးစက်ရုံ၏ အဆိုင်း (၂) ဆိုင်း လုပ်ကိုင်ခွင့် တောင်းခံခြင်းနှင့် ပတ်သက်၍ ခွင့်ပြုပေးနိုင်ပါရန် ဤအစီရင်ခံစာနှင့်အတူ ပူးတွဲ၍ စိစစ်တင်ပြအပ်ပါသည်။



ခရိုင်စစ်ဆေးရေးမှူး

(ထွန်းထွန်းဝင်း၊ လက်ထောက်ညွှန်ကြားရေးမှူး)

မိတ္ထူကို
ရုံးလက်ခံ

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်အစိုးရ
 အလုပ်သမားလှုပ်ရှားမှုကြီးကြပ်ရေးနှင့် ပြည်သူ့အင်အားဝန်ကြီးဌာန
 အလုပ်ရုံနှင့်အလုပ်သမားဥပဒေစစ်ဆေးရေးဦးစီးဌာန(၀၁-၆၅၀၂၉၅)

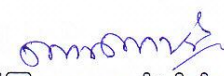
စာအမှတ်၊ ၆၁၅/၂/အလရ-ဥပဒေ ၂/၂၀၂၀ (၁၁၃)
 ရက်စွဲ၊ ၂၀၂၀ ပြည့်နှစ်၊ ဇန်နဝါရီလ ၁၅ ရက်

အကြောင်းအရာ။ အဆိုင်း (၂) ဆိုင်းစနစ် လုပ်ကိုင်ခွင့်ပြုခြင်း
 ရည်ညွှန်းချက်။ ဤဦးစီးဌာန၊ မင်္ဂလာဒုံစက်မှုဇုန်ရုံး၏ ၂၀-၁-၂၀၂၀ ရက်စွဲပါစာအမှတ်၊ ၁၃၅ / ၃/
 အလရ - ဥပဒေ /၂၀၂၀(၁၂၀)

၁။ ရန်ကုန်တိုင်းဒေသကြီး၊ မင်္ဂလာဒုံမြို့နယ်၊ မင်္ဂလာဒုံစက်မှုဇုန်၊ အကွက်အမှတ် (A2, A3) ရှိ Mr.
 Chen His Wang ပိုင် အလုပ်သမား ကျား(၅၇၀)ဦး၊ မ(၃၂၀၀)ဦး၊ ပေါင်း(၃၇၇၀)ဦးတို့ဖြင့်
 လုပ်ကိုင်လျက်ရှိသော Myanmar Asia Optical မှန်ဘီလူးစက်ရုံမှ အလုပ်သမား (၃၇၇၀)ဦးတို့အား
 (၁-၂-၂၀၂၀ ရက်နေ့မှ ၂၉-၂-၂၀၂၀ ရက်နေ့အထိ) အဆိုင်း(၂)ဆိုင်း စနစ်ဖြင့် လုပ်ကိုင်ခွင့်ပြုလိုက်သည်။

၂။ ပထမဆိုင်း အလုပ်သမားများ၏ တနင်္လာနေ့မှ သောကြာနေ့ထိ အလုပ်ချိန်မှာ (၀၇:၃၀) နာရီ မှ
 (၁၆:၀၀)နာရီ (မိနစ် (၃၀) ထမင်းစားနား)၊ စနေနေ့ အလုပ်ချိန်မှာ (၀၇:၃၀) နာရီမှ (၁၁:၃၀) နာရီ နှင့်
 ဒုတိယဆိုင်း အလုပ်သမားများ၏ တနင်္လာနေ့မှ သောကြာနေ့ထိ အလုပ်ချိန်မှာ (၁၉:၃၀) နာရီမှ
 (၀၄:၀၀)နာရီ(မိနစ်(၃၀)ထမင်းစားနား)၊ စနေနေ့ အလုပ်ချိန်မှာ (၁၉:၃၀)နာရီ မှ (၂၃:၃၀) နာရီဖြစ်ပြီး
 ရက်သတ္တပတ်လျှင်အလုပ်ကျ(၁)ရက် ပိတ်ရက် ခံစားခွင့်ပြုရန် နှင့် အလုပ်သမားများ အတွက်
 အခြားဆောင်ရွက်ရန် ရှိသည်များကို ဥပဒေနှင့်အညီ ဆောင်ရွက်ရန် ညွှန်ကြားသည် -

- ညွှန်ကြားချက်။ (က) သတ်မှတ်အလုပ်ချိန်နှင့်ခွင့်ပြုလုပ်သားဦးရေသာခိုင်းစေရန်၊
 (ခ) အလုပ်လုပ်ရန် ဆန္ဒရှိသူများသာခိုင်းရန်၊
 (ဂ) ရက်သတ္တပတ်လျှင် တစ်ရက် လုံးဝအနားပေးရန် (တနင်္ဂနွေ) နှင့်
 အများပြည်သူ အလုပ်ပိတ်ရက်များအား အနားပေးရန်၊
 (ဃ) စစ်ဆေးရေးအရာရှိများလာရောက်ပါက စစ်ဆေးနိုင်ရန်ဤခွင့်ပြုချက် ကို
 ပြသရန်၊


 ညွှန်ကြားရေးမှူးချုပ်(ကိုယ်စား)
 (ကျော်ကျော်ထွန်း၊ဒုတိယညွှန်ကြားရေးမှူး)

ပိုင်ရှင်
 Myanmar Asia Optical မှန်ဘီလူးစက်ရုံ
 အကွက်အမှတ် (A2, A3)၊မင်္ဂလာဒုံစက်မှုဇုန်၊ မင်္ဂလာဒုံမြို့နယ်၊
 မိတ္ထီလို
 အလုပ်ရုံနှင့်အလုပ်သမားဥပဒေစစ်ဆေးရေးဦးစီးဌာန၊ မင်္ဂလာဒုံစက်မှုဇုန်ရုံး
 ရုံးလက်ခံ

d:\yangon division\shifn\2020\shifn\1-2020.doc

Appendix 20 Assignment Agreement

MIP-Assignment Agreement

ASSIGNMENT AGREEMENT

THIS AGREEMENT made and entered into this _____ day of _____, 20____ among:

- i) **Mingaladon Industrial Park Co., Ltd.**, a corporation organized and existing under the laws of the Union of Myanmar, having its place of business at Corner of No. 3 Highway Road and Khayebin Road, Mingaladon Township, Yangon, Union of Myanmar (hereinafter called "MIPCL"); and
- ii) **Asia Optical International Ltd.**, a corporation organized and existing under the laws of British Virgin Islands, having its place of business at Palm Grove House, PO Box 438, Road Town, Tortola, British Virgin Islands (hereinafter called the "Assignor"); and
- iii) **Myanmar Asia Optical International Co., Ltd.**, a corporation organized and existing under the laws of the Union of Myanmar, having its place of business at Plot No. C 1& C 2 of Mingaladon Industrial Park, Mingaladon Township, Yangon, The Republic of the Union of Myanmar (hereinafter called the "Assignee");

WITNESSETH:

WHEREAS, the Assignor and MIPCL are parties to the Addendum to Sub-Lease Agreement dated 19th day of March 1998, a copy of which is attached hereto as Exhibit A (hereinafter called the "Sub-Lease Agreement"); and

WHEREAS, the Assignor and the Assignee desire that all of the Assignor's rights and interests under the Sub-Lease Agreement shall be assigned by the Assignor to the Assignee and all of the Assignor's obligations and liabilities thereunder shall be assumed by the Assignee, and

WHEREAS, MIPCL is willing to consent to said assignment and assumption under the terms and conditions hereinafter set forth;

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained, the parties hereto hereby agree as follows:

Article 1. ASSIGNMENT AND ASSUMPTION

The Assignor hereby assigns to the Assignee all of the Assignor's interests in and rights under the Sub-Lease Agreement, and the Assignee accepts said assignment and hereby assumes all obligations, liabilities and commitments absolute, contingent or otherwise of the Assignor under the Sub-Lease Agreement as though the Assignee were named and referred to therein in each instance in the place and stead of the Assignor.

Article 2. CONSENT BY MIPCL

MIPCL shall acknowledge and consent to the assignment and assumption as set forth in Article 1 hereof, upon the completion of the obligations under Chapter 3 of the Sub-Lease Agreement by Assignor. Such assignment and assumption shall take effect at the time when the Government of The Republic of the Union of Myanmar accepts the registration of the capital contribution in kind of the Land Use Premium in accordance with the Decision of MIC dated 28 December 2017 [Ma Ya Ka-9/Na- Htway /2017(5504)]

Article 3. RELEASE

MIPCL hereby agrees to release and forever discharge the Assignor from any and all claims, actions, suits, bills, bonds, dues, sums of money, damages or demands whatsoever in law, in equity or in admiralty which it has or may hereafter have against the Assignor out of, in relation to or in connection with the Sub-Lease Agreement.

Article 4. NOTICE

For purpose of Clause 23 of the Sub-Lease Agreement, the address of the Assignee shall be:

Address : Plot No. C 1 & C 2 of, Mingaladon Industrial Park, Mingaladon Township,
Yangon, The Republic of the Union of Myanmar
Name : Myanmar Asia Optical International Co., Ltd.

Article 5. EFFECTIVE DATE

This Agreement shall be effective on the date first above written subject to approval of the government of The Republic of the Union of Myanmar or its agency with respect to the assignment and assumption as set forth in Article 1 hereof, if necessary.

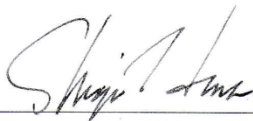
MIP-Assignment Agreement

Article 6. GOVERNING LAW

THIS Agreement shall be governed by and construed in accordance with the laws of The Republic of the Union of Myanmar.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be signed in their respective names by their duly authorize representatives as of the date first above written.

MIPCL



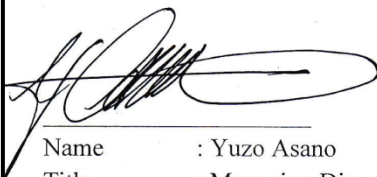
Name : Shigeo HANA
Title : Managing Director
Company : Mingaladon Industrial Park Co., Ltd.

Assignor



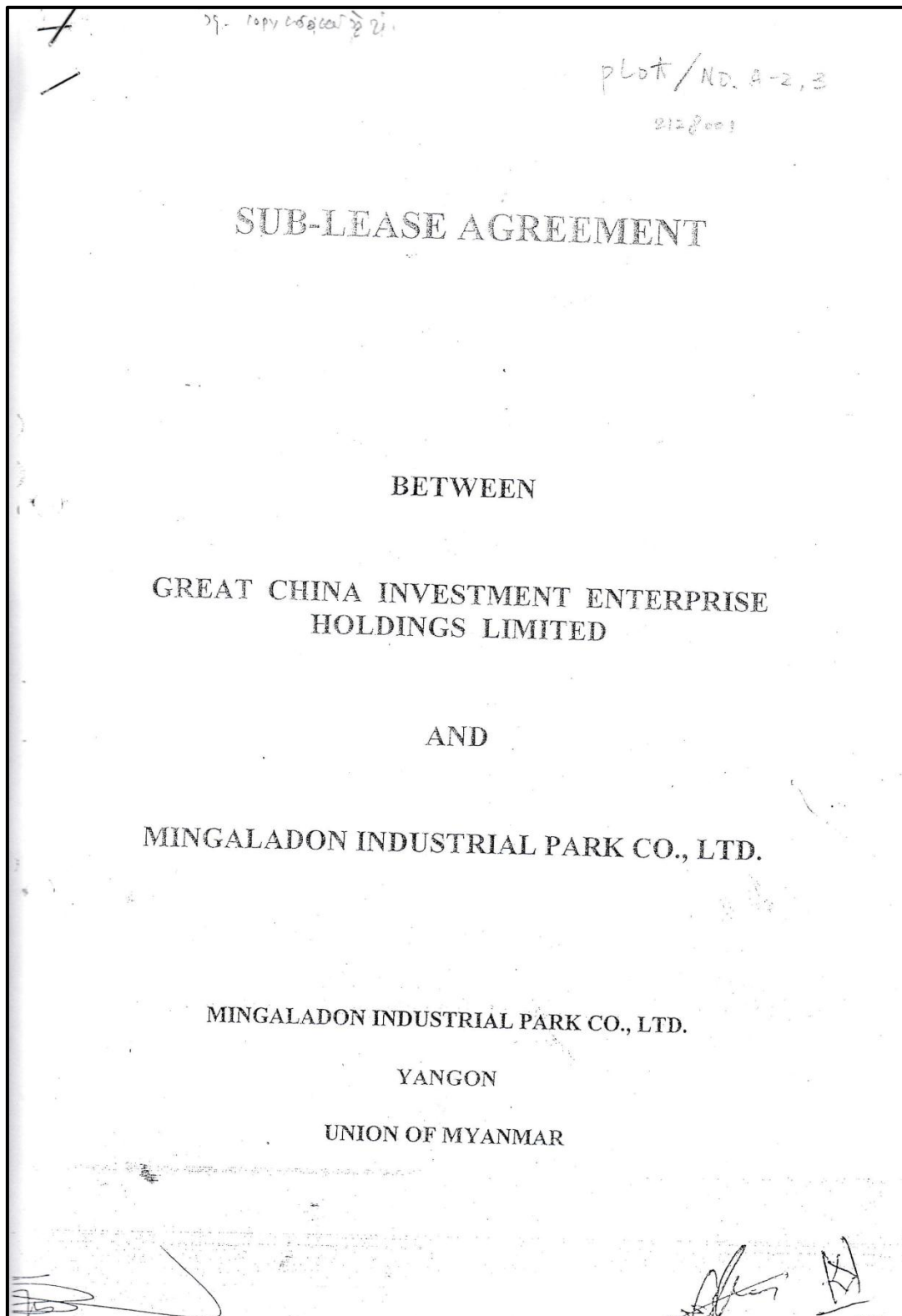
Name : Mr. Lai I-Jen
Title :
Company : Asia Optical International Ltd.

Assignee



Name : Yuzo Asano
Title : Managing Director
Company : Myanmar Asia Optical International Co., Ltd.

Appendix 21 Sub-Lease Agreement



Sub-Lease Agreement Mingaladon Industrial Park

This Sub-Lease Agreement (hereinafter referred to as the "Agreement") is made at
Yangon, Myanmar, on the 19th day of March, 2003

between;

1. Mingaladon Industrial Park Co., Ltd., located at Corner of No. 3 Highway Road and Khayebin Road, Mingaladon Township, Yangon, Union of Myanmar (hereinafter referred to as the "Lessor") on the one part;

and,

2. Great China Investment Enterprise Holdings Limited, located at Room 1505, 15/F, Metro Centre, Block 2, No.21, Cam Hing Street, Hong Kong (hereinafter referred to as the "Lessee") on the other part;

(The Lessor and the Lessee are hereinafter jointly referred to as the "Parties", including any successors by law to replace the "Parties" independently referred to as the "Party".)

NOW, HEREBY MUTUALLY AGREES AS FOLLOWS;

Chapter 1. The Scope of the Agreement

Clause 1 1.1 The Lessor agrees to lease, and the Lessee agrees to take on the lease of the land in the Mingaladon Industrial Park (hereinafter referred to as "MIP"), Plot No. A-2 & A-3, according to the plan attached hereto as **Exhibit A** which is deemed as an integral part hereof with the total area of 29,039.5 square-meter (hereinafter referred to as the "Land") for a period commencing from the issuing date of the Physical Delivery Receipt pursuant to Clause 1.2 below and ending on the date 7th February, 2048 (hereinafter referred to as the "Lease Period").

1.2 Subject to the full payment by the Lessee of the Land Use Premium under Clause 3.1 and Myanmar Investment Commission's permit, the Land shall be delivered to the Lessee by issuing the Physical Delivery Receipt attached hereto as Exhibit B by the Lessor provided that the Lessor has confirmed that the Lessee has satisfied all of its obligations stipulated within this Agreement.

1.3 Any costs and expenses, which relates to the execution of this Agreement, of the Land and/or the Lessee's business in the MIP shall be borne by the Lessee.

Chapter 2. Warranty and Representation

Clause 2 2.1 Each Party represents and warrants to the other Party that it is a legal person duly authorised under the relevant laws and has the right or power, sound financial standing and authority to enter into this Agreement.

Chapter 3. Payment Terms

Clause 3 3.1 In consideration for the Lessee's right to take on the lease of the Land, the Lessee shall pay the Lessor land use premium (hereinafter referred to as the "Land Use Premium") totally amounting to US\$ 1,219,659.00 (United States Dollars One million two hundred nineteen thousand six hundred and fifty nine only) as follows:-

a. FIRST INSTALMENT

The booking fee which has already been received by the Lessor under the Provisional Allotment amounting to US\$ 121,965.90 (United States Dollars One hundred twenty one thousand nine hundred and sixty five and cents ninety only) (hereinafter referred to as the "First Instalment") shall be appropriated for the First Instalment of 10% (ten percent) of the Land Use Premium on the date of signing of this Agreement.

b. SECOND INSTALMENT

Within 14 days after signing of this Agreement, 50% (fifty percent) of the Land Use Premium amounting to US\$ 609,829.50 (United States Dollars Six hundred nine thousand eight hundred and twenty nine and cents fifty only) shall be paid to the Lessor (hereinafter referred to as the "Second Instalment") failing which Lessor shall have the right to terminate this Agreement at its own discretion and the First Instalment shall be forfeited.

c. FINAL INSTALMENT

Within 90 days after signing of this Agreement, 40% (forty percent) of the Land Use Premium amounting to US\$ 487,863.60 (United States Dollars Four hundred eighty seven thousand eight hundred and sixty three and cents sixty only) (hereinafter referred to as the "Final Instalment") shall be paid to the Lessor by the Lessee failing which the Lessor shall have the right to terminate this Agreement at its own discretion and the First Instalment and the Second Instalment shall be forfeited.

3.2 Each instalment of the Land Use Premium shall only be deemed to be received by the Lessor after the said amounts in full had been remitted and credited to the bank account of the Lessor at the bank designated by the Lessor.

Chapter 4. Annual Land Rent and Other Fees

Clause 4 **4.1** In addition to the above consideration, the Lessee shall pay the annual land rent (hereinafter referred to as the "Land Rent") on yearly basis at the rate of US\$ 0.30 (thirty cents) per year per one square meter, i.e. US\$ 8,711.85 (United States Dollars Eight thousand seven hundred and eleven and cents eighty five only) stipulated in Clause 1 herewith as well as the Management Fees and Utility Charges (hereinafter collectively referred to as the "Fees") to be paid in accordance with the estate conditions of the Mingaladon Industrial Park (hereinafter referred to as the "Estate Conditions") attached hereto as **Exhibit C**. The Lessee shall pay the Land Rent to the Lessor each year no later than the 5th day of December of the preceding year.

Clause 5 5.1 The Lessee hereby acknowledges and accepts the right of the Lessor to review and change the rate of the Land Rent at the end of every 5 (five) year period at a rate of no more than 15% (fifteen percent) of the previous rate.

Clause 6 6.1 Whenever the cadastral surveying has been done and found that there is a change of area of the Land which does not conform to the area as stipulated in the Agreement, the Lessor shall inform the Lessee thereof to pay and the Lessee agrees to pay the new amount of the Land Use Premium, the Land Rent and the Fees, based on the adjusted area of the Land from the subsequent date of such notification.

6.2 Subject to Clause 4 hereof, the Lessee and the Lessor agree that the balance of the Land Use Premium, the Land Rent and the Fees for the adjusted part of Land measured by the Lessor during the period from the commencement date of the Lease Period to the date of the notification by the Lessor to the Lessee pursuant to the first paragraph of this Clause 6 shall not be paid or reimbursed.

Chapter 5. Event of Default

Clause 7 7.1 If at any time and for any reason, the Lessee be in default in any payment of the Land Rent and the Fees, the Lessee agrees to pay the Lessor the delayed interest at the rate of 18%(eighteen percent) per year for the unpaid portion of the Land Rent and the Fees, as the case may be, until the date on which the payment is actually remitted and credited to the bank account of the Lessor stipulated in Clause 3.2.

Chapter 6. Security of Annual Land Rent

Clause 8 8.1 The Lessee agrees to provide a security deposit (hereinafter referred to as the "Security") to the Lessor on the date of the signing of this Agreement by means of cash deposit (hereinafter referred to as the "Cash Deposit") equivalent to the amounts to the Land Rent stipulated in Clause 4.1 and Clause 5 amounting to **US\$ 8,711.85** (United States Dollars Eight thousand seven hundred and eleven and cents eighty five only).

8.2 If the Lessee, having received the Lessor's notice after causing any damages and/or losses to the Lessor or being in default of the Land Rent and the Fees caused by the Lessee, the Lessee agrees that the Lessor is entitled to deduct the amount due from the Cash Deposit.

8.3 If the amount of the Cash Deposit falls below the full amount as prescribed in Clause 8.1 for whatsoever reason, the Lessee shall increase the amount of the Cash Deposit to attain such full amount within 45 (forty five) days from the date of the notification by the Lessor.

8.4 If the Land Rent is changed by the Lessor pursuant to Clause 5 of the Agreement, the Lessee shall increase the amount of the Cash Deposit to attain such full amount within 45 (forty five) days from the date of the notification by the Lessor.

8.5 The Security shall be returned to the Lessee with no interest thereon only if and when this Agreement expires or is terminated and all of the obligations of the Lessee have been deemed to be completed by the Lessee.

Chapter 7. Ownership of Constructed Property and the Lessee's Duties

Clause 9 9.1 All facilities and materials on the Land brought by the Lessee shall belong to the Lessee (hereunder referred to as the "Lessee's Properties").

Clause 10 10.1 The Lessor acknowledges that the Lessee's Properties except immovable assets may be mortgaged, pledged, or guaranteed against the Lessee's debts with financial institutions or any third parties. The Land lease right granted to the Lessee under this Agreement shall not be mortgaged, pledged or guaranteed for any purpose no matter whatsoever reasons or at any event.

Clause 11 11.1 Under Clause 10, the Lessee shall not assign or transfer the right to lease the Land to other persons nor transfer to other persons, in whole or in part, its rights or obligations hereunder nor do anything to endanger the Lessor's rights to the Land nor sublease the Land, without the Lessor's prior written approval which shall be issued at the Lessor's sole discretion and subject to the approval of Myanmar Investment Commission.

Clause 12 12.1 The Lessee shall strictly comply with the laws, rules, and regulations of the government and local authorities and observe the order of the Lessor or the Lessor's agent, relating to compliance with this Agreement.

12.2 The Lessee shall ensure that his and/or her foreign personnel and their families shall abide by the Laws of the Union of Myanmar and they shall not interfere in the internal affairs of the Union of Myanmar.

Clause 13 13.1 Within the Lease Period, the Lessee permits the Lessor to inspect the factory building and any other building on the Land with the full cooperation of the Lessee.

Clause 14 14.1 The Lessee must keep the Land in good condition at his own expense throughout the Lease Period. Should the Lessor incur damages from eviction of the Lessee or confiscation of possessions on the Land by outside persons, or lose any rights or profits hereunder, the Lessee shall be held responsible for and shall compensate the Lessor in full for such damages and losses.

Clause 15 15.1 The Lessee shall bear all taxes, duties and fees charged by the government or local authorities throughout the Lease Period on or relating to the payment of the Land Use Premium, the Land Rent or the Fees and/or its business on the Land.

Clause 16 16.1 Should the Lessor suffer damages for whatever reason, directly or indirectly, arising from the performance or non-performance by the Lessee, or its employees, agents, servants or visitors in relation to its business in MIP, the Lessee shall be liable for and shall make full compensation for such damages of whatsoever kind to the Lessor.

Clause 17 17.1 The Lessee shall finish construction of the factory building on the Land within the period of 2 (two) years or any longer period approved by the Lessor from the date of commencement of the Lease.

17.2 Should the Lessee fail to finish the construction work within such period, the Lessee agrees that this event shall constitute a breach of this Agreement, and the Lessor reserves the right to terminate this Agreement pursuant to Chapter 9 set out below, and the Lessor shall have the right to re-enter into the said Land.

Clause 18 18.1 During the construction of the factory building on the Land, the Lessee agrees to permit the Lessor or his agent to inspect the construction at all times. Should the Lessor consider that any construction is not in accordance with the detailed Estate Conditions, the Lessor is entitled to instruct the Lessee to correct the construction and the Lessee shall make best efforts to observe the Lessor's instruction. If the Lessor considers that the said faults involve an essential element, the Lessor shall have the right to instruct the Lessee to stop construction immediately.

Clause 19 19.1 The Lessee shall strictly abide by the Estate Conditions and other rules and conditions which shall be attached as an integral part of this Agreement. The Lessee shall comply in full with all the clauses contained therein.

Clause 20 20.1 In the event that the Lessee fails to perform any clause, apart from default of payment as specified in Clause 7 and that the Lessor has sent a letter of notice to the Lessee ordering him to observe the Agreement within a specified period of time and the Lessee does not make full performance within such period, then the Lessor shall have the right to terminate the Agreement at its sole discretion and to claim to the Lessee all damages incurred directly and indirectly therefrom.

Chapter 8. Arbitration

Clause 21 21.1 If any dispute arises out of this Agreement or any other agreement or document executed in connection with this Agreement, the Parties hereto shall consult with each other in good faith in order to settle such dispute amicably.

21.2 In the event that such dispute can not be settled amicably, it shall be settled in the Union of Myanmar by Arbitration, through two arbitrators, one each shall be appointed by each Party. Should the arbitrators fail to reach an agreement, then such dispute shall be referred to an Umpire nominated by those arbitrators. The decision of the arbitrators or the Umpire shall be final and binding upon both Parties.

21.3 The Arbitration proceedings shall in all respects conform to the Myanmar Arbitration Act, 1944 (Myanmar Act IV, 1944) or any subsisting statutory modification thereof. The venue of Arbitration shall be in Yangon, Union of Myanmar. The Arbitration fees shall be borne by the losing Party.

Chapter 9. Termination

Clause 22 22.1 Should the Agreement be terminated for one of the following reasons;

- (a) Breach of condition of this Agreement by one Party without rectification within 30 (thirty) days from the written notification of the other Party,
- (b) Force Majeure persisting for more than 6 (six) months after the occurrence thereof,
- (c) Incapability of implementing the original aims and object of the Lessee,

the Lessee agrees to stop operations immediately and remove all Lessee's Properties mentioned in Chapter 7 from the Land within 30 (thirty) days from the date of termination and return the Land to the Lessor in good condition. If the Lessee fails to do so, the Lessee agrees to pay the Lessor daily damages calculated as follows;

Land Rent per year at the time of the termination x 20

365

until the Lessee shall have duly completed such removal and return. Regarding removal of the Lessee's Properties the Lessee shall bear all related costs of such removal.

22.2 If the Lessee fails to remove such Lessee's Properties or cannot finish the removal, the Lessee shall permit the Lessor to remove such Lessee's Properties and the Lessee shall bear all expenses and damages as mentioned in Clause 22.1 until the day which is deemed by the Lessor as the day of complete removal. In no event shall the Land Use Premium specified in Clause 3 be decreased or refunded due to the termination of the Agreement.

Chapter 10. Notice

Clause 23 23.1 Any notice or other communication required to be given or sent hereunder shall be in English and be left or sent by prepaid registered post (airmail, if overseas) or telex or electronic mail or facsimile transmission or international courier to the Party concerned at its address given underneath describing the names and addresses or such address as the Party concerned shall have notified in concurrence with this Clause to the other Party.

Lessor : Name : Mingaladon Industrial Park Co., Ltd.
Address : Corner of No.3, Highway Road and Khayebin Road,
Mingaladon Township, Yangon, Union of Myanmar.

Lessee : Name : Great China Investment Enterprise
Holdings Limited
Address : Room 1505, 15/F, Metro Centre, Block 2,
No. 21, Cam Hing Street, Hong Kong

Chapter 11. Governing Law

Clause 24 24.1 This Agreement shall be governed by and construed under the Laws of the Union of Myanmar and the Parties hereby submit to the jurisdiction of the relevant Court of Myanmar and all Courts competent to hear appeals therefrom.

24.2 In the event that any provision of the Agreement is deemed invalid, unlawful or unenforceable under any applicable law, the validity, legality or enforceability of the remaining provisions of this Agreement shall not be affected or impaired and this Agreement shall be construed as if such invalid, unlawful or unenforceable provision had never been contained in this Agreement.

Chapter 12. Force Majeure

Clause 25 25.1 If either Party is temporarily rendered unable wholly or partly by Force Majeure to perform its duties or accept the performance by the other Party under this Agreement, it is agreed that the affected Party shall give notice to the other Party within 14 (fourteen) days after the occurrence of the cause relied upon, giving full particulars in writing of such Force Majeure, the duties of such Party as are affected by such Force Majeure shall, with the approval of the other Party, be suspended during the continuance of the disability so caused, as far as possible, be removed with all reasonable dispatch. Neither Party shall be responsible for delay damage or loss caused by Force Majeure.

25.2 The term, Force Majeure shall mean Act of God, war, strikes, lockout industrial disturbances, explosion, earthquake, flood, typhoon, fire, storm or other causes similar to the kind herein enumerated which are beyond the control of either Party and which by exercise of due care and diligence, either Party is unable to overcome.

Chapter 13. Mineral Resources and Treasures

Clause 26 26.1 Mineral resources, treasure, gems and other natural resources discovered unexpectedly from, in or under the Land during the Lease Period of the Agreement shall be the property to the Government of the Union of Myanmar and the Government of the Union of Myanmar shall be at liberty to excavate the aforesaid at any time.

Chapter 14. Protection of Environment

Clause 27 27.1 The Lessee shall be responsible for the protection and preservation of the environment in and around the Land, and shall be able to control pollution of air, water and land and not to cause any environmental degradation. The Lessee shall also take necessary measures in order to make environmental protection such as installation of the waste water treatment plant and other treatment procedures to keep the Land environmental friendly.

Chapter 15. Modification of the Agreement

Clause 28.- 28.1 In the event that any situation or condition arises due to circumstances not envisaged in this Agreement and that it warrants amendments to this Agreement, the Parties hereto shall make necessary negotiations with a view to making such necessary amendments.

Chapter 16. Retransfer of the Land

Clause 29 29.1 At the end of the Lease Period, the Lessee shall transfer the Land to Lessor within 3 (three) months in good condition, ground damages having been refilled or repaired.

29.2 The Lessee shall have the right to be in possession and ownership of all movable properties which shall be removed at its own costs and/or disposed of within 3 (three) months, not affecting the Lessor's right to claim for the rent up to the date of complete evacuation and damages caused to the Land by the Lessee.

29.3 Notwithstanding the above Clause 29.1, a new agreement for further period may be negotiated and agreed upon between the Parties before the expiry of the Lease Period upon the request of the Lessee.


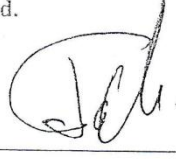
Chapter 17. Condition Precedent

Clause 30 30.1 This Agreement shall become valid upon signing by the Parties hereof and validity of this Agreement shall be subject to and conditional upon receipt of the approval from Myanmar Investment Commission.

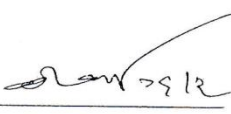
*Mingaladon Industrial Park
Sub-lease Agreement - A2&A3*

This Lease Agreement is made in triplicate having the same contents. Both Parties have read and thoroughly understood this document and the accompanying Estate Conditions of the MIP, and hereunto affix their signatures. Each Party shall keep one copy and the remaining one will be submitted to the official for registration.

The Lessor: On and behalf of
 Mingaladon Industrial Park Co., Ltd.


 

Win Myint Toshiyuki Oda
Chairman Managing Director

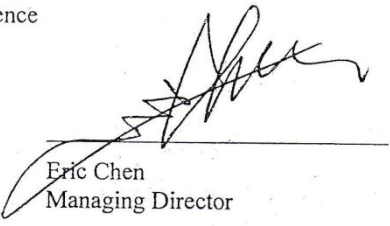
In the presence of: 

Lt. Col. Htin Aung Kyaw
Director

The Lessee: On and behalf of
 Great China Investment Enterprise Holdings Limited



Helen Florence
Chairman


In the presence of: 

Eric Chen
Managing Director

EXHIBITS

A: SITE PLAN OF MINGALADON INDUSTRIAL PARK
B: PHYSICAL DELIVERY RECEIPT
C: ESTATE CONDITIONS OF THE MINGALADON INDUSTRIAL PARK

12



Appendix 22 Addendum to Sub-Lease Agreement

MIP-Addendum

ADDENDUM

TO

SUB-LEASE AGREEMENT

BETWEEN

**GREAT CHINA INVESTMENT ENTERPRISE
HOLDINGS LIMITED**

AND

MINGALADON INDUSTRIAL PARK CO., LTD

MINGALADON INDUSTRIAL PARK CO., LTD.

YANGON

UNION OF MYANMAR

MIP-Addendum

Addendum to Sub-Lease Agreement
between
Great China Investment Enterprise Holdings Limited
and
Mingaladon Industrial Park Co., Ltd.

This Addendum to Sub-Lease Agreement made between Great China Investment Enterprise Holdings Limited and Mingaladon Industrial Park Co., Ltd., (hereinafter referred to as the "Addendum") is made and issued in YANGON on the 3rd day of December 2008,

between

Mingaladon Industrial Park Co., Ltd., located at Corner of No. 3 Highway Road & Khayebin Road, Mingaladon Township, Yangon, Union of Myanmar (hereinafter referred to as the "Lessor") on the one part;

and

Great China Investment Enterprise Holdings Limited, located at Room 1505, 15/F, Metro Centre, Block 2, No. 21, Cam Hing Street, Hong Kong (hereinafter referred to as the "Lessee") on the other part;

(The Lessor and the Lessee are hereinafter jointly referred to as the "Parties", including any successors by law to replace the "Parties" and individually referred to as the "Party".)

WHEREAS: The Lessor and the Lessee previously entered into a Sub-Lease Agreement for the lease of land, plot No. A-2 & A-3, (hereinafter referred to as the "Said Agreement") in the Mingaladon Industrial Park (hereinafter referred to as "MIP") on 19th March 2003;

201

MIP-Addendum

WHEREAS: Since the execution of the original Said Agreement, there has been an expansion plan of the scope of work due to products' demand. As part of that expansion plan, the Lessee shall construct the additional structures and shall undertake additional responsibilities for the construction of extension structures in plot No. A-1 of the MIP;

WHEREAS: The Lessor is desirous to give the Lessee incentive to construct additional structures and to undertake additional responsibilities; and,

WHEREAS: For the purpose described above, the Parties desire to enter into this Addendum to the Said Agreement.

NOW THEREOF, in consideration of the promises and mutual covenants set forth, the Parties hereby agreed to add the Said Agreement as follows:

1. Clause 1.4 of the following shall be added in Chapter 1, The Scope of the Agreement.
 - 1.4 The Lessor agrees to lease, and the Lessee agrees to take on the lease of the land in the MIP, **Plot No. A-1**, according to the plan attached hereto as **Exhibit A** which is deemed as an integral part hereof with the total area of **22,095 square-meter** (hereinafter referred to as the "Land") for a period commencing from the issuing date of the Physical Delivery Receipt and ending on the date 7th February 2048 (hereinafter referred to as the "Lease Period".)
2. Clause 3.3 and 3.4 of the followings shall be added in Chapter 3, Payment Terms.
 - 3.3 In consideration for the Lessee's right to take on the lease of the Land, the Lessee shall pay the Land Use Premium **US\$662,850.00** (United States Dollars Six Hundred and Sixty Two Thousand Eight Hundred and Fifty only) as follows:

MIP-Addendum

a. FIRST INSTALMENT

The booking fee which has already been received by the Lessor under the Provisional Allotment amounting to US\$66,285.00 (United States Dollars Sixty Six Thousand Two Hundred and Eighty Five only) (hereinafter referred to as the "First Instalment") shall be appropriated for the First Instalment of 10%(ten percent) of the Land Use Premium on the date of signing this Addendum.

b. SECOND INSTALMENT

Within 14 days after signing of this Addendum, 50% (fifty percent) of the Land Use Premium amounting to **US\$ 331,425.00** (United States Dollars Three Hundred and Thirty One Thousand Four Hundred and Twenty Five only) shall be paid to the Lessor (hereinafter referred to as the "Second Instalment") failing which Lessor shall have the right to terminate at its own discretion and the First Instalment shall be forfeited.

c. FINAL INSTALMENT

Within 90 days after signing of this Addendum, 40% (forty percent) of the Land Use Premium amounting to **US\$ 265,140.00** (United States Dollars Two Hundred and Sixty Five Thousand One Hundred and Forty only) (hereinafter referred to as the "Final Instalment") shall be paid to the Lessor by the Lessee failing which the Lessor shall have the right to terminate this Addendum at its own discretion and the First Instalment and the Second Instalment shall be forfeited.

- 3.4 Each instalment of the Land Use Premium shall only be deemed to be received by the Lessor after the said amounts in full had been remitted and credited to the bank account of the Lessor at the bank designated by the Lessor.

MIP-Addendum

3. Clause 4.2 of the following shall be added in Chapter 4, Annual Land Rent and Other Fees.

4.2 The Lessee shall pay the annual land rent (hereinafter referred to as the “Land Rent”) on yearly basis at the rate of **US\$ 0.30** (thirty cents) per year per one square meter, i.e. **US\$6,628.50** (United States Dollars Six Thousand Six Hundred and Twenty Eight and Cents Fifty only) stipulated in Clause 1 herewith as well as the Management Fees and Utility Charges (hereinafter collectively referred to as the “Fees”) to be paid in accordance with the estate conditions of the Mingaladon Industrial Park (hereinafter referred to as the “Estate Conditions”) attached hereto as **Exhibit C**. The Lessee shall pay the Land Rent to the Lessor each year no later than the 5th day of December of the preceding year.

4. Clause 8.1(a) of the following shall be added in Chapter 6, Security of Annual Land Rent.

Clause 8. 8.1(a) The Lessee agrees to provide a security deposit (hereinafter referred to as the “Security”) to the Lessor on the date of the signing of this Addendum by means of cash deposit (hereinafter referred to as the “Cash Deposit”) equivalent to the amounts to the Land Rent stipulated in Clause 4.2 and Clause 5 amounting **US\$6,628.50** (United States Dollars Six Thousand Six Hundred and Twenty Eight and Cents Fifty only).

5. Unless specifically provided in this Addendum, all other terms and conditions specified in the Said Agreement shall remain unchanged and be in full force and effect.
6. This Addendum and the Exhibits shall form an integral part of the Said Agreement.
7. This Addendum is conditional upon receipt of all requisite approvals from relevant authorities in the Union of Myanmar.


8. This Addendum shall be effective on the date of signing this Addendum.

MIP-Addendum

This Addendum is made in triplicate having the same contents. Both Parties have read and thoroughly understood this document and the accompanying Estate Conditions of the MIP, and hereunto affix their signatures. Each Party shall keep one copy and the remaining one will be submitted to the official for registration.

IN WITNESS WHEREOF, the Parties hereto have set their hands and affixed their seals by their duly authorized representatives on the day, month and year first mentioned above.

The Lessor: For and On behalf of
Mingaladon Industrial Park Co., Ltd.




Win Zaw
Chairman



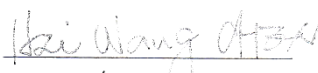
Shigeo Hana
Managing Director

In the presence of:



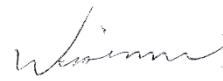
U Ye See
Director

The Lessee: For and On behalf of *Great China Investment Enterprise Holdings Ltd.*



Name: Mr. CHEN HSI-WANG
Designation: Managing Director

In the presence of:



Name: Mr. Wiseman Hsu
Designation: _____

MIP-Addendum

EXHIBITS

- A: SITE PLAN OF MINGALADON INDUSTRIAL PARK
- B: PHYSICAL DELIVERY RECEIPT
- C: ESTATE CONDITIONS OF THE MINGALADON INDUSTRIAL PARK

MIPCL & MAOI

AGREEMENT FOR THE PAYMENT OF LAND USE PREMIUM

This Agreement is made on 26th of February, 2009 between Mingaladon Industrial Park Co., Ltd. and Myanmar Asia Optical International Co., Ltd. only for the Payment of Land Use Premium concerning the Plot No. A-1 of Mingaladon Industrial Park which is to be leased to Myanmar Asia Optical International Co., Ltd.

Here,

"Payment" refers to the payment to be made for the lease of the Plot No. A-1 of Mingaladon Industrial Park.

"MIPCL" means Mingaladon Industrial Park Co., Ltd. who is the Lessor of the Plot No. A-1.

"MAOI" refers to Myanmar Asia Optical International Co., Ltd. who is a tenant of Mingaladon Industrial Park Co., Ltd. and the Lessee of the Plot No. A-1.

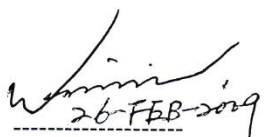
"All parties" refers to the organizations or entities pertaining to this Agreement; namely Mingaladon Industrial Park Co., Ltd., Myanmar Asia Optical International Co., Ltd., Asia Optical International Co., Ltd., and Great China Investment Enterprise Holdings Ltd.

This Agreement is governed by the following terms and conditions.

1. All parties shall comprehend, recognize and agree that Asia Optical International Co., Ltd. is the mother company of both MAOI and Great China Investment Enterprise Holdings Ltd.
2. Hence, the Payment accepted by MIPCL for the lease of the said plot is executed by Asia Optical International Co., Ltd. on behalf of MAOI and Great China Investment Enterprise Holdings Ltd.
3. If it is necessary to settle any kind of problems concerning the Payment, it is the sole and only responsibility of MAOI.
4. It shall be agreed that no other amendments of Companies' names in other contracts made for the lease of the Plot No. A-1 is required.







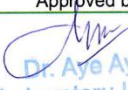
Shigeo HANA
Managing Director
Mingaladon Industrial Park Co., Ltd.


26-FEB-2009



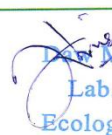
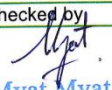

Wiseman Hsu
Director
Myanmar Asia Optical Int'l Co., Ltd.

Appendix 23 Water Quality Result (ALARM Ecological Laboratory) for Factory-1



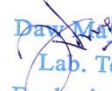


Treated Water Outlet (WSP-1)

 ALARM Ecological Laboratory Water Testing Result Report					
Report Number : EL-WR-20-00426		Date : 19-02-20			
Client Information Client Name : Green Myanmar Environmental Services Organization : Myanmar Asia Optical International Co.,Ltd - 1 Client ID : LC-10-001 Registration Date & Time : 11-02-20 2:54PM Contact : Testing Purpose : Monitoring		Sample Information Sample ID : WS-20-00413 Sample Name : ID-1 Sample Type / Source : Treated Water Outlet Sampling Date & Time : 10-02-20 Sample Location : Latitude : N-16°21' 10.746" Longitude : E-97°40' 55.902"			
Testing Results This laboratory analysis report is based solely on the sample submitted by the client unless client took our sampling service. This report shall not be reproduced except in full, without written approval of the laboratory					
Sr.	Quality Parameters	Results	Units	Emission Standard	Remarks
1	pH	7.8	S.U	6.0 - 9.0 (d)	Normal
2	Hardness	3	mg/L	-	-
3	Chloride	45	mg/L	-	-
4	Iron	<0.1	mg/L	≤3.5 (d)	Normal
<div style="display: flex; justify-content: space-between;"> <div> "ND"= Not Detected Tested by  Daw May Myat Khine Lab. Technician II Ecological Laboratory </div> <div> "LOD"= Lower limit of detection Checked by  Daw Lin Myat Myat Aung Lab. Technician I Ecological Laboratory </div> <div> "-" = No Reference Standard Approved by  Dr. Aye Aye Win Laboratory In-Charge Ecological Laboratory (ALARM) </div> </div>					



Treated Water Inlet (WSP-2)

 ALARM Ecological Laboratory Water Testing Result Report 					
Report Number : EL-WR-20-00427 Date : 19-02-20					
Client Information Client Name : Green Myanmar Environmental Services Organization : Myanmar Asia Optical International Co.,Ltd - 1 Client ID : LC-10-001 Registration Date & Time : 11-02-20 2:54PM Contact : Testing Purpose : Monitoring	Sample Information Sample ID : WS-20-00414 Sample Name : ID-2 Sample Type / Source : Treated Water Inlet Sampling Date & Time : 10-02-20 Sample Location : Latitude : N-16°56' 33.746" Longitude : E-96°09' 07.477"				
Testing Results <i>This laboratory analysis report is based solely on the sample submitted by the client unless client took our sampling service. This report shall not be reproduced except in full, without written approval of the laboratory</i>					
Sr.	Quality Parameters	Results	Units	Emission Standard	Remarks
1	pH	7.7	S.U	6.0 - 9.0 (d)	Normal
2	Hardness	100	mg/L	-	-
3	Chloride	28	mg/L	-	-
4	Iron	<0.1	mg/L	≤3.5 (d)	Normal
<div style="display: flex; justify-content: space-between;"> <div> "ND"= Not Detected Tested by  May Myat Khine Lab. Technician II Ecological Laboratory </div> <div> "LOD"= Lower limit of detection Checked by  Daw Lin Myat Myat Aung Lab. Technician I Ecological Laboratory </div> <div> "-" = No Reference Standard Approved by  Dr. Aye Aye Win Laboratory In-Charge Ecological Laboratory (ALARM) </div> </div>					





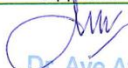
Raw Water (WSP-3)

 ALARM Ecological Laboratory Water Testing Result Report 					
Report Number : EL-WR-20-00428 Date : 19-02-20					
Client Information Client Name : Green Myanmar Environmental Services Organization : Myanmar Asia Optical International Co.,Ltd - 1 Client ID : LC-10-001 Registration Date & Time : 11-02-20 2:54PM Contact : Testing Purpose : Monitoring	Sample Information Sample ID : WS-20-00415 Sample Name : ID-3 Sample Type / Source : Raw Sampling Date & Time : 10-02-20 Sample Location : Latitude : N-16°56' 38.810" Longitude : E-46°09' 06.670"				
Testing Results <i>This laboratory analysis report is based solely on the sample submitted by the client unless client took our sampling service. This report shall not be reproduced except in full, without written approval of the laboratory</i>					
Sr.	Quality Parameters	Results	Units	Emission Standard	Remarks
1	pH	6.9	S.U	6.0 - 9.0 (d)	Normal
2	Hardness	39	mg/L	-	Soft
3	Chloride	126	mg/L	-	Normal
4	Iron	<0.1	mg/L	≤3.5 (d)	Normal
<div> <div> "ND"= Not Detected Tested by  Daw My Myat Khine Lab. Technician II Ecological Laboratory ALARM </div> <div> "LOD"= Lower limit of detection Checked by  Daw Lin Myat Myat Aung Lab. Technician I Ecological Laboratory </div> <div> "-" = No Reference Standard Approved by  Dr. Aye Aye Win Laboratory In-Charge Ecological Laboratory (ALARM) </div> </div>					






Wastewater Treatment Outlet (WSP-4)

		ALARM Ecological Laboratory Water Testing Result Report			
Report Number : EL-WR-20-00429			Date : 19-02-20		
Client Information Client Name : Green Myanmar Environmental Services Organization : Myanmar Asia Optical International Co.,Ltd - 1 Client ID : LC-10-001 Registration Date & Time : 11-02-20 2:54PM Contact : Testing Purpose : Monitoring			Sample Information Sample ID : WS-20-00416 Sample Name : ID-4 Sample Type / Source : Waste Water Treatment Outlet Sampling Date & Time : 10-02-20 Sample Location : Latitude : N-16°56' 35.875" Longitude : E-96°09' 10.971"		
Testing Results <i>This laboratory analysis report is based solely on the sample submitted by the client unless client took our sampling service. This report shall not be reproduced except in full, without written approval of the laboratory</i>					
Sr.	Quality Parameters	Results	Units	Emission Standard	Remarks
1	pH	7	S.U	6.0 - 9.0 (d)	Normal
2	TSS	40	mg/L	≤50 (d)	Normal
3	COD	1430	mg/L	≤250 (d)	Above the limit
<div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div> <p>"ND"= Not Detected</p> <p>Tested by</p> <p><i>Myat Khine</i></p> </div> <div> <p>"LOD"= Lower limit of detection</p> <p>Checked by</p> <p><i>Myat Khine</i></p> </div> <div> <p>"-" = No Reference Standard</p> <p>Approved by</p> <p><i>Myat Khine</i></p> </div> </div>					



Wastewater Treatment Inlet (WSP-5)

 ALARM Ecological Laboratory Water Testing Result Report					
Report Number : EL-WR-20-00430		Date : 19-02-20			
Client Information Client Name : Green Myanmar Environmental Services Organization : Myanmar Asia Optical International Co.,Ltd - 1 Client ID : LC-10-001 Registration Date & Time : 11-02-20 2:54PM Contact : Testing Purpose : Monitoring		Sample Information Sample ID : WS-20-00417 Sample Name : ID-5 Sample Type / Source : Waste Water Treatment Inlet Sampling Date & Time : 10-02-20 Sample Location : Latitude : N-16°56' 32.800" Longitude : E-96°09' 07.564"			
Testing Results This laboratory analysis report is based solely on the sample submitted by the client unless client took our sampling service. This report shall not be reproduced except in full, without written approval of the laboratory					
Sr.	Quality Parameters	Results	Units	Emission Standard	Remarks
1	pH	7.1	S.U	6.0 - 9.0 (d)	Normal
2	TSS	198	mg/L	≤50 (d)	Above the limit
3	COD	1810	mg/L	≤250 (d)	Above the limit
<div style="display: flex; justify-content: space-between;"> <div> "ND"= Not Detected Tested by  Daw Mya Myat Khine Lab. Technician II </div> <div> "LOD"= Lower limit of detection Checked by  Daw Lin Myat Myat Aung Lab. Technician I </div> <div> "- " = No Reference Standard Approved by  Dr. Aye Aye Win Laboratory In-Charge </div> </div>					






Kitchen Outlet Drainage 5 (WSP-6)

		ALARM Ecological Laboratory Water Testing Result Report			
Report Number : EL-WR-20-00431			Date : 19-02-20		
Client Information Client Name : Green Myanmar Environmental Services Organization : Myanmar Asia Optical International Co.,Ltd -1 Client ID : LC-10-001 Registration Date & Time : 11-02-20 2:54PM Contact : Testing Purpose : Monitoring			Sample Information Sample ID : WS-20-00418 Sample Name : Kitchen Outlet Drainage - 5 Sample Type / Source : Waste Water Sampling Date & Time : 10-02-20 Sample Location : Latitude : N-16°56' 34.592" Longitude : E-96°09' 11.571"		
Testing Results <i>This laboratory analysis report is based solely on the sample submitted by the client unless client took our sampling service.</i> <i>This report shall not be reproduced except in full, without written approval of the laboratory</i>					
Sr.	Quality Parameters	Results	Units	Emission Standard	Remarks
1	pH	9.5	S.U	6.0 - 9.0 (d)	In Base Range
2	TSS	17	mg/L	≤50 (d)	Normal
3	COD	236	mg/L	≤250 (d)	Normal
"ND"= Not Detected		"LOD"= Lower limit of detection		"-" = No Reference Standard	
Tested by		Checked by		Approved by	
 Daw May Myat Khine Lab. Technician II Ecological Laboratory		 Daw Lin Myat Myat Aung Lab. Technician I		 Dr. Aye Aye Win Laboratory In-Charge Ecological Laboratory	



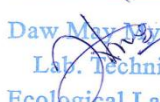


Drainage 3 (WSP-7)

 ALARM Ecological Laboratory Water Testing Result Report 					
Report Number : EL-WR-20-00432 Date : 19-02-20					
Client Information Client Name : Green Myanmar Environmental Services Organization : Myanmar Asia Optical International Co.,Ltd -1 Client ID : LC-10-001 Registration Date & Time : 11-02-20 2:54PM Contact : Testing Purpose : Monitoring	Sample Information Sample ID : WS-20-00419 Sample Name : Drainage - 3 Sample Type / Source : Drainage Water Sampling Date & Time : 10-02-20 Sample Location : Latitude : N-16°56' 30.880" Longitude : E-96°09' 12.293"				
Testing Results <i>This laboratory analysis report is based solely on the sample submitted by the client unless client took our sampling service. This report shall not be reproduced except in full, without written approval of the laboratory</i>					
Sr.	Quality Parameters	Results	Units	Emission Standard	Remarks
1	pH	8.6	S.U	6.0 - 9.0 (d)	Normal
2	TSS	8	mg/L	≤50 (d)	Normal
3	COD	1124	mg/L	≤250 (d)	Above the limit
<div style="display: flex; justify-content: space-between;"> <div> <p>"ND"= Not Detected</p> <p>Tested by</p> <p><i>Daw My Myat Khine</i> Daw My Myat Khine Lab. Technician II Ecological Laboratory ALARM</p> </div> <div> <p>"LOD"= Lower limit of detection</p> <p>Checked by</p> <p><i>Daw Lin Myat Myat Aung</i> Daw Lin Myat Myat Aung Lab. Technician I Ecological Laboratory</p> </div> <div> <p>"-" = No Reference Standard</p> <p>Approved by</p> <p><i>Dr. Aye Aye Win</i> Dr. Aye Aye Win Laboratory In-Charge Ecological Laboratory ALARM</p> </div> </div>					

Tubewell (WSP-8)



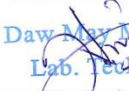

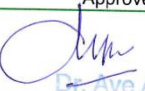
 ALARM Ecological Laboratory Water Testing Result Report 					
Report Number : EL-WR-20-00471 Date : 03-03-20					
Client Information Client Name : Green Myanmar Environmental Services Organization : Myanmar Asia Optical International Co.Ltd - 1 Client ID : LC-10-001 Registration Date & Time : 21-02-20 11:43 AM Contact : 9897978296 Testing Purpose : For Standard	Sample Information Sample ID : WS-20-00459 Sample Name : D-8 (TubeWell) Sample Type / Source : Well Sampling Date & Time : 14-02-20 Sample Location : Latitude : N16°56 39.07" Longitude : E96°09 7.38"				
Testing Results This laboratory analysis report is based solely on the sample submitted by the client unless client took our sampling service. This report shall not be reproduced except in full, without written approval of the laboratory					
Sr.	Quality Parameters	Results	Units	Drinking Standards	Remarks
1	pH	6.8	S.U	6.5 - 8.5 (b)	Normal
2	Chloride	132	mg/L	≤250 (b)	Normal
3	Iron	<0.1	mg/L	≤0.3 (b)	Normal
4	Hardness	170	mg/L	≤500 (c)	-
<p>"ND"= Not Detected "LOD"= Lower limit of detection "-" = No Reference Standard</p>					
Tested by  Daw Myat Khine Lab. Technician II Ecological Laboratory (ALARM)		Checked by  Daw Lin Myat Myat Aung Lab. Technician I Ecological Laboratory		Approved by  Daw Aye Win Laboratory In-Charge Ecological Laboratory (ALARM)	

Factory Wastewater (WSP-9)

 ALARM Ecological Laboratory Water Testing Result Report 					
Report Number : EL-WR-20-00472 Date : 03-03-20					
Client Information Client Name : Green Myanmar Environmental Services Organization : Myanmar Asia Optical International Co.Ltd -2 Client ID : LC-10-001 Registration Date & Time : 21-02-20 11:43 AM Contact : Testing Purpose : For Standard	Sample Information Sample ID : WS-20-00460 Sample Name : D-9 (Factory Waste Water) Sample Type / Source : Waste Sampling Date & Time : 14-02-20 Sample Location : Latitude : N16°56 28.59" Longitude : E96°09 13.00"				
Testing Results <i>This laboratory analysis report is based solely on the sample submitted by the client unless client took our sampling service. This report shall not be reproduced except in full, without written approval of the laboratory</i>					
Sr.	Quality Parameters	Results	Units	Emission Standard	Remarks
1	pH	7.4	S.U	6.0 - 9.0 (d)	Normal
2	TSS	4	mg/L	≤50 (d)	Normal
3	COD	1600	mg/L	≤250 (d)	Above the limit
<div> <div> "ND"= Not Detected Tested by  Daw Myat Khine Lab. Technician II Ecological Laboratory </div> <div> "LOD"= Lower limit of detection Checked by  Daw Lin Myat Myat Aung Lab. Technician I </div> <div> "-" = No Reference Standard Approved by  Dr. Aye Aye Win Laboratory In-Charge </div> </div>					

Appendix 24 Water Quality Result (ALARM Ecological Laboratory) for Factory-2

Tubewell (WSP-1)



 ALARM Ecological Laboratory Water Testing Result Report 					
Report Number : EL-WR-20-00466					
Date : 03-03-20					
Client Information Client Name : Green Myanmar Environmental Services Organization : Myanmar Asia Optical international Co.Lt-2 Client ID : LC-10-001 Registration Date & Time : 21-02-20 11:43 AM Contact : 9897978296 Testing Purpose : For Standard	Sample Information Sample ID : WS-20-00454 Sample Name : ID-1 (TubeWell) Sample Type / Source : Well Sampling Date & Time : 14-02-20 Sample Location : Latitude : N16°56'23.5" Longitude : E96°09'25.2"				
Testing Results <i>This laboratory analysis report is based solely on the sample submitted by the client unless client took our sampling service. This report shall not be reproduced except in full, without written approval of the laboratory</i>					
Sr.	Quality Parameters	Results	Units	Drinking Standards	Remarks
1	pH	7.6	S.U	6.5 - 8.5 (b)	Normal
2	Hardness	50	mg/L	≤500 (c)	-
3	Chloride	137	mg/L	≤250 (b)	Normal
4	Iron	<0.1	mg/L	≤0.3 (b)	Normal
<p>"ND"= Not Detected "LOD"= Lower limit of detection "-" = No Reference Standard</p>					
Tested by  Daw Myat Khine Lab. Technician II Ecological Laboratory ALARM		Checked by  Daw Lin Myat Myat Aung Lab. Technician I		Approved by  Dr. Aye Aye Win Laboratory In-Charge Ecological Laboratory	

Drainage Water (WSP-2)



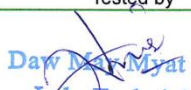
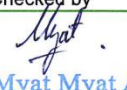

Sr.		Quality Parameters	Results	Units	Emission Standard	Remarks
1		pH	7.4	S.U	6.0 - 9.0 (d)	Normal
2		TSS	0	mg/L	≤50 (d)	Normal
3		COD	112	mg/L	≤250 (d)	Normal

<p>"ND"= Not Detected</p> <p>Tested by</p> <p><i>Daw Mya Myat Khine</i> Lab. Technician II</p>			<p>"LOD"= Lower limit of detection</p> <p>Checked by</p> <p><i>Daw Lin Myat Myat Aung</i> Lab. Technician I</p>			<p>"-" = No Reference Standard</p> <p>Approved by</p> <p><i>Dr. Aye Aye Win</i> Lab. Technician III</p>		
--	--	--	---	--	--	---	--	--

Treated Water (WSP-3)

 ALARM Ecological Laboratory Water Testing Result Report 					
Report Number : EL-WR-20-00468 Date : 03-03-20					
Client Information Client Name : Green Myanmar Environmental Services Organization : Myanmar Asia Optical International Co.Ltd - 2 Client ID : LC-10-001 Registration Date & Time : 21-02-20 11:43 AM Contact : Testing Purpose : For Standard	Sample Information Sample ID : WS-20-00456 Sample Name : D-3 (Treated Water) Sample Type / Source : Treated Sampling Date & Time : 14-02-20 Sample Location : Latitude : N16°56'25.3" Longitude : E96°09'24.2"				
Testing Results <i>This laboratory analysis report is based solely on the sample submitted by the client unless client took our sampling service. This report shall not be reproduced except in full, without written approval of the laboratory</i>					
Sr.	Quality Parameters	Results	Units	Emission Standard	Remarks
1	pH	8.3	S.U	6.0 - 9.0 (d)	Normal
2	Hardness	40	mg/L	-	-
3	Chloride	70	mg/L	-	-
4	Iron	<0.1	mg/L	≤3.5 (d)	Normal
<div style="display: flex; justify-content: space-between;"> <div> <p>"ND"= Not Detected</p> <p>Tested by</p> <p><i>Daw May Myat Khine</i> Daw May Myat Khine Lab. Technician II Ecological Laboratory</p> </div> <div> <p>"LOD"= Lower limit of detection</p> <p>Checked by</p> <p><i>Daw Lin Myat Myat Aung</i> Daw Lin Myat Myat Aung Lab. Technician I Ecological Laboratory</p> </div> <div> <p>"-" = No Reference Standard</p> <p>Approved by</p> <p><i>Dr. Mye Win</i> Dr. Mye Win Laboratory In-Charge Ecological Laboratory (ALARM)</p> </div> </div>					

Wastewater Outlet (WSP-4)

 ALARM Ecological Laboratory Water Testing Result Report 					
Report Number : EL-WR-20-00469 Date : 03-03-20					
Client Information Client Name : Green Myanmar Environmental Services Organization : Myanmar Asia optical international Co.Ltd - 2 Client ID : LC-10-001 Registration Date & Time : 21-02-20 11:43 AM Contact : Testing Purpose : For Standard	Sample Information Sample ID : WS-20-00457 Sample Name : D-4 (Waste Water Outlet) Sample Type / Source : Treated Sampling Date & Time : 14-02-20 Sample Location : Latitude : N16°56 25.3" Longitude : E96°09 24.2"				
Testing Results <i>This laboratory analysis report is based solely on the sample submitted by the client unless client took our sampling service.</i> <i>This report shall not be reproduced except in full, without written approval of the laboratory</i>					
Sr.	Quality Parameters	Results	Units	Emission Standard	Remarks
1	pH	7.9	S.U	6.0 - 9.0 (d)	Normal
2	TSS	0	mg/L	≤50 (d)	Normal
3	COD	54	mg/L	≤250 (d)	Normal
<div style="display: flex; justify-content: space-between;"> <div> "ND"= Not Detected Tested by  Daw Myat Khine Lab. Technician II Ecological Laboratory </div> <div> "LOD"= Lower limit of detection Checked by  Daw Lin Myat Myat Aung Lab. Technician I </div> <div> "- " = No Reference Standard Approved by  Dr. Aye Aye Win Laboratory In-Charge Ecological Laboratory </div> </div>					

Wastewater Inlet (WSP-5)

Report Number : EL-WR-20-00470		Date : 03-03-20			
Client Information Client Name : Green Myanmar Environmental Services Organization : Myanmar Asia Optical international Co.Ltd - 2 Client ID : LC-10-001 Registration Date & Time : 21-02-20 11:43 AM Contact : Testing Purpose : For Standard		Sample Information Sample ID : WS-20-00458 Sample Name : D-5 (WasteWater inlet) Sample Type / Source : Treated Sampling Date & Time : 14-02-20 Sample Location : Latitude : N16°56' 25.3" Longitude : E96°09' 24.2"			
Testing Results This laboratory analysis report is based solely on the sample submitted by the client unless client took our sampling service. This report shall not be reproduced except in full, without written approval of the laboratory					
Sr.	Quality Parameters	Results	Units	Emission Standard	Remarks
1	pH	7.9	S.U	6.0 - 9.0 (d)	Normal
2	TSS	311	mg/L	≤50 (d)	Above the limit
3	COD	75	mg/L	≤250 (d)	Normal
<div style="display: flex; justify-content: space-between;"> <div> <p>"ND"= Not Detected</p> <p>Tested by</p> <p><i>Daw May Myat Khine</i> Lab. Technician II Ecological Laboratory</p> </div> <div> <p>"LOD"= Lower limit of detection</p> <p>Checked by</p> <p><i>Daw Lin Myat Myat Aung</i> Lab. Technician I Ecological Laboratory</p> </div> <div> <p>"-" = No Reference Standard</p> <p>Approved by</p> <p><i>Dr. Aye Aye Win</i> Laboratory In-Charge Ecological Laboratory</p> </div> </div>					

Appendix 25 Water Quality Result (GMES Laboratory) for Factory-1

Treated Water Outlet (WSP-1)



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: info@gmes-mm.com

Project Name: Myanmar Asia Optical
International Co., Ltd. [No.1]
Sampling Location: Mingalar Don
Industrial Park

Sample ID: ID-1 (Treated Water
Outlet)
Latitude: N 16° 56' 32.800"
Longitude: E 96° 09' 07.564"

Date of Collection: 10.2.2020
Date of Arrival at Lab: 11.2.2020
Date of Issue of Results: 22.2.2020

Laboratory Analysis Results of Water

Sr. No.	Parameters	Unit	Analysis Value	Drinking Water Standards		
				WHO (2011)	EPA (Spring 2012)	Indian Specification (IS: 10500, 2012)
1.	Aluminum	mg/l	0.02	0.2	0.2	0.03
2.	Arsenic	µg/l	0	10	10	10
3.	Chloride	mg/l	22	250	250	250
4.	Copper	mg/l	ND	2	1	0.05
5.	Cyanide	mg/l	ND	0.07	0.2	0.05
6.	Manganese	mg/l	ND	0.4	0.05	0.1
7.	pH	-	6.33	6.5~8.5	6.5~8.5	6.5~8.5
8.	Sulfate	mg/l	ND	250	250	200
9.	Total Alkalinity as CaCO ₃	mg/l	28	-	-	200
10.	Total Dissolved Solids	mg/l	50	600	500	500
11.	Total Hardness as CaCO ₃	mg/l	14	500	-	200
12.	Total Iron	mg/l	<0.1	0.3	0.3	0.3
13.	Turbidity	NTU	9.27	5	-	1

ND – Not Detected

Analyzed By

U Thet Min Paing
Technician (Laboratory)

Approved By

Daw Cherry Thwin
Manager (Laboratory)

Treated Water Inlet (WSP-2)



Green Myanmar Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: info@gmes-mm.com

Project Name: Myanmar Asia Optical
International Co., Ltd. [No.1]

Sample ID: ID-2 (Treated Water
Inlet)

Date of Collection: 10.2.2020

Sampling Location: Mingalar Don
Industrial Park

Latitude: N 16° 56' 33.746"

Date of Arrival at Lab: 11.2.2020

Longitude: E 96° 09' 07.477"

Date of Issue of Results: 22.2.2020

Laboratory Analysis Results of Water

Sr. No.	Parameters	Unit	Analysis Value	Drinking Water Standards		
				WHO (2011)	EPA (Spring 2012)	Indian Specification (IS: 10500, 2012)
1.	Aluminum	mg/l	0.02	0.2	0.2	0.03
2.	Arsenic	µg/l	0	10	10	10
3.	Chloride	mg/l	14	250	250	250
4.	Copper	mg/l	ND	2	1	0.05
5.	Cyanide	mg/l	ND	0.07	0.2	0.05
6.	Manganese	mg/l	ND	0.4	0.05	0.1
7.	pH	-	6.83	6.5~8.5	6.5~8.5	6.5~8.5
8.	Sulfate	mg/l	2.9	250	250	200
9.	Total Alkalinity as CaCO ₃	mg/l	55	-	-	200
10.	Total Dissolved Solids	mg/l	60	600	500	500
11.	Total Hardness as CaCO ₃	mg/l	39	500	-	200
12.	Total Iron	mg/l	0.1	0.3	0.3	0.3
13.	Turbidity	NTU	10.8	5	-	1

ND – Not Detected

Analyzed By

U Thet Min Paing
Technician (Laboratory)

Approved By

Daw Cherry Thwin
Manager (Laboratory)

Raw Water (WSP-3)



Green Myanmar Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: info@gmes-mm.com

Project Name: Myanmar Asia Optical
International Co., Ltd. [No.1]

Sample ID: ID-3 (သုံးခရ)

Date of Collection: 10.2.2020

Sampling Location: Mingalar Don
Industrial Park

Latitude: N 16° 56' 38.810"

Date of Arrival at Lab: 11.2.2020

Longitude: E 96° 09' 06.670"

Date of Issue of Results: 22.2.2020

Laboratory Analysis Results of Water

Sr. No.	Parameters	Unit	Analysis Value	Drinking Water Standards		
				WHO (2011)	EPA (Spring 2012)	Indian Specification (IS: 10500, 2012)
1.	Aluminum	mg/l	0.01	0.2	0.2	0.03
2.	Arsenic	µg/l	0	10	10	10
3.	Chloride	mg/l	305	250	250	250
4.	Copper	mg/l	0.06	2	1	0.05
5.	Cyanide	mg/l	ND	0.07	0.2	0.05
6.	Manganese	mg/l	1.05	0.4	0.05	0.1
7.	pH	-	6.18	6.5~8.5	6.5~8.5	6.5~8.5
8.	Sulfate	mg/l	11.2	250	250	200
9.	Total Alkalinity as CaCO ₃	mg/l	65	-	-	200
10.	Total Dissolved Solids	mg/l	940	600	500	500
11.	Total Hardness as CaCO ₃	mg/l	289	500	-	200
12.	Total Iron	mg/l	4	0.3	0.3	0.3
13.	Turbidity	NTU	16.4	5	-	1

ND – Not Detected

Analyzed By

U Thet Min Paing
Technician (Laboratory)

Approved By

Daw Cherry Thwin
Manager (Laboratory)

Wastewater Treatment Outlet (WSP-4)



Green Myanmar Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: info@gmes-mm.com

Project Name: Myanmar Asia Optical
International Co., Ltd. [No.1]

Sample ID: ID-4 (Wastewater
Treatment Outlet)

Date of Collection: 10.2.2020

Sampling Location: Mingalar Don
Industrial Park

Latitude: N 16° 56' 35.875"

Date of Arrival at Lab: 11.2.2020

Longitude: E 96° 09' 10.971"

Date of Issue of Results: 22.2.2020

Laboratory Analysis Results of Wastewater

Sr. No.	Parameters	Unit	Analysis Value	National Environmental Quality (Emission) Guidelines General Application
1.	Arsenic	mg/l	0.0375	0.1
2.	Chemical Oxygen Demand	mg/l	1255	250
3.	Oil and Grease	mg/l	14	10
4.	pH	-	6.31	6~9
5.	Total Suspended Solids	mg/l	54	50

ND – Not Detected

Analyzed By

A handwritten signature in blue ink.

U Thet Min Paing
Technician (Laboratory)

Approved By

A handwritten signature in blue ink.

Daw Cherry Thwin
Manager (Laboratory)

Wastewater Treatment Inlet (WSP-5)



Green Myanmar Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: info@gmes-mm.com

Project Name: Myanmar Asia Optical
International Co., Ltd. [No.1]

Sample ID: ID-5 (Wastewater
Treatment Inlet)

Date of Collection: 10.2.2020

Sampling Location: Mingalar Don
Industrial Park

Latitude: N 16° 56' 34.579"

Date of Arrival at Lab: 11.2.2020

Longitude: E 96° 09' 11.694"

Date of Issue of Results: 22.2.2020

Laboratory Analysis Results of Wastewater

Sr. No.	Parameters	Unit	Analysis Value	National Environmental Quality (Emission) Guidelines General Application
1.	Arsenic	mg/l	0.0375	0.1
2.	Chemical Oxygen Demand	mg/l	2010	250
3.	Oil and Grease	mg/l	50	10
4.	pH	-	6.86	6~9
5.	Total Suspended Solids	mg/l	820	50

ND – Not Detected

Analyzed By

U Thet Min Paing
Technician (Laboratory)

Approved By

Daw Cherry Thwin
Manager (Laboratory)

Drainage 5 (WSP-6)



Green Myanmar Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: info@gmes-mm.com

Project Name: Myanmar Asia Optical
International Co., Ltd. [No.1]

Sample ID: ID-6
(စက်ရုံရှေ့တွင်ပစ်ချထားသော - ၅)

Date of Collection: 10.2.2020

Sampling Location: Mingalar Don
Industrial Park

Latitude: N 16° 56' 34.592"
Longitude: E 96° 09' 11.571"

Date of Arrival at Lab: 11.2.2020

Date of Issue of Results: 22.2.2020

Laboratory Analysis Results of Ambient Water

Sr. No.	Parameters	Unit	Analysis Value	National Environmental Quality (Emission) Guidelines General Application
1.	Arsenic	mg/l	0	0.1
2.	Chemical Oxygen Demand	mg/l	160	250
3.	Oil and Grease	mg/l	ND	10
4.	pH	-	4.63	6~9
5.	Total Suspended Solids	mg/l	26	50

ND – Not Detected

Analyzed By

U Thet Min Paing
Technician (Laboratory)

Approved By

Daw Cherry Thwin
Manager (Laboratory)

Drainage 3 (WSP-7)



Green Myanmar Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: info@gmes-mm.com

Project Name: Myanmar Asia Optical
International Co., Ltd. [No.1]

Sample ID: ID-7
(စက်ရုံမှ ရေပေးစနစ် - ၃)

Date of Collection: 10.2.2020

Sampling Location: Mingalar Don
Industrial Park

Latitude: N 16° 56' 30.880"
Longitude: E 96° 09' 12.293"

Date of Arrival at Lab: 11.2.2020

Date of Issue of Results: 22.2.2020

Laboratory Analysis Results of Ambient Water

Sr. No.	Parameters	Unit	Analysis Value	National Environmental Quality (Emission) Guidelines General Application
1.	Arsenic	mg/l	0	0.1
2.	Chemical Oxygen Demand	mg/l	930	250
3.	Oil and Grease	mg/l	ND	10
4.	pH	-	6.73	6~9
5.	Total Suspended Solids	mg/l	38	50

ND – Not Detected

Analyzed By

U Thet Min Paing
Technician (Laboratory)

Approved By

Daw Cherry Thwin
Manager (Laboratory)

Tubewell (WSP-8)



Green Myanmar Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: info@gmes-mm.com

Project Name: Myanmar Asia Optical International Co., Ltd. [No.1] Sample ID: ID-8 (Tube well Water) Date of Collection: 14.2.2020
Sampling Location: Mingalar Don Industrial Park Latitude: N 16° 56' 39.07" Date of Arrival at Lab: 17.2.2020
Longitude: E 96° 09' 07.38" Date of Issue of Results: 22.2.2020

Laboratory Analysis Results of Water

Sr. No.	Parameters	Unit	Analysis Value	Drinking Water Standards		
				WHO (2011)	EPA (Spring 2012)	Indian Specification (IS: 10500, 2012)
1.	Aluminum	mg/l	0.01	0.2	0.2	0.03
2.	Arsenic	µg/l	0	10	10	10
3.	Chloride	mg/l	320	250	250	250
4.	Copper	mg/l	0.07	2	1	0.05
5.	Cyanide	mg/l	ND	0.07	0.2	0.05
6.	Manganese	mg/l	0.95	0.4	0.05	0.1
7.	pH	-	5.34	6.5~8.5	6.5~8.5	6.5~8.5
8.	Sulfate	mg/l	13.4	250	250	200
9.	Total Alkalinity as CaCO ₃	mg/l	88	-	-	200
10.	Total Dissolved Solids	mg/l	990	600	500	500
11.	Total Hardness as CaCO ₃	mg/l	302	500	-	200
12.	Total Iron	mg/l	30	0.3	0.3	0.3
13.	Turbidity	NTU	58.1	5	-	1

ND – Not Detected

Analyzed By

U Thet Min Paing
Technician (Laboratory)

Approved By

Daw Cherry Thwin
Manager (Laboratory)

Drainage 1 (WSP-9)



Green Myanmar Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: info@gmes-mm.com

Project Name: Myanmar Asia Optical
International Co., Ltd. [No.1]

Sample ID: ID-9
(စက်ရုံရှေ့တွင်ပစ်ချထားသော - ဘ)

Date of Collection: 14.2.2020

Sampling Location: Mingalar Don
Industrial Park

Latitude: N 16° 56' 28.59"
Longitude: E 96° 09' 13.00"

Date of Arrival at Lab: 17.2.2020

Date of Issue of Results: 22.2.2020

Laboratory Analysis Results of Wastewater

Sr. No.	Parameters	Unit	Analysis Value	National Environmental Quality (Emission) Guidelines General Application
1.	Arsenic	mg/l	0	0.1
2.	Chemical Oxygen Demand	mg/l	2530	250
3.	Oil and Grease	mg/l	ND	10
4.	pH	-	5.78	6~9
5.	Total Suspended Solids	mg/l	20	50

ND – Not Detected

Analyzed By

U Thet Min Paing
Technician (Laboratory)

Approved By

Daw Cherry Thwin
Manager (Laboratory)

Appendix 26 Water Quality Result (GMES Laboratory) for Factory-2

Tubewell (WSP-1)



Green Myanmar Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: info@gmes-mm.com

Project Name: Myanmar Asia Optical
International Co., Ltd. [No.2]

Sample ID: ID-1 (Tube well Water)

Date of Collection: 14.2.2020

Sampling Location: Mingalar Don
Industrial Park

Latitude: N 16° 56' 23.5"

Date of Arrival at Lab: 17.2.2020

Longitude: E 96° 09' 25.2"

Date of Issue of Results: 22.2.2020

Laboratory Analysis Results of Water

Sr. No.	Parameters	Unit	Analysis Value	Drinking Water Standards		
				WHO (2011)	EPA (Spring 2012)	Indian Specification (IS: 10500, 2012)
1.	Aluminum	mg/l	0.01	0.2	0.2	0.03
2.	Arsenic	µg/l	0.01	10	10	10
3.	Chloride	mg/l	160	250	250	250
4.	Copper	mg/l	ND	2	1	0.05
5.	Cyanide	mg/l	ND	0.07	0.2	0.05
6.	Manganese	mg/l	0.8	0.4	0.05	0.1
7.	pH	-	6.01	6.5~8.5	6.5~8.5	6.5~8.5
8.	Sulfate	mg/l	ND	250	250	200
9.	Total Alkalinity as CaCO ₃	mg/l	78	-	-	200
10.	Total Dissolved Solids	mg/l	590	600	500	500
11.	Total Hardness as CaCO ₃	mg/l	197	500	-	200
12.	Total Iron	mg/l	3	0.3	0.3	0.3
13.	Turbidity	NTU	10.7	5	-	1

ND – Not Detected

Analyzed By

U Thet Min Paing
Technician (Laboratory)

Approved By

Daw Cherry Thwin
Manager (Laboratory)

Drainage Water (WSP-2)



Green Myanmar Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: info@gmes-mm.com

Project Name: Myanmar Asia Optical
International Co., Ltd. [No.2]

Sample ID: ID-2
(စနစ်ကြံ့ခိုင်ရေးအဖွဲ့)

Date of Collection: 14.2.2020

Sampling Location: Mingalar Don
Industrial Park

Latitude: N 16° 56' 25.3"
Longitude: E 96° 09' 24.2"

Date of Arrival at Lab: 17.2.2020

Date of Issue of Results: 22.2.2020

Laboratory Analysis Results of Ambient Water

Sr. No.	Parameters	Unit	Analysis Value	National Environmental Quality (Emission) Guidelines General Application
1.	Arsenic	mg/l	0	0.1
2.	Chemical Oxygen Demand	mg/l	62	250
3.	Oil and Grease	mg/l	ND	10
4.	pH	-	6.44	6~9
5.	Total Suspended Solids	mg/l	2	50

ND – Not Detected

Analyzed By

U Thet Min Paing
Technician (Laboratory)

Approved By

Daw Cherry Thwin
Manager (Laboratory)

Treated Water (WSP-3)



Green Myanmar Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: info@gmes-mm.com

Project Name: Myanmar Asia Optical International Co., Ltd. [No.2] Sample ID: ID-3 (Treated Water) Date of Collection: 14.2.2020
Sampling Location: Mingalar Don Industrial Park Latitude: N 16° 56' 25.3" Date of Arrival at Lab: 17.2.2020
Longitude: E 96° 09' 24.2" Date of Issue of Results: 22.2.2020

Laboratory Analysis Results of Water

Sr. No.	Parameters	Unit	Analysis Value	Drinking Water Standards		
				WHO (2011)	EPA (Spring 2012)	Indian Specification (IS: 10500, 2012)
1.	Aluminum	mg/l	0.02	0.2	0.2	0.03
2.	Arsenic	µg/l	0	10	10	10
3.	Chloride	mg/l	8	250	250	250
4.	Copper	mg/l	ND	2	1	0.05
5.	Cyanide	mg/l	ND	0.07	0.2	0.05
6.	Manganese	mg/l	ND	0.4	0.05	0.1
7.	pH	-	5.72	6.5~8.5	6.5~8.5	6.5~8.5
8.	Sulfate	mg/l	ND	250	250	200
9.	Total Alkalinity as CaCO ₃	mg/l	15	-	-	200
10.	Total Dissolved Solids	mg/l	10	600	500	500
11.	Total Hardness as CaCO ₃	mg/l	12	500	-	200
12.	Total Iron	mg/l	<0.1	0.3	0.3	0.3
13.	Turbidity	NTU	8.86	5	-	1

ND – Not Detected

Analyzed By

U Thet Min Paing
Technician (Laboratory)

Approved By

Daw Cherry Thwin
Manager (Laboratory)

Wastewater Outlet (WSP-4)



Green Myanmar Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: info@gmes-mm.com

Project Name: Myanmar Asia Optical
International Co., Ltd. [No.2]

Sample ID: ID-4 (Wastewater
Treatment Outlet)

Date of Collection: 14.2.2020

Sampling Location: Mingalar Don
Industrial Park

Latitude: N 16° 56' 25.3"

Date of Arrival at Lab: 17.2.2020

Longitude: E 96° 09' 24.2"

Date of Issue of Results: 22.2.2020

Laboratory Analysis Results of Wastewater

Sr. No.	Parameters	Unit	Analysis Value	National Environmental Quality (Emission) Guidelines General Application
1.	Arsenic	mg/l	0	0.1
2.	Chemical Oxygen Demand	mg/l	20	250
3.	Oil and Grease	mg/l	ND	10
4.	pH	-	6.01	6~9
5.	Total Suspended Solids	mg/l	20	50

ND – Not Detected

Analyzed By

A handwritten signature in blue ink.

U Thet Min Paing
Technician (Laboratory)

Approved By

A handwritten signature in blue ink.

Daw Cherry Thwin
Manager (Laboratory)

Wastewater Inlet (WSP-5)



Green Myanmar Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: info@gmes-mm.com

Project Name: Myanmar Asia Optical
International Co., Ltd. [No.2]

Sample ID: ID-5 (Wastewater
Treatment Inlet)

Date of Collection: 14.2.2020

Sampling Location: Mingalar Don
Industrial Park

Latitude: N 16° 56' 25.3"

Date of Arrival at Lab: 17.2.2020

Longitude: E 96° 09' 23.3"

Date of Issue of Results: 22.2.2020

Laboratory Analysis Results of Wastewater

Sr. No.	Parameters	Unit	Analysis Value	National Environmental Quality (Emission) Guidelines General Application
1.	Arsenic	mg/l	0	0.1
2.	Chemical Oxygen Demand	mg/l	100	250
3.	Oil and Grease	mg/l	2	10
4.	pH	-	6.42	6~9
5.	Total Suspended Solids	mg/l	1510	50

ND – Not Detected

Analyzed By

A handwritten signature in blue ink.

U Thet Min Paing
Technician (Laboratory)

Approved By

A handwritten signature in blue ink.

Daw Cherry Thwin
Manager (Laboratory)

Appendix 27 Soil Quality Result (GMES Laboratory) for Factory-1



Green Myanmar Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: info@gmes-mm.com

Project Name: Myanmar Asia Optical
International Co., Ltd. [No.1]

Sample ID: ID-1 (၀၀၈၇၀၆၁၆၁၆)

Date of Collection: 14.2.2020

Sampling Location: Mingalar Don
Industrial Park

Latitude: N 16° 56' 36.40"

Date of Arrival at Lab: 17.2.2020

Longitude: E 96° 09' 10.77"

Date of Issue of Results: 22.2.2020

Laboratory Analysis Results of Soil

Sr. No.	Parameters	Unit	Analysis Value
1.	Aluminum	mg/kg soil	0.05
2.	Arsenic	mg/kg soil	0
3.	Chloride	g/kg soil	0.34
4.	Copper	mg/kg soil	0.35
5.	Cyanide	mg/kg soil	0.1
6.	Extractable Acidity	cmol/kg soil	4.88
7.	Manganese	mg/kg soil	3.1
8.	P - Alkalinity	mmol/l extract	0
9.	pH	-	6.35
10.	Total Alkalinity	mmol/l extract	3.32
11.	Total Iron	mg/kg soil	0.5

ND – Not Detected

Analyzed By

U Thet Min Paing
Technician (Laboratory)

Approved By

Daw Cherry Thwin
Manager (Laboratory)

Appendix 28 Soil Quality Result (GMES Laboratory) for Factory-2



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: info@gmes-mm.com

Project Name: Myanmar Asia Optical International Co., Ltd. [No.2]

Sample ID: ID-1 (စက်ရုံတွင်းမြေကြီး)

Date of Collection: 14.2.2020

Sampling Location: Mingalar Don Industrial Park

Latitude: N 16° 56' 23.3"

Date of Arrival at Lab: 17.2.2020

Longitude: E 96° 09' 25.1"

Date of Issue of Results: 22.2.2020

Laboratory Analysis Results of Soil


Sr. No.	Parameters	Unit	Analysis Value
1.	Aluminum	mg/kg soil	0.15
2.	Arsenic	mg/kg soil	0.025
3.	Chloride	g/kg soil	0.32
4.	Copper	mg/kg soil	ND
5.	Cyanide	mg/kg soil	ND
6.	Extractable Acidity	cmol/kg soil	7.8
7.	Manganese	g/kg soil	0.026
8.	P - Alkalinity	mmol/l extract	0
9.	pH	-	5.27
10.	Total Alkalinity	mmol/l extract	0.57
11.	Total Iron	g/kg soil	0.015

ND – Not Detected

Analyzed By


U Thet Min Paing
Technician (Laboratory)

Approved By


Daw Cherry Thwin
Manager (Laboratory)

Appendix 29 Attendance List from Employee Discussion Program

Green Myanmar
 Environmental Services Co., Ltd
 No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
 Yangon, Myanmar
 Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

* Myanmar Asia Optical International Co., Ltd. * နယ်လင်းလူ့အသက်မွေးဝမ်းကြေးလုပ်ငန်းစဉ်
 ဖတ်ပုံကွင်းပုံစံမရှိဘဲ (Environmental Management Plan - EMP) ဖော်ပြချက်နှင့်ဆက်သွယ်
 ဝန်ထမ်းများ၏ လုပ်ငန်းစဉ်ဆိုင်ရာ အကြံပြုချက်များရယူခြင်း တက်ရောက်သူများစာရင်း

ရက်စွဲ - ၂၀၂၀ ခုနှစ် မတ်လ (၁၂) ရက်

စဉ်	အမည်	လုပ်ငန်းစဉ်	အမှတ်တံဆိပ်	လက်မှတ်
၁	Tha Zar Mon	MT	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၂	Hanni Tun	MT	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၃	Ban Ei Phyu	MT	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၄	Mia Hla Co	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၅	Ei Ei Phyu		မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၆	Tin Tin Khine	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၇	Mia Hla Kyu	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၈	Zon Point Phyu	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၉	Ma Aye Win Kyi	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၁၀	Ma Hlae Hlae Cho	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၁၁	Ma Aye Win Thida	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၁၂	Ma Tin Ma Aye	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၁၃	Ma Tin Ma Aye	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၁၄	Thun Thida SWE	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၁၅	Mu Yee	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၁၆	Phyu Phyu Hlae	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃

Green Myanmar
 Environmental Services Co., Ltd
 No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
 Yangon, Myanmar
 Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

* Myanmar Asia Optical International Co., Ltd. * နယ်လင်းလူ့အသက်မွေးဝမ်းကြေးလုပ်ငန်းစဉ်
 ဖတ်ပုံကွင်းပုံစံမရှိဘဲ (Environmental Management Plan - EMP) ဖော်ပြချက်နှင့်ဆက်သွယ်
 ဝန်ထမ်းများ၏ လုပ်ငန်းစဉ်ဆိုင်ရာ အကြံပြုချက်များရယူခြင်း တက်ရောက်သူများစာရင်း

ရက်စွဲ - ၂၀၂၀ ခုနှစ် မတ်လ (၁၂) ရက်

စဉ်	အမည်	လုပ်ငန်းစဉ်	အမှတ်တံဆိပ်	လက်မှတ်
၁	မိမိ	Grinding		၃
၂	မိမိ	Grinding		၃
၃	မိမိ	Grinding		၃
၄	မိမိ	Grinding		၃
၅	မိမိ	Grinding		၃
၆	မိမိ	Grinding		၃
၇	မိမိ	Grinding		၃
၈	မိမိ	Grinding		၃
၉	မိမိ	Grinding		၃
၁၀	မိမိ	Grinding		၃
၁၁	မိမိ	Grinding		၃
၁၂	မိမိ	Grinding		၃
၁၃	မိမိ	Grinding		၃
၁၄	မိမိ	Grinding		၃
၁၅	မိမိ	Grinding		၃
၁၆	မိမိ	Grinding		၃

Green Myanmar
 Environmental Services Co., Ltd
 No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
 Yangon, Myanmar
 Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

* Myanmar Asia Optical International Co., Ltd. * နယ်လင်းလူ့အသက်မွေးဝမ်းကြေးလုပ်ငန်းစဉ်
 ဖတ်ပုံကွင်းပုံစံမရှိဘဲ (Environmental Management Plan - EMP) ဖော်ပြချက်နှင့်ဆက်သွယ်
 ဝန်ထမ်းများ၏ လုပ်ငန်းစဉ်ဆိုင်ရာ အကြံပြုချက်များရယူခြင်း တက်ရောက်သူများစာရင်း

ရက်စွဲ - ၂၀၂၀ ခုနှစ် မတ်လ (၁၂) ရက်

စဉ်	အမည်	လုပ်ငန်းစဉ်	အမှတ်တံဆိပ်	လက်မှတ်
၁	Su Su Kyi	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၂	Su Mon Zau	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၃	Nae Nae Tun	Cementing	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃

Green Myanmar
 Environmental Services Co., Ltd
 No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
 Yangon, Myanmar
 Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com


* Myanmar Asia Optical International Co., Ltd. * နယ်လင်းလူ့အသက်မွေးဝမ်းကြေးလုပ်ငန်းစဉ်
 ဖတ်ပုံကွင်းပုံစံမရှိဘဲ (Environmental Management Plan - EMP) ဖော်ပြချက်နှင့်ဆက်သွယ်
 ဝန်ထမ်းများ၏ လုပ်ငန်းစဉ်ဆိုင်ရာ အကြံပြုချက်များရယူခြင်း တက်ရောက်သူများစာရင်း

ရက်စွဲ - ၂၀၂၀ ခုနှစ် မတ်လ (၁၂) ရက်

စဉ်	အမည်	လုပ်ငန်းစဉ်	အမှတ်တံဆိပ်	လက်မှတ်
၁	Hin Hin	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၂	Ei Ei Zin	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၃	Aye Aye Nyan	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၄	Zin Mon Oo	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၅	Phyu Phyu Thida	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၆	Khin Yee Win	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၇	Khin Yee Win	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၈	Khin Yee Win	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၉	Khin Yee Win	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၁၀	Khin Yee Win	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၁၁	Khin Yee Win	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၁၂	Khin Yee Win	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၁၃	Khin Yee Win	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၁၄	Khin Yee Win	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၁၅	Khin Yee Win	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃
၁၆	Khin Yee Win	Grinding	မင်္ဂလာဒုံ စက်မှု ဖုန်း	၃

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited



Green Myanmar

Environmental Services Co., Ltd


No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City, Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescorpany@gmail.com, info@gmescorpany.com

* Myanmar Asia Optical International Co., Ltd. "၏ ပုံနှိပ်လုပ်ငန်းအမျိုးမျိုးလုပ်ကိုင်ရာတွင် လုပ်ငန်းအတွက် ထိန်းသိမ်းစောင့်ရှောက်မှုစာတမ်း (Environmental Management Plan - EMP) ဖြစ်သည့် နောက်ထပ်ဆင့် ထိန်းသိမ်းမှုစာတမ်းကို ဖြစ်ပေါ်စေရန် လုပ်ငန်းစဉ်များကို အခြေခံ၍ ထိန်းသိမ်းစောင့်ရှောက်မှုစာတမ်းကို ထုတ်ပြန်ထားပါသည်။

ရက်စွဲ - ၂၀၂၀ ခုနှစ် ဖတ်လ (၁၂) ရက်

စဉ်	အမည်	လုပ်ငန်းစဉ်	အမျိုးအမည်	လက်မှတ်
၁	Thine Zin Aye	Grinding	၁၈၀၀၀	၁၂
၂	Thet Mon Lin	Grinding	၁၈၀၀၀	၁၃
၃	May Thee	Grinding	၁၈၀၀၀	၁၄
၄	Kyi Loe Loe Oo	Grinding	၁၈၀၀၀	၁၅
၅	Et Et Mye	Grinding	၁၈၀၀၀	၁၆
၆	Nan Saw	Grinding	၁၈၀၀၀	၁၇
၇	Chay Kyin	Grinding	၁၈၀၀၀	၁၈
၈	Hlay Hlay Soe	Grinding	၁၈၀၀၀	၁၉
၉	Aye Thee Soe	Grinding	၁၈၀၀၀	၂၀
၁၀	Aye E Phaw	CG	၁၈၀၀၀	၂၁
၁၁	Phan E Aye	CG	၁၈၀၀၀	၂၂
၁၂	Zin Aye Khin	CG	၁၈၀၀၀	၂၃
၁၃	Phyo Thizar	CG	၁၈၀၀၀	၂၄
၁၄	Nue Nt Myet	CG	၁၈၀၀၀	၂၅
၁၅	May Thee Phyo	CG	၁၈၀၀၀	၂၆
၁၆	Phan E Zin Phyo	CG	၁၈၀၀၀	၂၇
၁၇	Aye Aye Aye	CG	၁၈၀၀၀	၂၈
၁၈	Khin Khin Win	Grinding	၁၈၀၀၀	၂၉



Green Myanmar

Environmental Services Co., Ltd


No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City, Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescorpany@gmail.com, info@gmescorpany.com

* Myanmar Asia Optical International Co., Ltd. "၏ ပုံနှိပ်လုပ်ငန်းအမျိုးမျိုးလုပ်ကိုင်ရာတွင် လုပ်ငန်းအတွက် ထိန်းသိမ်းစောင့်ရှောက်မှုစာတမ်း (Environmental Management Plan - EMP) ဖြစ်သည့် နောက်ထပ်ဆင့် ထိန်းသိမ်းမှုစာတမ်းကို ဖြစ်ပေါ်စေရန် လုပ်ငန်းစဉ်များကို အခြေခံ၍ ထိန်းသိမ်းစောင့်ရှောက်မှုစာတမ်းကို ထုတ်ပြန်ထားပါသည်။

ရက်စွဲ - ၂၀၂၀ ခုနှစ် ဖတ်လ (၁၂) ရက်

စဉ်	အမည်	လုပ်ငန်းစဉ်	အမျိုးအမည်	လက်မှတ်
၁	Phin Moe Win	MT	၁၈၀၀၀	၃၀
၂	Lay Mye Thaw	MT	၁၈၀၀၀	၃၁
၃	Phin Mye Aye	MT	၁၈၀၀၀	၃၂
၄	Tin Tin Aye	Making Tools	၁၈၀၀၀	၃၃
၅	Thet Heir Aung	Making Tools	၁၈၀၀၀	၃၄
၆	Zin Mye Bo	Making Tools	၁၈၀၀၀	၃၅
၇	Phin Kyaw	Making Tools	၁၈၀၀၀	၃၆
၈	Kyone Lin Oo	MT	၁၈၀၀၀	၃၇
၉	Ye Mye Tare	Grinding	၁၈၀၀၀	၃၈
၁၀	Thant Zin Moe	Grinding	၁၈၀၀၀	၃၉
၁၁	Nan Oo	CG	၁၈၀၀၀	၄၀
၁၂	Hein Tin Ha	CG	၁၈၀၀၀	၄၁
၁၃	Soe Min Tin	CG	၁၈၀၀၀	၄၂



Green Myanmar

Environmental Services Co., Ltd


No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City, Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescorpany@gmail.com, info@gmescorpany.com

* Myanmar Asia Optical International Co., Ltd. "၏ ပုံနှိပ်လုပ်ငန်းအမျိုးမျိုးလုပ်ကိုင်ရာတွင် လုပ်ငန်းအတွက် ထိန်းသိမ်းစောင့်ရှောက်မှုစာတမ်း (Environmental Management Plan - EMP) ဖြစ်သည့် နောက်ထပ်ဆင့် ထိန်းသိမ်းမှုစာတမ်းကို ဖြစ်ပေါ်စေရန် လုပ်ငန်းစဉ်များကို အခြေခံ၍ ထိန်းသိမ်းစောင့်ရှောက်မှုစာတမ်းကို ထုတ်ပြန်ထားပါသည်။

ရက်စွဲ - ၂၀၂၀ ခုနှစ် ဖတ်လ (၁၂) ရက်

စဉ်	အမည်	လုပ်ငန်းစဉ်	အမျိုးအမည်	လက်မှတ်
၁	Ma May Thee Soe	Grinding	၁၈၀၀၀	၄၃
၂	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၄၄
၃	Ma Kyi Loe Oo	Grinding	၁၈၀၀၀	၄၅
၄	Ma Soe We Khin	Grinding	၁၈၀၀၀	၄၆
၅	Ma Soe We Aye	Grinding	၁၈၀၀၀	၄၇
၆	Ma Mye Mye Lwin	Grinding	၁၈၀၀၀	၄၈
၇	Aung Kyaw Khin	Grinding	၁၈၀၀၀	၄၉
၈	Lay Mye Lwin	CG	၁၈၀၀၀	၅၀
၉	Ma Loe Mye Lwin	CG	၁၈၀၀၀	၅၁
၁၀	Ma Loe Mye Lwin	CG	၁၈၀၀၀	၅၂
၁၁	Ma Loe Mye Lwin	CG	၁၈၀၀၀	၅၃



Green Myanmar

Environmental Services Co., Ltd


No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City, Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescorpany@gmail.com, info@gmescorpany.com

* Myanmar Asia Optical International Co., Ltd. "၏ ပုံနှိပ်လုပ်ငန်းအမျိုးမျိုးလုပ်ကိုင်ရာတွင် လုပ်ငန်းအတွက် ထိန်းသိမ်းစောင့်ရှောက်မှုစာတမ်း (Environmental Management Plan - EMP) ဖြစ်သည့် နောက်ထပ်ဆင့် ထိန်းသိမ်းမှုစာတမ်းကို ဖြစ်ပေါ်စေရန် လုပ်ငန်းစဉ်များကို အခြေခံ၍ ထိန်းသိမ်းစောင့်ရှောက်မှုစာတမ်းကို ထုတ်ပြန်ထားပါသည်။

ရက်စွဲ - ၂၀၂၀ ခုနှစ် ဖတ်လ (၁၂) ရက်

စဉ်	အမည်	လုပ်ငန်းစဉ်	အမျိုးအမည်	လက်မှတ်
၁	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၅၄
၂	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၅၅
၃	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၅၆
၄	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၅၇
၅	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၅၈
၆	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၅၉
၇	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၆၀
၈	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၆၁
၉	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၆၂
၁၀	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၆၃
၁၁	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၆၄
၁၂	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၆၅
၁၃	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၆၆
၁၄	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၆၇
၁၅	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၆၈
၁၆	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၆၉
၁၇	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၇၀
၁၈	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၇၁
၁၉	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၇၂
၂၀	Ma Loe Mye Lwin	Grinding	၁၈၀၀၀	၇၃



Green Myanmar
Environmental Services Co., Ltd


No.115, Kanung Mm Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmesccompany@gmail.com, info@gmesc-mm.com

၁၀

*** Myanmar Asia Optical International Co., Ltd. * ၏ မြန်မာနိုင်ငံအတွင်းရှိ လုပ်ငန်းများအား**
ဘဏ်သုံးလုပ်ငန်းစဉ်အတွက် (Environmental Management Plan - EMP) အခြေခံချက်များ
အတည်ပြုချက်များ

ရက်စွဲ - ၂၀၂၁ ခုနှစ် ဇူလိုင်လ ၁၂ ရက်

စဉ်	အမည်	လုပ်ငန်းစဉ်များ	အချိန်ကာလ	လက်မှတ်
၁	Chin Chin Win	Grinding	၁၀/၁၀/၂၀၂၁	Chin
၂	Mahlaun Khin Lwin	Grinding	၁၀/၁၀/၂၀၂၁	Chin
၃	Hnin Nye Win	Grinding	၁၀/၁၀/၂၀၂၁	Chin
၄	Hnin Su Lwin	Grinding	၁၀/၁၀/၂၀၂၁	Su
၅	Runt Pyae Aye	Grinding	၁၀/၁၀/၂၀၂၁	Pyae
၆	Thae Thae	Grinding	၁၀/၁၀/၂၀၂၁	Thae
၇	Tim Tar Lwin	Grinding	၁၀/၁၀/၂၀၂၁	Tim
၈	Chin Win Tare	Grinding	၁၀/၁၀/၂၀၂၁	Chin
၉	Myat Khin	Grinding	၁၀/၁၀/၂၀၂၁	Myat
၁၀	Don Mon Thon	Grinding	၁၀/၁၀/၂၀၂၁	Don
၁၁	Nye Nye Win	Grinding	၁၀/၁၀/၂၀၂၁	Nye
၁၂	Zin Mar Kyau	Grinding	၁၀/၁၀/၂၀၂၁	Zin
၁၃	Chan E Khin	Grinding	၁၀/၁၀/၂၀၂၁	Chan
၁၄	Pyae Aye	CG	၁၀/၁၀/၂၀၂၁	Pyae
၁၅	Aye Han	CG	၁၀/၁၀/၂၀၂၁	Aye
၁၆	Hnin Nye Win	CG	၁၀/၁၀/၂၀၂၁	Hnin
၁၇	Ng Hnin	CG	၁၀/၁၀/၂၀၂၁	Ng
၁၈	Win Thar Aye	CG	၁၀/၁၀/၂၀၂၁	Win
၁၉	Yin May Aye	CG	၁၀/၁၀/၂၀၂၁	Yin
၂၀	Aye Mye Aye	CG	၁၀/၁၀/၂၀၂၁	Aye



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com


* Myanmar Asia Optical International Co., Ltd. * ဝါး ပုံသဏ္ဌာန်ဆောင်ရွက်ရန်လုပ်ငန်းစဉ်
 ဝါးပုံသဏ္ဌာန်ဆောင်ရွက်ရန် (Environmental Management Plan - EMP) ဆောင်ရွက်ရန်အတွက်
 လုပ်ငန်းစဉ်၏ လုပ်ငန်းစဉ်စဉ်ဆင့် ဆောင်ရွက်ရန်အတွက် တက်ဆက်သွယ်ရန်

ရက်စွဲ - ၂၀၂၀ ခုနှစ် ဖေဖော်ဝါရီလ (၁၂) ရက်

စဉ်	အမည်	လုပ်ငန်းစဉ်	အဆင့်/အဆင့်	လက်မှတ်
၁	Uin Si Hane	Guiding	အဆင့်	ဖေ
၂	Yu Mar	Guiding	"	ဖေ
၃	Mya Sander	Guiding	"	ဖေ
၄	Nip Mar Khin	Guiding	"	ဖေ
၅	Hnin Sander	Guiding	"	ဖေ
၆	Thun Thun Mar	Guiding	"	ဖေ
၇	Thit Thit Aye	CG	"	ဖေ
၈	Thida Aye	CG	"	ဖေ
၉	Hnin Mar Sop	CG	"	ဖေ
၁၀	Ei Ei Ngin	CG	"	ဖေ
၁၁	Cho Cho Aye	CG	"	ဖေ
၁၂	Myo Myo Thun	Guiding	"	ဖေ
၁၃	Myo Myo Thun	Guiding	"	ဖေ
၁၄	Aye Aye Aye	CG	"	ဖေ
၁၅	Myo Myo Aye	CG	"	ဖေ
၁၆	Aye Aye Aye	CG	"	ဖေ
၁၇	Aye Aye Aye	CG	"	ဖေ

[illegible][illegible]

[illegible][illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescscompany@gmail.com, info@gmcs-mm.com

၂၀၁၈ ခုနှစ်

* Myanmar Asia Optical International Co., Ltd. * မိမိ ပုံနှိပ်ထုတ်ဝေမှုများကို လုပ်ငန်းဆောင်ရွက်
သည့်အခါ လုပ်ငန်းစဉ်အတွင်း (Environmental Management Plan – EMP) အစရှိသည့် လုပ်ငန်းစဉ်
သို့မဟုတ် လုပ်ငန်းစဉ်အတွင်း အကျိုးပြုလုပ်ငန်းများကို လုပ်ငန်းစဉ်အတွင်း အကျိုးပြုလုပ်ငန်းများကို


ရက်စွဲ - ၂၀၂၀ ခုနှစ်၊ ဖေဖော်ဝါရီ (၁၃) ရက်

စဉ်	အမည်	လုပ်ငန်းစဉ်	အမည်	လက်မှတ်
	U Ki Aun	Grinding	B-104	U Ki Aun
	Tha Zar Loon	Grinding	E-10	Tha Zar Loon
	Hlaing Wit Yee	Grinding	B-24	Hlaing Wit Yee
	Zin Zin Hlay	Grinding	G-28	Zin Zin Hlay
	Win Win Khay	Grinding	B-08	Win Win Khay
	Myint Myint Hlay	Grinding	T-07	Myint Myint Hlay
	Zar Zar Aung	Grinding	D-24	Zar Zar Aung
	Hsin Htet Htet Hlay	Grinding	A-29	Hsin Htet Htet Hlay
	Popo May Win	Grinding	F-09	Popo May Win
	Zin Thun Hlay	CG	E-12	Zin Thun Hlay
	Saw Mya Mon	CG	I-07	Saw Mya Mon
	Si Si Hla	CG	T-21	Si Si Hla
	Sander Win	CG	H-29	Sander Win
	Chaw Su Waf	CG	T-08	Chaw Su Waf
	Kyi Kyi Hlay	CG	T-30	Kyi Kyi Hlay

[illegible]

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited



Green Myanmar

Environmental Services Co., Ltd


No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City, Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

* Myanmar Asia Optical International Co., Ltd. "၏ ပုံနှိပ်လုပ်ငန်းများလုပ်ကိုင်ရာလုပ်ငန်းဆောင်ရွက်မှု
 ယာယီလုပ်ငန်းစဉ်စီမံခန့်ခွဲမှုစာတမ်း (Environmental Management Plan - EMP) ဖော်ပြချက်များပတ်သက်၍
 ဝန်ထမ်းများ၏ လုပ်ငန်းစဉ်စီမံခန့်ခွဲမှုစာတမ်း (EMP) ဖော်ပြချက်များပတ်သက်၍ တက်ရောက်သူများစာရင်း

ရက်စွဲ - ၂၀၂၀ ခုနှစ် ဖတ်လ (၁၂) ရက်

စဉ်	အမည်	လုပ်ငန်းစဉ်	အမှတ်အသား	လက်မှတ်
၁	Mg Lin ko	Grinding	ရုပ်ရှင်ရိုက်ကူးရေး	Ni
၂	Mg Myint Kyaw	Grinding	အကူအညီပေးသူ	Uin
၃	Mg Aung	Grinding	အကူအညီပေးသူ	Uin
၄	Sandar Co	CG	စက်ရုံအတွင်း	San
၅	Mg Than Oo	CG	ရုပ်ရှင်ရိုက်ကူးရေး	MTD
၆	Mg Aun Khin	CG	ရုပ်ရှင်ရိုက်ကူးရေး	Uin
၇	Son My Kyu	CG	ရုပ်ရှင်ရိုက်ကူးရေး	Uin
၈	G. Hae	CG	ရုပ်ရှင်ရိုက်ကူးရေး	Uin
၉	Uin Aun	CG	ရုပ်ရှင်ရိုက်ကူးရေး	Uin



Green Myanmar

Environmental Services Co., Ltd


No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City, Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

* Myanmar Asia Optical International Co., Ltd. "၏ ပုံနှိပ်လုပ်ငန်းများလုပ်ကိုင်ရာလုပ်ငန်းဆောင်ရွက်မှု
 ယာယီလုပ်ငန်းစဉ်စီမံခန့်ခွဲမှုစာတမ်း (Environmental Management Plan - EMP) ဖော်ပြချက်များပတ်သက်၍
 ဝန်ထမ်းများ၏ လုပ်ငန်းစဉ်စီမံခန့်ခွဲမှုစာတမ်း (EMP) ဖော်ပြချက်များပတ်သက်၍ တက်ရောက်သူများစာရင်း

ရက်စွဲ - ၂၀၂၀ ခုနှစ် ဖတ်လ (၁၂) ရက်

စဉ်	အမည်	လုပ်ငန်းစဉ်	အမှတ်အသား	လက်မှတ်
၁	Kay Zin Co	Grinding	Asia အမှတ်	Uin
၂	Hon Hn Nwe	Grinding	Asia အမှတ်	Uin
၃	Uin Aun Khin	Grinding	Asia အမှတ်	Uin
၄	Zin Thar Myint	Grinding	Asia အမှတ်	Uin
၅	Zin Mar Aye	Grinding	Asia အမှတ်	Uin
၆	Hon Hn Nwe	Grinding	Asia အမှတ်	Uin
၇	Uin Aun Khin	Grinding	Asia အမှတ်	Uin
၈	Uin Aun Khin	Grinding	Asia အမှတ်	Uin
၉	Kay Zin Phyu	CG	Asia အမှတ်	Uin
၁၀	Uin Aun Khin	CG	Asia အမှတ်	Uin
၁၁	Uin Aun Khin	CG	Asia အမှတ်	Uin
၁၂	Uin Aun Khin	CG	Asia အမှတ်	Uin
၁၃	Uin Aun Khin	CG	Asia အမှတ်	Uin
၁၄	Aung Kyau Maing	Centering	Uin	Uin



Green Myanmar

Environmental Services Co., Ltd


No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City, Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

* Myanmar Asia Optical International Co., Ltd. "၏ ပုံနှိပ်လုပ်ငန်းများလုပ်ကိုင်ရာလုပ်ငန်းဆောင်ရွက်မှု
 ယာယီလုပ်ငန်းစဉ်စီမံခန့်ခွဲမှုစာတမ်း (Environmental Management Plan - EMP) ဖော်ပြချက်များပတ်သက်၍
 ဝန်ထမ်းများ၏ လုပ်ငန်းစဉ်စီမံခန့်ခွဲမှုစာတမ်း (EMP) ဖော်ပြချက်များပတ်သက်၍ တက်ရောက်သူများစာရင်း

ရက်စွဲ - ၂၀၂၀ ခုနှစ် ဖတ်လ (၁၂) ရက်

စဉ်	အမည်	လုပ်ငန်းစဉ်	အမှတ်အသား	လက်မှတ်
၁	Uin Aun Khin			Uin
၂	Uin Aun Khin			Uin
၃	Uin Aun Khin			Uin
၄	Uin Aun Khin			Uin
၅	Uin Aun Khin			Uin



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City, Yangon, Myanmar


Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

* Myanmar Asia Optical International Co., Ltd. "၏ ပုံနှိပ်လုပ်ငန်းများလုပ်ကိုင်ရာလုပ်ငန်းဆောင်ရွက်မှု
 ယာယီလုပ်ငန်းစဉ်စီမံခန့်ခွဲမှုစာတမ်း (Environmental Management Plan - EMP) ဖော်ပြချက်များပတ်သက်၍
 ဝန်ထမ်းများ၏ လုပ်ငန်းစဉ်စီမံခန့်ခွဲမှုစာတမ်း (EMP) ဖော်ပြချက်များပတ်သက်၍ တက်ရောက်သူများစာရင်း

ရက်စွဲ - ၂၀၂၀ ခုနှစ် ဖတ်လ (၁၂) ရက်

စဉ်	အမည်	လုပ်ငန်းစဉ်	အမှတ်အသား	လက်မှတ်
၁	Uin Aun Khin	Grinding	Myanmar Asia Optical	Uin
၂	Uin Aun Khin	Grinding		Uin
၃	Uin Aun Khin	Grinding		Uin
၄	Uin Aun Khin	Grinding		Uin
၅	Uin Aun Khin	Grinding		Uin
၆	Uin Aun Khin	Grinding		Uin
၇	Uin Aun Khin	Grinding		Uin
၈	Uin Aun Khin	Grinding		Uin
၉	Uin Aun Khin	Grinding		Uin
၁၀	Uin Aun Khin	CG		Uin
၁၁	Uin Aun Khin	CG		Uin
၁၂	Uin Aun Khin	CG		Uin
၁၃	Uin Aun Khin	CG		Uin
၁၄	Uin Aun Khin	CG		Uin
၁၅	Uin Aun Khin	CG		Uin
၁၆	Uin Aun Khin	CG		Uin
၁၇	Uin Aun Khin	CG		Uin
၁၈	Uin Aun Khin	CG		Uin
၁၉	Uin Aun Khin	CG		Uin
၂၀	Uin Aun Khin	CG		Uin

[illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

၁၈ လုပ်ငန်းခွင်ကျန်းမာရေးနှင့်ဘေးအန္တရာယ်ကာကွယ်ရေးဌာနချုပ်မှပေးလိုက်သည့်အမိန့်ချုတ်

(က) လုပ်ငန်းခွင်အကာအကွယ်ပုံစံသစ်များ မရှိပါဘူး။

(ခ) ဝေဘက်ဆိုင်ရယ် မရှိပါဘူး။

(ဂ) သစ်ပင်စိုက်ပျိုးမှု မရှိပါဘူး။

(ဃ) ဝေဘက်ဆိုင်ရယ်သစ်ပင်စိုက်ပျိုးမှု မရှိပါဘူး။

၁၉ လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှုအခြေအနေအထား အကြံပြုချက်

(က) စတင်သုံးစွဲနေသောအခြေအနေအထား မရှိပါဘူး။

(ခ) အန္တရာယ်ဆိုင်/အန္တရာယ်ဆိုင်များ မရှိပါဘူး။

(က) လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှု မရှိပါဘူး။

(ဃ) အန္တရာယ်ဆိုင်များအခြေအနေအထား မရှိပါဘူး။

(င) ဝေဘက်ဆိုင်ရယ် မရှိပါဘူး။

၂၀ လုပ်ငန်းခွင် လူထုဆက်သွယ်ရေးအခြေအနေအထား အကြံပြုချက်

(က) လုပ်ငန်းခွင်ကြိုတင်ပြောဆို (မီဒီယာထက်) မရှိပါဘူး။

(ခ) လုပ်ငန်းခွင်ဆိုင်/ဆိုင် (အဆင့်မြင့်) မရှိပါဘူး။

(ဂ) လုပ်ငန်းခွင်ဆိုင်/ဆိုင် (မီဒီယာထက်) မရှိပါဘူး။

၂၁ သိရှိအကြံပြုချက်များ

လက်မှတ် May ရက်စွဲ 2024.04.04

အမည် Ma. Hani May ဌာန CS

နိုင်ငံသားစိစစ်ရေးအဖွဲ့ မရှိပါဘူး။ ရက်စွဲ 2024.04.04

လုပ်ငန်းခွင် မရှိပါဘူး။ စက်သွယ်ရန်လိုက် မရှိပါဘူး။

Green Myanmar
Environmental Services Co., Ltd

No.115, Kamsang Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmssccompany@gmail.com, info@gm-sc.com

" Myanmar Asia Optical International Co., Ltd. " မှ နိုင်ငံအသစ်များသို့လက်လှူငွေလုပ်ငန်းအတွက်
လက်ခံနိုင်ရန်မိမိတို့ရည်ရွယ်ထားသော (Environmental Management Plan – EMP) ဝန်ဆောင်မှုများလက်သက်၍
ဝင်ရောက်မှုများကို လုပ်ငန်းခွင်ပိုင်ဆိုင်မှု အခြေခံချက်များအရလုပ်ဆောင်

၁။ လုပ်ငန်းခွင်ကျန်းမာရေးနှင့်အဆေးဆရာတို့ကကွပ်ကဲသည့်အခန်းကဏ္ဍများနှင့်ပတ်သက်၍

(က) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ: အစားအသုံး: ၂၀၁၈.၀၆.၂၅ မှ ၂၀၁၈.၁၂.၃၁
(ခ) ဆေးကုသခံရသူ: ၂၄ နာရီ ၄၇ မှ ၄၇ နာရီ ၅၅
(ဂ) သန့်ရှင်းရန်များ: ၁၂၈ နာရီ ၃၀ မှ ၁၂၈ နာရီ ၃၀
(ဃ) ဆေးကုသကြခံရသူများ: ၁၂၈ နာရီ ၃၀

၂။ လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများအခြေခံချက်အရ အခြေခံချက်

(က) ဆိုင်ရာများအခြေခံချက်: အစားအသုံး: ၂၀၁၈.၀၆.၂၅ မှ ၂၀၁၈.၁၂.၃၁
(ခ) အနီးအနားအခြေခံချက်: အစားအသုံး: ၂၀၁၈.၀၆.၂၅ မှ ၂၀၁၈.၁၂.၃၁
(ဂ) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ: အစားအသုံး: ၂၀၁၈.၀၆.၂၅ မှ ၂၀၁၈.၁၂.၃၁
(ဃ) အနီးအနားများအခြေခံချက်: အစားအသုံး: ၂၀၁၈.၀၆.၂၅ မှ ၂၀၁၈.၁၂.၃၁
(င) ဝေပတ်ဝေလက်: အစားအသုံး: ၂၀၁၈.၀၆.၂၅ မှ ၂၀၁၈.၁၂.၃၁

၃။ လုပ်ငန်းခွင် လူမှုပတ်ဝန်းကျင်အခြေခံချက်အရ အခြေခံချက်

(က) လုပ်ငန်းခွင်ပိုင်ဆိုင်သူ (ပိုင်ဆိုင်သူ): အစားအသုံး: ၂၀၁၈.၀၆.၂၅ မှ ၂၀၁၈.၁၂.၃၁
(ခ) လုပ်ငန်းခွင်ပိုင်ဆိုင်သူ (အဆင့်တစ်ဆင့်): အစားအသုံး: ၂၀၁၈.၀၆.၂၅ မှ ၂၀၁၈.၁၂.၃၁
(ဂ) လက်ကိုင်ပိုင်ဆိုင်သူ (ပိုင်ဆိုင်သူ): အစားအသုံး: ၂၀၁၈.၀၆.၂၅ မှ ၂၀၁၈.၁၂.၃၁


၄။ အခြေခံချက်အခြေခံချက်များ

— အစားအသုံး: ၂၀၁၈.၀၆.၂၅ မှ ၂၀၁၈.၁၂.၃၁

လက်မှတ်: May Chan Khin _____ ခုထုတ်: line, leader _____
အမည်: May Chan Khin _____ ဌာန: Import - Export _____
နိုင်ငံသားစစ်ဆေးမှု: 4/10/2018/10/25/59/6 _____ ပုံနှိပ်ရက်: ၁၄-၁၂-၂၀၁၈ _____
လုပ်ငန်းခွင်: ၁၂.၆၆ _____ လက်သွင်းရန်ပိုင်ခွင့်: 10/20/2018 _____

[illegible][illegible][illegible]

[illegible][illegible]

 **Green Myanmar**
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmesccompany@gmail.com, info@gmesc-nm.com

" Myanmar Asia Optical International Co., Ltd. " ၏ မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ဖြန့်ချိလုပ်ငန်းအတွက်
ယာဉ်ကန်ကွက်လမ်းမရှိသေးသဖြင့် (Environmental Management Plan - EMP) ဖောက်ဖျက်ခြင်းမရှိပတ်သက်၍
သိမ်းသိမ်းယူယူ လုပ်ငန်းခွင်သို့ရောက်ရှိအပ်ကြောင်းအသိပေးရန်ဖြစ်ပါသည်။

၁။ လုပ်ငန်းခွင်ကွက်များမရောက်သေးသဖြင့်ရောက်သည့်ကွက်သစ်များထုတ်လုပ်မှုမပြုလုပ်နိုင်သဖြင့်

(က) လုပ်ငန်းခွင်အကွက်အတွက်ပစ္စည်းများ - ၁၂၃, ၁၂၃, ၁၂၃ - ၁၂၃, ၁၂၃, ၁၂၃

(ခ) အသက်သုံးစရိတ် - ၁၂၃, ၁၂၃, ၁၂၃

(ဂ) အသက်သုံးစရိတ် - ၁၂၃, ၁၂၃, ၁၂၃

(ဃ) အသက်သုံးစရိတ် - ၁၂၃, ၁၂၃, ၁၂၃

၂။ လုပ်ငန်းခွင်အသက်သုံးစရိတ်အသက်သုံးစရိတ်အသက်သုံးစရိတ်

(က) အသက်သုံးစရိတ်အသက်သုံးစရိတ် - ၁၂၃, ၁၂၃, ၁၂၃

(ခ) အသက်သုံးစရိတ်အသက်သုံးစရိတ် - ၁၂၃, ၁၂၃, ၁၂၃

(ဂ) လုပ်ငန်းခွင်အသက်သုံးစရိတ် - ၁၂၃, ၁၂၃, ၁၂၃

(ဃ) အသက်သုံးစရိတ်အသက်သုံးစရိတ် - ၁၂၃, ၁၂၃, ၁၂၃

(င) အသက်သုံးစရိတ်အသက်သုံးစရိတ် - ၁၂၃, ၁၂၃, ၁၂၃

၃။ လုပ်ငန်းခွင် လူထုထိခံစားရမှုအသက်သုံးစရိတ်

(က) လုပ်ငန်းခွင်လူထုထိခံစားရမှု (အသက်သုံးစရိတ်) - ၁၂၃, ၁၂၃, ၁၂၃

(ခ) လုပ်ငန်းခွင်လူထုထိခံစားရမှု (အသက်သုံးစရိတ်) - ၁၂၃, ၁၂၃, ၁၂၃

(ဂ) လုပ်ငန်းခွင်လူထုထိခံစားရမှု (အသက်သုံးစရိတ်) - ၁၂၃, ၁၂၃, ၁၂၃

၄။ အသက်သုံးစရိတ်အသက်သုံးစရိတ်

လက်ထုတ် - ၁၂၃, ၁၂၃, ၁၂၃

အသက်သုံးစရိတ် - ၁၂၃, ၁၂၃, ၁၂၃

နိုင်ငံတော်အသက်သုံးစရိတ် - ၁၂၃, ၁၂၃, ၁၂၃


လုပ်ငန်းခွင် - ၁၂၃, ၁၂၃, ၁၂၃

ရာထူး - Line leader (၁၂၃, ၁၂၃, ၁၂၃)

၅။ ငွေ - Gaining

ရန်ပုံငွေ - ၁၂၃, ၁၂၃, ၁၂၃


ထုတ်လုပ်မှုအသက်သုံးစရိတ် - Myanmar Asia Optical

 **Green Myanmar**
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mn.com

" Myanmar Asia Optical International Co., Ltd. " မှ လုပ်ငန်းများကို လုပ်ကိုင်ပေးရန်အတွက်
တပ်ကြံကောင်စီ၏ခွင့်ပြုချက် (Environmental Management Plan - EMP) ဖော်ပြပါအတိုင်း
ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်ဆိုင်ရာ အန္တရာယ်များကို
အ လုပ်ငန်းခွင်ကျန်းမာရေးနှင့် အန္တရာယ်ကင်းရှင်းရေးစည်းကမ်းများကို လိုက်နာကြည့်ရှုအပ်ကြောင်း
(က) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ: ဘူး၊ ခွက်၊ မျက်မှန်
(ခ) ဝတ်ဆင်ရန်: အင်္ကျီ
(ဂ) သန့်ရှင်းရေး: ဆေးဆေး၊ ရေ၊ ချက်ပြုတ်
(ဃ) မေးခွန်းများ: အန္တရာယ်ကင်းရှင်းရေး
၂။ လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းအသုံးအကြံပြုချက်
(က) ဆင်ခြင်မှုများ: အန္တရာယ်ကင်းရှင်းရေး
(ခ) အန္တရာယ်ကင်းရှင်းရေး: အင်္ကျီ
(ဂ) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်း: အင်္ကျီ
(ဃ) အန္တရာယ်ကင်းရှင်းရေး: အင်္ကျီ
(င) အန္တရာယ်ကင်းရှင်းရေး: အင်္ကျီ
၃။ လုပ်ငန်းခွင် ကျန်းမာရေးဆိုင်ရာအန္တရာယ်အကြံပြုချက်
(က) လုပ်ငန်းခွင်ကြည့်ရှုသူ (ပီပီအေအေ): အန္တရာယ်ကင်းရှင်းရေး
(ခ) လုပ်ငန်းခွင်ကြည့်ရှုသူ (အသင်းအသင်း): အန္တရာယ်ကင်းရှင်းရေး
(ဂ) လုပ်ငန်းခွင်ကြည့်ရှုသူ (အသင်းအသင်း): အန္တရာယ်ကင်းရှင်းရေး
(ဃ) လုပ်ငန်းခွင်ကြည့်ရှုသူ (အသင်းအသင်း): အန္တရာယ်ကင်းရှင်းရေး
၄။ သီးခြားအန္တရာယ်ကင်းရှင်းရေး
လက်မှတ်: Maw ရာထူး: IT
အမည်: Than Than Maw ဌာန: Marketing
နိုင်ငံသားစိစစ်ရေးအဖွဲ့မှ: ၂၀၂၁/၁၁/၁၁/၁၁/၁၁/၁၁ ဖုန်းနံပါတ်: ၀၉-၈၄၇၄၈၂၆၇
လုပ်သက်: (၁၂) နှစ် တက်သွင်းရန်ရက်: Myanmar Asia Optical

[illegible][illegible]



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

၁။ မြန်မာ့အလင်းစာမဂ္ဂဇင်း (Environmental Management Plan - EMP) စာမူကြမ်းနှင့်ပတ်သက်၍
ဝယ်ယူမှုများ လုပ်ငန်းခွင်ပိုင်ရာ အကြံပြုချက်များပေးခြင်း

၁။ လုပ်ငန်းခွင်ကျန်းမာရေးနှင့်ဘေးအန္တရာယ်ကာကွယ်ရေးစည်းမျဉ်းနှင့်ပတ်သက်၍ အကြံပြုချက်

(က) လုပ်ငန်းခွင်အကာအကွယ်စည်းမျဉ်းများ မရှိ

(ခ) သောက်သုံးရေ မရသေး

(ဂ) သန့်ရှင်းရန်များ မဆင်

(ဃ) အစားအသောက်နှင့်အရေစင် မလက်လှမ်းမီ

၂။ လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှုအခြေအနေအထား အကြံပြုချက်

(က) စုစည်းသုံးများအခြေအနေ မရှိ

(ခ) အနံ့အသက်/အနံ့အသံများ မရှိ

(ဂ) လုပ်ငန်းခွင်အလင်းရောင် မရှိ

(ဃ) အမှန်အမှားများအခြေအနေ မရှိ

(င) မလက်လှမ်းမီလျက် မရှိ

၃။ လုပ်ငန်းခွင် လူမှုဆက်သွယ်ရေးအခြေအနေအထား အကြံပြုချက်

(က) လုပ်ငန်းခွင်ကြိုကြိုသွယ် (မီဒီယာဖြင့်) မလက်လှမ်းမီ

(ခ) လုပ်ငန်းခွင်ကိုင်စက် (အဆင့်တူ) မလက်လှမ်းမီ

(ဂ) လက်အောက်ခံလုပ်ငန်း (မီဒီယာကိုင်စက်) မလက်လှမ်းမီ

၄။ သီးခြားအကြံပြုချက်များ

လက်မှတ် မရှိ

အမည် မရသေး

နိုင်ငံသားစိစစ်ရေးဌာနမှတ် မရှိ


လုပ်သက် _____

ရာထူး Interviewer

ဌာန Aide C.C.G

ရန်ကုန် မရ - 886318079

ဆက်သွယ်ရန်လိပ်စာ မရှိ



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

၁။ Myanmar Asia Optical International Co., Ltd. ၏ မြန်မာလူ့အခွင့်အရေးလုပ်ငန်းစဉ်လုပ်ငန်းအတွက်
ဝတ်စုံသင်္ကေတပုံစံပြုစုပေးခြင်း (Environmental Management Plan – EMP) ရေးဆွဲခြင်းနှင့်ပတ်သက်၍
ဝန်ဆောင်မှုပေးရန် လုပ်ငန်းခွင်သို့ဝင်ရောက် ဆောင်ရွက်ရန်အမည်ပြုခြင်း

၁။ လုပ်ငန်းစဉ်တွင်အသုံးပြုသောဆေးကုသရေးကုသရေးပစ္စည်းများနှင့်ပတ်သက်၍ အမည်ပြုချက်

(က) လုပ်ငန်းစဉ်အတွက်အသုံးပြုသောပစ္စည်းများ.....

(ခ) ဝေဘက်သို့ပို့ချ.....

(ဂ) သန့်စင်ပစ်ချမှု.....

(ဃ) ဆေးကုသရေးကုသရေးပစ္စည်း.....

၂။ လုပ်ငန်းစဉ်အတွက်လုပ်ကိုင်မှုအခြေအနေအထား အမည်ပြုချက်

(က) ဆုတ်သန့်မှုအခြေအနေ.....

(ခ) အနံ့အသက်/အနံ့အဝေမှု.....

(ဂ) လုပ်ငန်းစဉ်အလုပ်အကိုင်.....

(ဃ) အသုံးပြုသောပစ္စည်းအခြေအနေ.....

(င) ဝေဘက်သို့ပို့ချ.....

၃။ လုပ်ငန်းစဉ် လူမှုပတ်ဝန်းကျင်အခြေအနေအထား အမည်ပြုချက်

(က) လုပ်ငန်းစဉ်လုပ်ကိုင်မှု (မိမိအသက်).....

(ခ) လုပ်ငန်းစဉ်အသက် (အသက်).....

(ဂ) လက်အသက်ဝန်ဆောင် (မိမိလက်အသက်).....

၄။ သိပ္ပံနည်းကျအမည်ပြုချက်များ.....

.....

.....

.....

လက်မှတ်.....

အမည်.....

နိုင်ငံသားစိစစ်ရေးအဖွဲ့.....

လုပ်သက်.....


အထူး.....

ဌာန.....

ရန်ကုန်မြို့.....

ဆက်သွယ်ရန်ဖုန်းနံပါတ်.....

[illegible][illegible][illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-508451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Global International Co., Ltd. ” ၏ မှန်ပိုင်လုပ်ငန်းစဉ်များကိုလုပ်ကိုင်ခြင်းနှင့်အညီကုန်
 ဖတ်သုံးမှုနှင့်ပတ်သက်သည့် (Environmental Management Plan – EMP) မေ့လျော့ခြင်းနှင့်ပတ်သက်၍
 ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်သို့ရောက်ရှိနေသည့်အန္တရာယ်များလျှော့ချပေးခြင်း

၁။ လုပ်ငန်းခွင်နှင့်နီးစပ်သူများအသိပေးရန်အတွက်အသိပေးစာဖြင့်လုပ်ငန်းစဉ်များနှင့်ပတ်သက်၍

(က) လုပ်ငန်းခွင်အသိပေးစာဖြင့်လုပ်ငန်းစဉ်များ အမှတ် (၁)

(ခ) အသိပေးစာဖြင့်လုပ်ငန်းစဉ်များ အမှတ် (၂)

(ဂ) အသိပေးစာဖြင့်လုပ်ငန်းစဉ်များ အမှတ် (၃)

(ဃ) အသိပေးစာဖြင့်လုပ်ငန်းစဉ်များ အမှတ် (၄)

၂။ လုပ်ငန်းခွင်အသိပေးစာဖြင့်လုပ်ငန်းစဉ်များအသိပေးစာဖြင့်လုပ်ငန်းစဉ်များ

(က) အသိပေးစာဖြင့်လုပ်ငန်းစဉ်များ အမှတ် (၁)

(ခ) အသိပေးစာဖြင့်လုပ်ငန်းစဉ်များ အမှတ် (၂)

(ဂ) အသိပေးစာဖြင့်လုပ်ငန်းစဉ်များ အမှတ် (၃)

(ဃ) အသိပေးစာဖြင့်လုပ်ငန်းစဉ်များ အမှတ် (၄)

၃။ လုပ်ငန်းခွင် လုပ်ငန်းစဉ်များအသိပေးစာဖြင့်လုပ်ငန်းစဉ်များ

(က) လုပ်ငန်းခွင်လုပ်ငန်းစဉ်များ (ပိတ်ဆို့ခြင်း) အမှတ် (၁)


(ခ) လုပ်ငန်းခွင်လုပ်ငန်းစဉ်များ (အသိပေးခြင်း) အမှတ် (၂)

(ဂ) လုပ်ငန်းခွင်လုပ်ငန်းစဉ်များ (အသိပေးခြင်း) အမှတ် (၃)

၄။ အသိပေးစာဖြင့်လုပ်ငန်းစဉ်များ

လက်မှတ် လက်မှတ်
 အမည် အမည်
 နိုင်ငံသားစာရင်းအမှတ် နိုင်ငံသားစာရင်းအမှတ်
 လုပ်ငန်းခွင် လုပ်ငန်းခွင်

[illegible]



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel. 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

၁။ မြန်မာအာရှအော့ဖ်ရှယ်ဘလီလီမိတက် (အလင်းအာရှ) ကို
ဖက်ဝန်းကျင်စီမံခန့်ခွဲမှုအဖွဲ့ (Environmental Management Plan – EMP) ခေမမြေပြင်နှင့်ပတ်သက်၍
ဝါထောင်များ၏ လုပ်ငန်းနှင့်ဆိုင်ရာ အကြံပြုချက်များပေးရန်၊

၁။ လုပ်ငန်းနှင့်ပတ်သက်သည့်အသေးစိတ်အချက်အလက်များနှင့်ပတ်သက်၍ အောက်ပါအတိုင်း

(က) လုပ်ငန်းနှင့်ဆက်သွယ်သည့်အသေးစိတ်အချက်အလက်များ: အလင်းအာရှ

(ခ) အသေးစိတ်အချက်အလက်များ: အလင်းအာရှ

(ဂ) အလင်းအာရှအသေးစိတ်အချက်အလက်များ: အလင်းအာရှ

(ဃ) အလင်းအာရှအသေးစိတ်အချက်အလက်များ: အလင်းအာရှ

၂။ လုပ်ငန်းနှင့်ပတ်သက်သည့်အသေးစိတ်အချက်အလက်များ

(က) အလင်းအာရှအသေးစိတ်အချက်အလက်များ: အလင်းအာရှ

(ခ) အလင်းအာရှအသေးစိတ်အချက်အလက်များ: အလင်းအာရှ

(ဂ) အလင်းအာရှအသေးစိတ်အချက်အလက်များ: အလင်းအာရှ

(ဃ) အလင်းအာရှအသေးစိတ်အချက်အလက်များ: အလင်းအာရှ

၃။ လုပ်ငန်းနှင့်ပတ်သက်သည့်အသေးစိတ်အချက်အလက်များ

(က) လုပ်ငန်းနှင့်ပတ်သက်သည့်အသေးစိတ်အချက်အလက်များ: အလင်းအာရှ

(ခ) လုပ်ငန်းနှင့်ပတ်သက်သည့်အသေးစိတ်အချက်အလက်များ: အလင်းအာရှ

(ဂ) လုပ်ငန်းနှင့်ပတ်သက်သည့်အသေးစိတ်အချက်အလက်များ: အလင်းအာရှ

(ဃ) လုပ်ငန်းနှင့်ပတ်သက်သည့်အသေးစိတ်အချက်အလက်များ: အလင်းအာရှ

၄။ အလင်းအာရှအသေးစိတ်အချက်အလက်များ


အလင်းအာရှ

လက်မှတ်: အလင်းအာရှ ရာထူး: အလင်းအာရှ

အမည်: အလင်းအာရှ ဌာန: အလင်းအာရှ

နိုင်ငံသားစံသေစာအမှတ်: အလင်းအာရှ နိုင်ငံသားစံသေစာအမှတ်: အလင်းအာရှ

လက်သား: အလင်းအာရှ စာတင်သူလက်မှတ်: အလင်းအာရှ



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (I), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mn.com

" Myanmar Asia Optical International Co., Ltd. " ၏ မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ရန်လုပ်ငန်းအတွက်
ပတ်ဝန်းကျင်ဆိုင်ရာ သိပ္ပံနည်းကျစစ်ဆေးခြင်း (Environmental Management Plan – EMP) ခေ့လျော်ခြင်းနှင့်ပတ်သက်၍
ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်ဆိုင်ရာ အန္တရာယ်များမရှိခြင်း

၁။ လုပ်ငန်းခွင်ကျန်းမာရေးနှင့်သဘာဝအန္တရာယ်တာဝန်ထမ်းဆောင်သူများနှင့်လုပ်ငန်းအခြေစိုက်မှု

(က) လုပ်ငန်းခွင်အတာဝန်ထမ်းဆောင်သူများ: ၁၀/၇
 (ခ) ခေ့လျော်သူအမည်: PH7
 (ဂ) သင်္ချာနံပါတ်များ: ၅၅၀/၁၀၂၆၇၁၀၀၆၇၈၉
 (ဃ) ခေ့လျော်ကြားသင်္ချာနံပါတ်: ၁၀၆၆၆၇၈၉

၂။ လုပ်ငန်းခွင်အန္တရာယ်လုပ်ငန်းများအခြေအနေအထား အခြေစိုက်မှု

(က) ထုတ်လုပ်မှုအခြေအနေအထား: ၁၀/၇
 (ခ) အန္တရာယ်ပုံစံ/အန္တရာယ်များ: ၁၀/၇
 (ဂ) လုပ်ငန်းခွင်အန္တရာယ်လုပ်ငန်း: ၁၀/၇
 (ဃ) အန္တရာယ်အန္တရာယ်အခြေအနေအထား: ၁၀/၇
 (င) ခေ့လျော်ခေ့လျော်: ၁၀/၇


၃။ လုပ်ငန်းခွင် လူမှုပတ်ဝန်းကျင်အခြေအနေအထား အခြေစိုက်မှု

(က) လုပ်ငန်းခွင်လုပ်ငန်းခွင် (မိမိအသက်): ၁၀/၇
 (ခ) လုပ်ငန်းခွင်လုပ်ငန်းခွင် (အသက်): ၁၀/၇
 (ဂ) လက်အောက်ခံလုပ်ငန်း (မိမိလက်အောက်ခံ): ၁၀/၇

၄။ သိပ္ပံနည်းကျစစ်ဆေးမှုများ

လက်မှတ်: ၁၀/၇
 အမည်: Kyau Lin Oo
 နိုင်ငံသားစာရင်းအမှတ်: ၁၀/၇
 လုပ်ငန်း: ၁၀/၇

ရာထူး: Water - IT
 ဌာန: Making Tools
 ဝန်ခံခံဝတ်: ၁၀/၇
 ထက်သန်သူရပ်ကွက်: ၁၀/၇

 **Green Myanmar**
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

" Myanmar Asia Optical International Co., Ltd. "၏ နယ်စပ်လူမှုဆွေမျိုးများလုပ်ငန်းလုပ်ငန်းအတွက်
ဖက်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan - EMP) ဖော်ပြခြင်းနှင့်ပတ်သက်၍
သိတမ်းများ၏ လုပ်ငန်းနှင့်ပတ်သက်သည့် အကြံပြုချက်များဖော်ပြခြင်း

၁။ လုပ်ငန်းနှင့်ကျွန်းဆောင်မှုနှင့်သောအားနည်းရာသက်သာမှုလျှော့ချမှုနှင့်ပတ်သက်သည့်အကြံပြုချက်

(က) လုပ်ငန်းနှင့်အကာအကွယ်ပစ္စည်းများ: ၁

(ခ) ဆေးကုသမှုဆောင်ရွက်မှု: ၂

(ဂ) ဆေးကုသမှုဆောင်ရွက်မှု: ၃

(ဃ) ဆေးကုသမှုဆောင်ရွက်မှုဆောင်ရွက်မှု: ၄

၂။ လုပ်ငန်းနှင့်ပတ်သက်သည့်အကြံပြုချက်များအားဖြင့်အကြံပြုချက်

(က) စီမံခန့်ခွဲမှုအကြံပြုချက်: ၅

(ခ) အကြံပြုချက်အကြံပြုချက်: ၆

(ဂ) လုပ်ငန်းနှင့်ပတ်သက်သည့်အကြံပြုချက်: ၇

(ဃ) အကြံပြုချက်အကြံပြုချက်: ၈

(င) အကြံပြုချက်အကြံပြုချက်: ၉

၃။ လုပ်ငန်းနှင့် လူမှုပတ်ဝန်းကျင်ဆောင်ရွက်မှုအကြံပြုချက်

(က) လုပ်ငန်းနှင့်ပတ်သက်သည့်အကြံပြုချက်: ၁၀

(ခ) လုပ်ငန်းနှင့်ပတ်သက်သည့်အကြံပြုချက်: ၁၁

(ဂ) လုပ်ငန်းနှင့်ပတ်သက်သည့်အကြံပြုချက်: ၁၂

၄။ အကြံပြုချက်အကြံပြုချက်များ

လက်မှတ်: ၁၁


အမည်: ၁၂

နိုင်ငံသားစိစစ်ရေးအဖွဲ့: ၁၃

လုပ်ငန်း: ၁၄

ရက်စွဲ: ၁၅

ဆက်သွယ်ရန်လိပ်စာ: ၁၆



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

" Myanmar Asia Optical International Co., Ltd. " ၏ မြန်မာ့အလင်းအမှတ်တံဆိပ်လုပ်ငန်းအတွက်
ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုစီမံအဖွဲ့ (Environmental Management Plan - EMP) ဖော်ပြချက်ပတ်သက်၍
ဝန်ထမ်းများ၏ လုပ်ငန်းစဉ်ဆိုင်ရာ အကြံပြုချက်များလုပ်ငြင်း

အ လုပ်ငန်းစဉ်နှစ်ခုမှာမူအသေးအမွှာရာသီကတော့မလုပ်လုပ်မှာမလုပ်လုပ်လုပ်လုပ်လုပ်လုပ်လုပ်လုပ်

(က) လုပ်ငန်းစဉ်အကာအကွယ်ပစ္စည်းများ _____

(ခ) စောင့်ကြည့်ရေး _____ ၁၉.၁၂.၁၆

(ဂ) သန့်စင်သုံးများ _____ ၁၁.၀၈.၁၇

(ဃ) အစောကြောသန့်ရှင်းရေးစနစ် _____ ၁၂.၁၆

၂ လုပ်ငန်းစဉ်အလုပ်လုပ်ကိုင်မှုအခြေအနေအပေါ်အကြံပြုချက်

(က) ဆုတ်သန့်ရေးအခြေအနေ _____

(ခ) အနံ့အသက်/အနံ့အဝံ့များ _____

(ဂ) လုပ်ငန်းစဉ်အလုပ်လုပ်ကိုင် _____

(ဃ) အနံ့အသက်များအခြေအနေ _____

(င) အလုပ်လုပ်ကိုင် _____

၃ လုပ်ငန်းစဉ် လူမှုဆက်သွယ်ရေးအခြေအနေအပေါ်အကြံပြုချက်

(က) လုပ်ငန်းစဉ်ကြိုတင်သွင်း (မိမိအသက်) _____

(ခ) လုပ်ငန်းစဉ်လုပ်ကိုင် (အသက်) _____

(ဂ) လုပ်ငန်းစဉ်လုပ်ကိုင် (မိမိအသက်) _____

၄ သီးခြားအကြံပြုချက်များ _____

လက်မှတ် _____

အမည် _____

နိုင်ငံသားစိစစ်ရေးအမှတ် _____

လုပ်ငန်း _____

ရာထူး _____


ဌာန _____

ဖုန်းနံပါတ် _____

ဆက်သွယ်ရန်ပိတ်စာ _____

[illegible][illegible][illegible]

[illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” ၏ မူပိုင်ခွင့်အမျိုးမျိုးထုတ်လုပ်ခြင်းလုပ်ငန်းအတွက်
 ဖတ်နားသွင်းစိမ့်သန့်မှုအစီအစဉ် (Environmental Management Plan – EMP) ဖန်တီးခြင်းနှင့်သတ်မှတ်
 ဝယ်ဝယ်မှုများ၏ လုပ်ငန်းစဉ်ဆိုင်ရာ အကြံပြုချက်များထုတ်ပြန်ခြင်း

၁။ လုပ်ငန်းစဉ်နှင့်အညီအသုံးပြုသောပစ္စည်းများထုတ်လုပ်ခြင်းအကြံပြုချက်

(၀၇) လုပ်ငန်းစဉ်အတိုင်းအတာအကျဉ်းချုပ်များ..... *အမှတ်အသား ပုံစံ*

(၁) သောက်သုံးရေ..... *အသုံးပြုမှု*

(၈) သန့်စင်ရန်ပစ္စည်း..... *ရေအသုံးပြုမှု*

(၁၀) ဆေးဆေးကြောသန့်ရှင်းရေးပစ္စည်း..... *အသုံးပြုမှု*

၂။ လုပ်ငန်းစဉ်အလုပ်လုပ်ကိုင်မှုအခြေအနေအထား အကြံပြုချက်

(၀၇) ဆည်သံများအခြေအနေ..... *အသုံးပြုမှု*

(၁) အနုအသက်/အရွယ်အစားများ..... *ရေ*

(၈) လုပ်ငန်းစဉ်အလုပ်လုပ်ကိုင်မှု..... *ရေအသုံးပြုမှု*

(၁၁) အမှန်အတိုင်းအခြေအနေ..... *ရေ၊ အသုံးပြုမှု၊ ပစ္စည်း*

(၁) ခရစ်လစာလွှတ်..... *အသုံးပြုမှု၊ ပစ္စည်း*

၃။ လုပ်ငန်းစဉ် လူမှုပတ်ဝန်းကျင်အခြေအနေအထား အကြံပြုချက်

(၀၇) လုပ်ငန်းစဉ်ကြိုတင်လုပ် (မီအီအက်)..... *အသုံးပြုမှု*

(၈) လုပ်ကိုင်ကိုင်စက် (အဆင့်တူ)..... *အသုံးပြုမှု*

(၈) လက်အောက်ခံပစ္စည်း (မီအီအက်အောက်)..... *အသုံးပြုမှု*

၄။ သိမ်းဆည်းမှုအကြံပြုချက်များ

လက်မှတ်..... *အသုံးပြုမှု*

အမည်..... *Ma Nide Aye*

နိုင်ငံသားစိမ့်သန့်မှုအတွက် မူဝါဒအခြေအနေအထား..... *အသုံးပြုမှု*

လုပ်သက်..... *၁၁.၁၁*


ရာထူး..... *W.D. Key*

ဌာန..... *C.S.*

မှန်မမှန်..... *အသုံးပြုမှု*

ဆက်သွယ်ရန်လိပ်စာ..... *အသုံးပြုမှု*

[illegible]



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (I), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

၂၈

၂၉

၃၀

၃၁

၃၂

၃၃

၃၄

၃၅

၃၆

၃၇

၃၈

၃၉

၄၀

၄၁

၄၂

၄၃

၄၄

၄၅

၄၆

၄၇

၄၈

၄၉

၅၀

၅၁

၅၂

၅၃

၅၄

၅၅

၅၆

၅၇

၅၈

၅၉

၆၀

၆၁

၆၂

၆၃

၆၄

၆၅

၆၆

၆၇

၆၈

၆၉

၇၀

၇၁

၇၂

၇၃

၇၄

၇၅

၇၆

၇၇

၇၈

၇၉

၈၀

၈၁

၈၂

၈၃

၈၄

၈၅

၈၆

၈၇

၈၈

၈၉

၉၀

၉၁

၉၂

၉၃

၉၄

၉၅

၉၆

၉၇

၉၈

၉၉

၁၀၀

လက်မှတ် _____

အမည် Mg Lin Ko

နိုင်ငံသားစစ်စစ်မှန်မှန် ၁၂/မတ်(၄၆)၊ ၁၉၄၆


လုပ်သက် (၄) ၃၆ (၅) ၁၁

ရာထူး Monitor (C.I.)

ဌာန Grinding

ရန်ပုံငွေ ၀၉၇၈၂၅၇၃၁

ထက်သွယ်ရန်ပိုင်ခွင့် စင်စစ် (အလုပ်ခွင်)



Green Myanmar
Environmental Services Co., Ltd

Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” မှ ပြန်လည်အသိပေးသော လုပ်ငန်းအတွက်
ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုစနစ် (Environmental Management Plan - EMP) ခေတ္တပြင်ဆင်ပတ်သက်၍
ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်နှင့် အခြားအရာများအား

၁။ လုပ်ငန်းခွင်တွင် အန္တရာယ်ရှိသော အန္တရာယ်ကင်းရှင်းရေးအစီအစဉ်များ ပြင်ဆင်ခြင်း

(က) လုပ်ငန်းခွင်အတွက် အန္တရာယ်ကင်းရှင်းရေးအစီအစဉ်များ (က) လုပ်ငန်းခွင်အတွက် အန္တရာယ်ကင်းရှင်းရေးအစီအစဉ်များ

(ခ) အသက်အန္တရာယ် (ခ) အသက်အန္တရာယ်

(ဂ) သန့်ရှင်းရေး (ဂ) သန့်ရှင်းရေး

(ဃ) ဆေးကြောသန့်ရှင်းရေး (ဃ) ဆေးကြောသန့်ရှင်းရေး

၂။ လုပ်ငန်းခွင်အတွက် လုပ်ငန်းခွင်အန္တရာယ်အခြေအနေအထား

(က) ဆေးကြောသန့်ရှင်းရေး (က) ဆေးကြောသန့်ရှင်းရေး

(ခ) အန္တရာယ်အခြေအနေအထား (ခ) အန္တရာယ်အခြေအနေအထား

(ဂ) လုပ်ငန်းခွင်အန္တရာယ်အခြေအနေအထား (ဂ) လုပ်ငန်းခွင်အန္တရာယ်အခြေအနေအထား

(ဃ) အန္တရာယ်အခြေအနေအထား (ဃ) အန္တရာယ်အခြေအနေအထား

၃။ လုပ်ငန်းခွင် လူမှုပတ်ဝန်းကျင်အန္တရာယ်အခြေအနေအထား

(က) လုပ်ငန်းခွင်အန္တရာယ်အခြေအနေအထား (က) လုပ်ငန်းခွင်အန္တရာယ်အခြေအနေအထား

(ခ) လုပ်ငန်းခွင်အန္တရာယ်အခြေအနေအထား (ခ) လုပ်ငန်းခွင်အန္တရာယ်အခြေအနေအထား

(ဂ) လုပ်ငန်းခွင်အန္တရာယ်အခြေအနေအထား (ဂ) လုပ်ငန်းခွင်အန္တရာယ်အခြေအနေအထား

၄။ သိပ္ပံနည်းကျအခြေအနေအထား

လက်မှတ် (Signature) လက်မှတ်

အမည် (Name) အမည်

နိုင်ငံသားစိစစ်ရေးအဖွဲ့ (Ministry of Natural Resources and Environmental Conservation) နိုင်ငံသားစိစစ်ရေးအဖွဲ့


လုပ်ငန်းခွင် (Site) လုပ်ငန်းခွင်

ရာထူး (Position) ရာထူး

ဌာန (Department) ဌာန

ဖုန်းနံပါတ် (Phone Number) ဖုန်းနံပါတ်

ဆက်သွယ်ရန်ပိတ်စာ (Closing) ဆက်သွယ်ရန်ပိတ်စာ

 **Green Myanmar**
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel. 09 897 978 296, 09-5081451 E-mail: gmesccompany@gmail.com, info@gmesc-mm.com

" Myanmar Asia Optical International Co., Ltd. " ၏ မြန်မာအော့ပတစ်မြို့လုပ်ငန်းလုပ်ငန်းအတွက်
ဖက်စုံသဘာဝစီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan – EMP) ဖော်ပြချက်နှင့်ပတ်သက်၍
ဝေါ့ဖ်သစ်များ၏ လုပ်ငန်းခွင်ဆိုင်ရာ အကြံပြုချက်များလုပ်ငန်း

၁။ လုပ်ငန်းခွင်တွင် မြို့မာဝေနှင့် အစားအသွယ်ရာသားကုလ်ဝေပေးစဉ် မြို့မာဝေလုပ်ငန်းအကြံပြုချက်

(က) လုပ်ငန်းခွင်အကာကွယ်ပစ္စည်းများ ၁၂၇

(ခ) စသောက်သုံးရေ ၆၇၁၁၄

(ဂ) သန့်စင်ရန်များ ၁၁၄၅၆၈၇၈

(ဃ) ဆေးအကြောသန့်ရှင်းရေပေးစဉ်

၂။ လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှုအခြေအနေအထားအကြံပြုချက်

(က) ထုတ်သန်များအခြေအနေ ၁၂၇

(ခ) အနံ့အသက်/အနံ့အဝေ့များ ၆၇

(ဂ) လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင် ၆၈၀၀၀၀၀၀၀၀

(ဃ) အမှန်အသွယ်များအခြေအနေ ၁၂၇

(င) အလုပ်လုပ်ကိုင် ၆၈၀၀၀၀၀၀၀၀၀

၃။ လုပ်ငန်းခွင် လူမှုစက်ဆာရေအခြေအနေအထားအကြံပြုချက်

(က) လုပ်ငန်းခွင်ကြံ့ခိုင်သူ (မိမိအသက်) ၆၈၀၀၀၀၀၀၀၀၀

(ခ) လုပ်ငန်းခွင်ကြံ့ခိုင်သူ (အသက်) ၆၈၀၀၀၀၀၀၀၀၀

(ဂ) လုပ်ငန်းခွင်ကြံ့ခိုင်သူ (မိမိအသက်) ၆၈၀၀၀၀၀၀၀၀၀


၄။ သိမ်းဆည်းကြံ့ခိုင်မှုများ

.....

.....

.....

လက်မှတ်
အမည် Yu Man
နိုင်ငံသားစီမံခန့်ခွဲမှုအတွက်
လုပ်ငန်း
ရောင်း Worker ၇၂
ငှား Contracting
နိုင်ငံသားစီမံခန့်ခွဲမှု
စက်သွယ်နိုင်စွမ်း Asia Optical



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (I), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

၂၀၁၉ ခုနှစ် အောက်တိုဘာလ ၁၀ ရက်နေ့

“ Myanmar Asia Optical International Co., Ltd. ” ၏ မှန်ဘီလူးအသိပြုထုတ်လုပ်ခြင်းလုပ်ငန်းအတွက်
 ဝတ်လုပ်ကိုင်စီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan - EMP) ရေးဆွဲခြင်းနှင့် ပတ်သက်၍
 ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်ဆိုင်ရာ အကြံပြုချက်များရယူခြင်း

၁။ လုပ်ငန်းခွင်ရှိ မှန်မာရမည့်သေဆုံးရောင်းဝယ်ကုန်ပစ္စည်းများနှင့် လုပ်ငန်းအကြံပြုချက်

(က) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ မရှိ

(ခ) သောက်သုံးရေ မရှိ

(ဂ) သန့်စင်ရန်များ အိုး၊ ရွယ်၊ မျှင်

(ဃ) ဆေးအကြွက်သန့်ရှင်းရေးစနစ် မရှိ

၂။ လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှုအခြေအနေအထား အကြံပြုချက်

(က) ဆူညံသံများအခြေအနေ မရှိ

(ခ) အနံ့အသက်/အနံ့အထူးများ မရှိ

(ဂ) လုပ်ငန်းခွင်အလင်းရောင် ကောင်းပါသည်

(ဃ) အမှန်အမှားများအခြေအနေ မရှိ

(င) ခလောင်လေထွက် ကောင်းပါသည်

၃။ လုပ်ငန်းခွင် လူ့ဘက်ဆိုင်ရာအခြေအနေအထား အကြံပြုချက်

(က) လုပ်ငန်းခွင်ကြီးကြပ်သူ (စီမံကိန်းထုတ်) မရှိပါ

(ဂ) လုပ်ကိုင်ကိုင်စီမံ (အဆင့်တ) ကောင်းပါသည်

(ဂ) လက်အောက်ဝန်ထမ်း (စီမံလက်အောက်) မရှိပါ

၄။ အကြံပြုချက်များ

လက်မှတ် Min ဓာတ် Workex-Je

အမည် Min. G. Hlove ဌာန Grinding


နိုင်ငံသားစိစစ်ရေးအမှတ် ၃၄/၁၈၈၆၆၁၂၈၆၃၆ ဝန်ခံခြင်း ၀၇-၂၄၈၆၀၁၉၉၁

လုပ်သက် ၂၄၆ စက်သွယ်ရန်လိပ်စာ Asia Optical Co., Ltd

[illegible]

[illegible][illegible][illegible][illegible]

[illegible][illegible]



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 798 296, 09-5081451 E-mail: gmccompany@gmail.com, info@gmcs-mn.com

၁။ မြန်မာ့လူ့အခွင့်အရေးလုပ်ငန်းစဉ်များအတွက်
ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုစံနှုန်း (Environmental Management Plan – EMP) ဖော်ပြချက်နှင့်ပတ်သက်၍
လိုအပ်သည့်အခါ လုပ်ငန်းနှင့်ဆိုင်ရာ အခြေခံချက်များအရပြန်

၁။ လုပ်ငန်းစဉ်များအရစီမံခန့်ခွဲမှုစံနှုန်းအရအခြေခံချက်များကိုလုပ်ငန်းစဉ်များအတွက်
(က) လုပ်ငန်းစဉ်အကာအကွယ်ပေးသည့်အခါ မရှိပါဘူး
(ခ) စတင်သည့်အခါ မရှိပါဘူး
(ဂ) သန့်ရှင်းရေးအခါ အဆင့်မြင့်စနစ် နဲ့ ချိုးချက်
(ဃ) စတင်ပြင်ဆင်မှုအခါ မရှိပါဘူး

၂။ လုပ်ငန်းစဉ်အရလုပ်ငန်းစဉ်များအခြေခံချက်များအရအခြေခံချက်များ
(က) စတင်သည့်အခါ မရှိပါဘူး
(ခ) အဆင့်မြင့်စနစ် မရှိပါဘူး
(ဂ) လုပ်ငန်းစဉ်အရလုပ်ငန်းစဉ်များ မရှိပါဘူး
(ဃ) အဆင့်မြင့်စနစ် မရှိပါဘူး
(င) စတင်ပြင်ဆင်မှုအခါ မရှိပါဘူး

၃။ လုပ်ငန်းစဉ် လုပ်ငန်းစဉ်အခြေခံချက်များအရအခြေခံချက်များ
(က) လုပ်ငန်းစဉ်အရလုပ်ငန်းစဉ်များ မရှိပါဘူး
(ခ) လုပ်ငန်းစဉ်အရလုပ်ငန်းစဉ်များ မရှိပါဘူး
(ဂ) လုပ်ငန်းစဉ်အရလုပ်ငန်းစဉ်များ မရှိပါဘူး

၄။ အခြေခံချက်များ
.....
.....
.....

လက်မှတ် မရှိပါဘူး

အမည် မရှိပါဘူး

နိုင်ငံသားစံနှုန်းအရ မရှိပါဘူး


လုပ်ငန်းစဉ် မရှိပါဘူး

ရက်စွဲ မရှိပါဘူး

ဌာန မရှိပါဘူး

ဖုန်းနံပါတ် မရှိပါဘူး

ဆက်သွယ်ရန်လုပ်ငန်းစဉ် မရှိပါဘူး



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel. 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” ဝေါ် မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ရောင်းချသောကုမ္ပဏီ
ဟင်္သာတမြို့နယ်အတွင်း (Environmental Management Plan – EMP) ဖော်ပြပါအတိုင်း
ထိန်းသိမ်းမှုအစီအစဉ် လုပ်ငန်းစဉ်စီမံရာ အကြံပြုချက်များထုတ်ပြန်ခြင်း

၁။ လုပ်ငန်းစဉ်ကျန်းမာရေးနှင့်အဆေးဆေးကုသရေးဗဟိုရုံးအစီအစဉ်များစီမံကိန်းအကြံပြုချက်

(က) လုပ်ငန်းစဉ်အကောင်အထည်ဖော်မှုစဉ်များ ၂၅ ခု

(ခ) ဝေဟင်္သာတမြို့နယ် ၁ ခု

(ဂ) သန့်ရှင်းရေးစဉ်များ ၁ ခု

(ဃ) ဆေးကုသရေးဗဟိုရုံးအစီအစဉ်များ ၁ ခု

၂။ လုပ်ငန်းစဉ်အလုပ်လုပ်ကိုင်မှုအခြေအနေအထား အကြံပြုချက်

(က) ဆည်သားစီမံကိန်းအခြေအနေ ၁ ခု

(ခ) အနုပညာ/အနုပညာများ ၁ ခု

(ဂ) လုပ်ငန်းစဉ်အလုပ်လုပ်ကိုင်မှု ၁ ခု

(ဃ) အနုပညာအမျိုးမျိုးအခြေအနေ ၁ ခု

(င) လေထုအလုပ်လုပ်ကိုင်မှု ၁ ခု

၃။ လုပ်ငန်းစဉ် လူမှုဘက်ဆိုင်ရာအခြေအနေအထား အကြံပြုချက်

(က) လုပ်ငန်းစဉ်ကြိုကြိုသွင်း (မိမိထုတ်) ၁ ခု

(ခ) လုပ်ငန်းစဉ်ကြိုကြိုသွင်း (အထွေထွေ) ၁ ခု

(ဂ) လက်အောက်ခံလုပ်ငန်း (မိမိလက်အောက်ခံ) ၁ ခု

၄။ အခြေအနေအထားများ

လက်မှတ် ၁ ခု

အမည် ၁ ခု

စီမံကိန်းစီမံကိန်းအခြေအနေ ၁ ခု


လုပ်ငန်းစဉ် ၁ ခု

ရာထူး ၁ ခု

မှန်ကန်မှု ၁ ခု

မှန်ကန်မှု ၁ ခု

ထက်သန်စွမ်းရည် ၁ ခု



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

၁၀၀

၁။ Myanmar Asia Optical Engineering Co., Ltd. ၏ မှတ်တမ်းအတည်ပြုချက်

ယတိဝန်ဆောင်ခံယူမှုအစီအစဉ် (Environmental Management Plan - EMP) ဖော်ပြချက်နှင့်ပတ်သက်၍
ထိန်းသိမ်းမှုအစီအစဉ် လုပ်ငန်းနှင့်ဆိုင်ရာ အခြေခံချက်များအရ

၁။ လုပ်ငန်းနှင့်တူဖွဲ့ဟာမရန်သေဆုံးအန္တရာယ်ကင်းရှင်းစေရန်အတွက်လုပ်ငန်းအစီအစဉ်

(က) လုပ်ငန်းနှင့်ဆိုင်ရာအန္တရာယ်ကင်းရှင်းစေရန်အတွက်

(ခ) အသက်ဆုံးရှုံးမှု

(ဂ) သန့်ရှင်းမှုအစီအစဉ်

(ဃ) အသက်ဆုံးရှုံးမှုအစီအစဉ်

၂။ လုပ်ငန်းနှင့်ဆိုင်ရာလုပ်ငန်းအစီအစဉ်အရ

(က) အသက်ဆုံးရှုံးမှုအစီအစဉ်

(ခ) အသက်ဆုံးရှုံးမှုအစီအစဉ်

(ဂ) လုပ်ငန်းနှင့်ဆိုင်ရာလုပ်ငန်းအစီအစဉ်

(ဃ) အသက်ဆုံးရှုံးမှုအစီအစဉ်

(င) အသက်ဆုံးရှုံးမှုအစီအစဉ်

၃။ လုပ်ငန်းနှင့် လုပ်ငန်းအစီအစဉ်အရ

(က) လုပ်ငန်းနှင့်ဆိုင်ရာလုပ်ငန်းအစီအစဉ်

(ခ) လုပ်ငန်းနှင့်ဆိုင်ရာလုပ်ငန်းအစီအစဉ်

(ဂ) လုပ်ငန်းနှင့်ဆိုင်ရာလုပ်ငန်းအစီအစဉ်

၄။ အခြေခံချက်များ

လက်မှတ်

အမည်

နိုင်ငံသား/နိုင်ငံခြားရေးအဖွဲ့

လုပ်သက်

ရက်စွဲ

ဌာန

ရန်ကုန်မြို့

ဆက်သွယ်ရန်နံပါတ်

Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com


" Myanmar Asia Optical International Co., Ltd. " ၏ လုပ်ငန်းအခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး
သက်သေခံချက် (Environmental Management Plan - EMP) ရေးဆွဲခြင်းနှင့် ပတ်သက်၍
သိမ်းသိမ်းရမည့် လုပ်ငန်းနှင့်ပတ်သက်၍ အကျဉ်းချုပ်ချက်များ

၁။ လုပ်ငန်းနှင့်ပတ်သက်သည့် အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး
(က) လုပ်ငန်းနှင့်ပတ်သက်သည့် အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး
(ခ) အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး
(ဂ) အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး
(ဃ) အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး

၂။ လုပ်ငန်းနှင့်ပတ်သက်သည့် အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး
(က) အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး
(ခ) အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး
(ဂ) အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး
(ဃ) အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး
(င) အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး

၃။ လုပ်ငန်းနှင့်ပတ်သက်သည့် အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး
(က) လုပ်ငန်းနှင့်ပတ်သက်သည့် အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး
(ခ) လုပ်ငန်းနှင့်ပတ်သက်သည့် အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး
(ဂ) လုပ်ငန်းနှင့်ပတ်သက်သည့် အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး
(ဃ) လုပ်ငန်းနှင့်ပတ်သက်သည့် အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး

၄။ အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး
လုပ်ငန်းနှင့်ပတ်သက်သည့် အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး
အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး
အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး
အခြေအနေအထားနှင့် လုပ်ငန်းအသက်မွေး



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescscompany@gmail.com, info@gmesc-mn.com

“ Myanmar Asia Optical International Co., Ltd. ” မှ ပြန်လည်အသိပေးချက်လုပ်ငန်းလုပ်ငန်းအတွက်
 ယာယီအသိပေးချက် (Environmental Management Plan - EMP) မေးခွန်းနှင့်ပတ်သက်၍
 ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်ပတ်ဝန်းကျင်ဆိုင်ရာ အခြေခံအချက်များအရ

၁။ လုပ်ငန်းခွင်တိုက်ရိုက်အသိပေးချက်အရလုပ်ငန်းခွင်အသိပေးချက်အရ

(က) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ: မရှိပါ

(ခ) ဆောက်လုပ်ရေး: မရှိပါ

(ဂ) သန့်စင်ရေး: မရှိပါ

(ဃ) ဆေးကုသရေး: မရှိပါ

၂။ လုပ်ငန်းခွင်လုပ်ငန်းလုပ်ငန်းအသိပေးချက်အရ

(က) ဆောက်လုပ်ရေး: မရှိပါ

(ခ) အဆောက်အအုံ/အခြေခံအဆောက်အအုံများ: မရှိပါ

(ဂ) လုပ်ငန်းခွင်အသိပေးချက်: မရှိပါ

(ဃ) အသိပေးချက်များအသိပေးချက်: မရှိပါ

(င) လေထုအသိပေးချက်: မရှိပါ

၃။ လုပ်ငန်းခွင် လူမှုပတ်ဝန်းကျင်အသိပေးချက်အရ

(က) လုပ်ငန်းခွင်တိုက်ရိုက် (ပိတ်ဆို့ထား): မရှိပါ

(ဂ) လုပ်ငန်းခွင်တိုက်ရိုက် (အသိပေး): မရှိပါ

(ဂ) လက်အောက်ခံပတ်ဝန်းကျင် (ပိတ်ဆို့ထား): မရှိပါ

၄။ သိမ်းဆည်းခြင်းများ

လက်မှတ်: မရှိပါ ရာထူး: အထွေထွေ


အမည်: မရှိပါ ဌာန: အထွေထွေ

နိုင်ငံသားစာရင်းအမှတ်: မရှိပါ လုပ်ငန်းခွင်: မရှိပါ

လုပ်ငန်းခွင်: မရှိပါ ဆက်သွယ်ရေးစနစ်: မရှိပါ

[illegible]

[illegible][illegible]



Green Myanmar

Environmental Services Co., Ltd


No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. “ မှ ပို့ဆောင်လာသည့် လက်ကိုင် ဖုန်းအတွက်
ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုစာရင်း (Environmental Management Plan – EMP) ဖန်တီးခြင်းနှင့် ပတ်သက်၍
ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်ဆိုင်ရာ အခြေခံချက်များလုပ်ငန်း

၀၁ လုပ်ငန်းခွင်သို့ နားဝင်မှုနှင့် အသွယ်လမ်းညွှန်မှုပေးရန် လုပ်ငန်းခွင်အတွက်
(၀၂) လုပ်ငန်းခွင်အကာအကွယ်ပေးရန်
(၀၃) အသွယ်လမ်းညွှန်
(၀၄) အသွယ်လမ်းညွှန်
(၀၅) အသွယ်လမ်းညွှန်
(၀၆) အသွယ်လမ်းညွှန်
(၀၇) အသွယ်လမ်းညွှန်
(၀၈) အသွယ်လမ်းညွှန်
(၀၉) အသွယ်လမ်းညွှန်
(၁၀) အသွယ်လမ်းညွှန်
(၁၁) အသွယ်လမ်းညွှန်
(၁၂) အသွယ်လမ်းညွှန်
(၁၃) အသွယ်လမ်းညွှန်
(၁၄) အသွယ်လမ်းညွှန်
(၁၅) အသွယ်လမ်းညွှန်
(၁၆) အသွယ်လမ်းညွှန်
(၁၇) အသွယ်လမ်းညွှန်
(၁၈) အသွယ်လမ်းညွှန်
(၁၉) အသွယ်လမ်းညွှန်
(၂၀) အသွယ်လမ်းညွှန်
(၂၁) အသွယ်လမ်းညွှန်
(၂၂) အသွယ်လမ်းညွှန်
(၂၃) အသွယ်လမ်းညွှန်
(၂၄) အသွယ်လမ်းညွှန်
(၂၅) အသွယ်လမ်းညွှန်
(၂၆) အသွယ်လမ်းညွှန်
(၂၇) အသွယ်လမ်းညွှန်
(၂၈) အသွယ်လမ်းညွှန်
(၂၉) အသွယ်လမ်းညွှန်
(၃၀) အသွယ်လမ်းညွှန်
(၃၁) အသွယ်လမ်းညွှန်
(၃၂) အသွယ်လမ်းညွှန်
(၃၃) အသွယ်လမ်းညွှန်
(၃၄) အသွယ်လမ်းညွှန်
(၃၅) အသွယ်လမ်းညွှန်
(၃၆) အသွယ်လမ်းညွှန်
(၃၇) အသွယ်လမ်းညွှန်
(၃၈) အသွယ်လမ်းညွှန်
(၃၉) အသွယ်လမ်းညွှန်
(၄၀) အသွယ်လမ်းညွှန်
(၄၁) အသွယ်လမ်းညွှန်
(၄၂) အသွယ်လမ်းညွှန်
(၄၃) အသွယ်လမ်းညွှန်
(၄၄) အသွယ်လမ်းညွှန်
(၄၅) အသွယ်လမ်းညွှန်
(၄၆) အသွယ်လမ်းညွှန်
(၄၇) အသွယ်လမ်းညွှန်
(၄၈) အသွယ်လမ်းညွှန်
(၄၉) အသွယ်လမ်းညွှန်
(၅၀) အသွယ်လမ်းညွှန်
(၅၁) အသွယ်လမ်းညွှန်
(၅၂) အသွယ်လမ်းညွှန်
(၅၃) အသွယ်လမ်းညွှန်
(၅၄) အသွယ်လမ်းညွှန်
(၅၅) အသွယ်လမ်းညွှန်
(၅၆) အသွယ်လမ်းညွှန်
(၅၇) အသွယ်လမ်းညွှန်
(၅၈) အသွယ်လမ်းညွှန်
(၅၉) အသွယ်လမ်းညွှန်
(၆၀) အသွယ်လမ်းညွှန်
(၆၁) အသွယ်လမ်းညွှန်
(၆၂) အသွယ်လမ်းညွှန်
(၆၃) အသွယ်လမ်းညွှန်
(၆၄) အသွယ်လမ်းညွှန်
(၆၅) အသွယ်လမ်းညွှန်
(၆၆) အသွယ်လမ်းညွှန်
(၆၇) အသွယ်လမ်းညွှန်
(၆၈) အသွယ်လမ်းညွှန်
(၆၉) အသွယ်လမ်းညွှန်
(၇၀) အသွယ်လမ်းညွှန်
(၇၁) အသွယ်လမ်းညွှန်
(၇၂) အသွယ်လမ်းညွှန်
(၇၃) အသွယ်လမ်းညွှန်
(၇၄) အသွယ်လမ်းညွှန်
(၇၅) အသွယ်လမ်းညွှန်
(၇၆) အသွယ်လမ်းညွှန်
(၇၇) အသွယ်လမ်းညွှန်
(၇၈) အသွယ်လမ်းညွှန်
(၇၉) အသွယ်လမ်းညွှန်
(၈၀) အသွယ်လမ်းညွှန်
(၈၁) အသွယ်လမ်းညွှန်
(၈၂) အသွယ်လမ်းညွှန်
(၈၃) အသွယ်လမ်းညွှန်
(၈၄) အသွယ်လမ်းညွှန်
(၈၅) အသွယ်လမ်းညွှန်
(၈၆) အသွယ်လမ်းညွှန်
(၈၇) အသွယ်လမ်းညွှန်
(၈၈) အသွယ်လမ်းညွှန်
(၈၉) အသွယ်လမ်းညွှန်
(၉၀) အသွယ်လမ်းညွှန်
(၉၁) အသွယ်လမ်းညွှန်
(၉၂) အသွယ်လမ်းညွှန်
(၉၃) အသွယ်လမ်းညွှန်
(၉၄) အသွယ်လမ်းညွှန်
(၉၅) အသွယ်လမ်းညွှန်
(၉၆) အသွယ်လမ်းညွှန်
(၉၇) အသွယ်လမ်းညွှန်
(၉၈) အသွယ်လမ်းညွှန်
(၉၉) အသွယ်လမ်းညွှန်
(၁၀၀) အသွယ်လမ်းညွှန်

[illegible]

[illegible]



Green Myanmar

Environmental Management Services Co., Ltd

No.115, Kausung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd.” ၏ မှန်ဘီလူးလုပ်ငန်းထုတ်လုပ်ခြင်းလုပ်ငန်းအတွက်
 ယာယီစီမံကိန်းစီမံခန့်ခွဲမှုအစဉ် (Environmental Management Plan – EMP) ဖော်ပြချက်နှင့်ပတ်သက်၍
 ဝယ်ယူမှုများ၏ လုပ်ငန်းစဉ်ဆိုင်ရာ အကြံပြုချက်များလုပ်ငန်း

၁။ လုပ်ငန်းစဉ်ကျွန်ုပ်တို့အသုံးပြုသောအသွင်အပြင်အကွယ်အရပ်ရပ်နှင့်ပတ်သက်၍ အကြံပြုချက်

(က) လုပ်ငန်းစဉ်အကာအကွယ်ပစ္စည်းများ.....

(ခ) စတုရန်းပုံအရ.....

(ဂ) သင်္ချာပုံအရ.....

(ဃ) အဆေးကြောသန့်ရှင်းရေးလုပ်ငန်း.....

၂။ လုပ်ငန်းစဉ်အလုပ်လုပ်ကိုင်မှုအခြေအနေအထား အကြံပြုချက်

(က) စတင်သုံးစွဲမှုအခြေအနေ.....

(ခ) အနီးအနား/အနီးအနား.....

(ဂ) လုပ်ငန်းစဉ်အလုပ်လုပ်ကိုင်မှု.....

(ဃ) အနီးအနားများအခြေအနေ.....

(င) လက်ခံနိုင်စွမ်း.....

၃။ လုပ်ငန်းစဉ် လူမှုပတ်ဝန်းကျင်အခြေအနေအထား အကြံပြုချက်

(က) လုပ်ငန်းစဉ်ကြိုတင်သုံးစွဲမှု (မိမိအသက်).....

(ခ) လုပ်ငန်းစဉ်ကြိုတင် (အသက်သုံးစွဲမှု).....

(ဂ) လက်ခံနိုင်စွမ်း (မိမိလက်ခံနိုင်စွမ်း).....

၄။ ဘီလူးအကြံပြုချက်များ.....

.....

.....

လက်မှတ် Hlaing.....

အမည် Hlaing Nu Aye.....

နိုင်ငံသားစိစစ်ရေးအဖွဲ့ gmescompany.....

လုပ်ငန်းစဉ်.....


ရက်စွဲ 2023.07.20.....

မှတ်ချက် 2023.07.20.....

မှတ်ချက် 2023.07.20.....

မှတ်ချက် 2023.07.20.....

[illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanung Min Thar Oyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” ၏ ပုဂ္ဂလိကအကျိုးအမြတ်လုပ်ငန်းအတွက်
 ဖတ်ဝန်ဆောင်ပေးနေသောအတွက် (Environmental Management Plan - EMP) ဖော်ပြချက်နှင့်ပတ်သက်၍
 ဝါထုတ်ဖော်ချက်၊ လုပ်ငန်းခွင်စစ်ဆေး အကြံပြုချက်များပေးပို့ခြင်း

၁။ လုပ်ငန်းခွင်ရှစ်ဖွဲ့မသမ္မတသောအန္တရာယ်ကာကွယ်ရေးစနစ်များနှင့်ပတ်သက်၍အကြံပြုချက်

(က) လုပ်ငန်းခွင်အတွက်အကွယ်ပစ္စည်းများ-

(ခ) ဘေးကင်းရေး-

(ဂ) သန့်စင်ရေးများ-

(ဃ) အေးခန်းသန့်စင်ရေးစနစ်-

၂။ လုပ်ငန်းခွင်အတွက်လုပ်ငန်းမှုအခြေအနေအထားအကြံပြုချက်

(က) ဆည်သုံးများအခြေအနေ-

(ခ) အနံ့အသက်/အနံ့အငွေ့များ-

(ဂ) လုပ်ငန်းခွင်အလင်းရောင်-

(ဃ) အမှန်အမှားများအခြေအနေ-

(င) လေဝင်လေထွက်-

၃။ လုပ်ငန်းခွင် လူမှုစက်ဝန်းအခြေအနေအထားအကြံပြုချက်

(က) လုပ်ငန်းခွင်ကြုံကြုံသူ (ပိတ်ဆို့သူ)-

(ခ) လုပ်ငန်းခွင်အတွင်း (အသွယ်အဝင်)-

(ဂ) လက်အောက်ခံလမ်း (ပိတ်ဆို့သူအတွက်)-


၄။ အခြားအကြံပြုချက်များ

လက်မှတ် _____ ရာထူး _____

အမည် _____ ဌာန _____

ပိုင်သားစစ်ဆေးရေးမှတ် _____ ဝန်ခံခြင်း _____

လုပ်သား _____ စက်သွယ်ရန်လက် _____



Green Myanmar
Environmental Services Co., Ltd

No.115, Kaungmy Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescocompany@gmail.com, info@gmesc-mm.com

၁။ လုပ်ငန်းခွင်ကျန်းမာရေးနှင့်ဘေးအန္တရာယ်ကွယ်လွန်ရေးအစီအစဉ်အတွက်
ပတ်ဝန်းကျင်ထိခံစားရခြင်းမရှိစေရန် (Environmental Management Plan - EMP) ဖော်ပြခြင်းနှင့်ပတ်သက်၍
ရန်ကုန်မြို့၊ လှိုင်လမ်းမိုင်လမ်းအကြားရှိ နေရာများအား

၁။ လုပ်ငန်းခွင်ကျန်းမာရေးနှင့်ဘေးအန္တရာယ်ကွယ်လွန်ရေးအစီအစဉ်အတွက်

(က) လုပ်ငန်းခွင်အကာအရံပစ္စည်းများ - ၁၂

(ခ) အသက်သုံးဆေး - ၈၃ သန့်

(ဂ) သန့်စင်ဆေးများ - သန့်စင်

(ဃ) အဆေးကြောသန့်စင်ဆေးများ - ၁၂

၂။ လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှုအခြေအနေအထားအကြောင်း

(က) ဆည်သန့်ရှင်းမှုအခြေအနေ - ၁၂

(ခ) အနံ့အသက်/အနံ့အဆိုးများ - ၁၂

(ဂ) လုပ်ငန်းခွင်အလင်းအခြေအနေ - လျှပ်စစ်

(ဃ) အသုံးအဆောင်များအခြေအနေ - ၁၂

(င) ဓလေ့အကျင့်များ - ၁၂

၃။ လုပ်ငန်းခွင် လူမှုပတ်ဝန်းကျင်အခြေအနေအထားအကြောင်း

(က) လုပ်ငန်းခွင်အနီးရှိအခြေအနေ (မိမိအသက်) - ၁၂

(ခ) လုပ်ငန်းခွင်အနီးရှိ (အသက်) - ၁၂

(ဂ) လက်အောက်ခံများ (မိမိလက်အောက်) - ၁၂

၄။ သီးခြားအကြောင်းများ

လက်မှတ် - စာရေး

အမည် - စာရေး

နိုင်ငံသားစာရင်းအမှတ် - ၁၂


လုပ်သက် - ၁၂

ရာထူး - Worker

အသက် - ၁၂

ရန်ကုန်မြို့ - ၁၂

ဆက်သွယ်ရန်စာရင်း - ၁၂



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” မှ ပြန်လည်အသုံးပြုဆောင်ရွက်ရန်အတွက်
ပတ်ဝန်းကျင်ထိန်းချုပ်မှုအစီအစဉ် (Environmental Management Plan - EMP) ဖော်ပြချက်နှင့်ပတ်သက်၍
ရန်ကုန်မြို့တွင် လုပ်ငန်းဆောင်ရွက်ရန်အတွက် အခြေခံချက်များအရ ပြန်လည်

၁။ လုပ်ငန်းဆောင်ရွက်မှုအစီအစဉ်အရ လုပ်ငန်းဆောင်ရွက်ရန်အတွက် အခြေခံချက်များအရ

(က) လုပ်ငန်းဆောင်ရွက်ရန်အတွက် အခြေခံချက်များအရ

(ခ) အခြေခံချက်များအရ

(ဂ) အခြေခံချက်များအရ

(ဃ) အခြေခံချက်များအရ

၂။ လုပ်ငန်းဆောင်ရွက်ရန်အတွက် အခြေခံချက်များအရ

(က) အခြေခံချက်များအရ

(ခ) အခြေခံချက်များအရ

(ဂ) အခြေခံချက်များအရ

(ဃ) အခြေခံချက်များအရ

၃။ လုပ်ငန်းဆောင်ရွက်ရန်အတွက် အခြေခံချက်များအရ

(က) လုပ်ငန်းဆောင်ရွက်ရန်အတွက် အခြေခံချက်များအရ

(ခ) လုပ်ငန်းဆောင်ရွက်ရန်အတွက် အခြေခံချက်များအရ

(ဂ) လုပ်ငန်းဆောင်ရွက်ရန်အတွက် အခြေခံချက်များအရ

(ဃ) လုပ်ငန်းဆောင်ရွက်ရန်အတွက် အခြေခံချက်များအရ

၄။ အခြေခံချက်များအရ

လက်မှတ် _____ ရာထူး _____

အမည် _____ နာမည် _____

နိုင်ငံသားစိစစ်ရေးအဖွဲ့မှ _____ ဖန်တီးသူ _____

လုပ်ငန်းဆောင်ရွက်ရန်အတွက် _____ ဆက်သွယ်ရန်စိစစ် _____

[illegible]

Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09-897 978 296, 09-5081451 E-mail: gmesccompany@gmail.com, info@gmesc-mm.com

* Myanmar Asia Pacific International Co., Ltd. * ဝန်ထမ်းလုပ်ငန်းခွင်ထဲသို့လုပ်ငန်းလုပ်ငန်းအတွက်
ဖက်ဝန်ထမ်းအသိပေးအမည် (Environmental Management Plan – EMP) ခေတ္တလုပ်ငန်းစဉ်အတွက်
ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်သို့ဝင်ရာ အကြမ်းချက်များပေးခြင်း

၁။ လုပ်ငန်းခွင်တွင်လုပ်ငန်းများစီမံခန့်ခွဲရာတွင်ကုသရေးလုပ်ငန်းများလုပ်ကိုင်မှုအကြမ်းချက်များ
(က) လုပ်ငန်းခွင်အကာအကွယ်ပေးခြင်းများ
(ခ) အသားသတ်ရေးများ
(ဂ) သန့်စင်ရေးများ
(ဃ) အသားကြောသန့်စင်ရေးများ


၂။ လုပ်ငန်းခွင်အကာလုပ်ငန်းခွင်အကြမ်းချက်အမည် အကြမ်းချက်များ
(က) ဆည်သုံးများအကြမ်းချက်များ
(ခ) အသားသတ်/အနီအသွေးများ
(ဂ) လုပ်ငန်းခွင်အလင်းများ
(ဃ) အမှန်အတိုင်းများအကြမ်းချက်များ
(င) အလင်းအလင်းများ

၃။ လုပ်ငန်းခွင် လူမှုဆက်ဆံရေးအကြမ်းချက်အမည် အကြမ်းချက်များ
(က) လုပ်ငန်းခွင်အကြမ်းချက် (မိမိအထက်)
(ခ) လုပ်ငန်းခွင်အကြမ်းချက် (အထက်)
(ဂ) လက်အောက်ဝန်ထမ်း (မိမိလက်အောက်)

၄။ သီးခြားအကြမ်းချက်များ

လက်မှတ် _____ ရာထူး _____
အမည် _____ ဌာန _____
နိုင်ငံသားစိစစ်ရေးအဖွဲ့ဝင်/အသိပေးချက်အမည် _____ ဝန်ထမ်းအကြမ်းချက် _____
လုပ်ငန်းခွင် _____ ဆက်သွယ်ရေးစနစ်

[illegible][illegible][illegible]



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” ၏ မိုက်ခရိုလေ့လာမှုဦးစီးဌာနက လုပ်ငန်းဆောင်ရွက်
သည့် လုပ်ငန်းခွင်အား (Environmental Management Plan - EMP) ဖော်ပြခြင်းနှင့် ပတ်သက်၍
ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်သို့ ပတ်ဝန်းကျင်များလုပ်ငန်း

၁။ လုပ်ငန်းခွင်ကျန်းမာရေးနှင့် အန္တရာယ်ကင်းရှင်းရေးဆိုင်ရာ သတ်မှတ်ချက်များနှင့် လုပ်ငန်းခွင်သို့ ဖြည့်ချက်

(က) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ အသုံးပြုမည်

(ခ) အသောက်သုံးရေ သန့်ရှင်းသော

(ဂ) သန့်ရှင်းခန်းများ အသုံးပြု

(ဃ) မေ့မကြောသန့်ရှင်းရေးဝန် မဟုတ်

၂။ လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှုအခြေအနေအထား အကြံပြုချက်

(က) ဆူညံသံအဆင့်အခြေအနေ ၁၀၀.၀၀ dB(A) @ ၁m

(ခ) အန္တရာယ်/အန္တရာယ်များ မရှိ

(ဂ) လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှု မရှိ

(ဃ) အန္တရာယ်များအခြေအနေ မရှိ

(င) အလုပ်လုပ်ကိုင်မှု မရှိ

၃။ လုပ်ငန်းခွင် လူမှုဆက်ဆံရေးအခြေအနေအထား အကြံပြုချက်

(က) လုပ်ငန်းခွင်ကြီးကြပ်သူ (ပိတ်ဆို့သူ) ၂၄ နာရီလုံး

(ခ) လုပ်ငန်းခွင်ကြီးကြပ်သူ (အဆင့်မြှင့်) မရှိ

(ဂ) လက်အောက်ခံလုပ်ကိုင် (ပိတ်ဆို့သူ) မရှိ

၄။ အခြေအနေအထားများ


လက်မှတ် _____ ရာထူး A (5) Line Leader

အမည် Kenn Htay Granding

နိုင်ငံသားစံစ်စစ်ရေးအမှတ် ၂၁(၁၈၃၃(၆၆)၀၈၁၉၉၉ နံပါတ် ၀၀၁၉၀၁၃၆၄

လုပ်သက် (၁၆) နာရီ ၀၈၁၉၀၁၃၆၄

[illegible]



Green Myanmar

Environmental Services Co., Ltd.

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

၁။ Myanmar Asia Optical International Co., Ltd. ၏ မြန်မာလူ့အရင်းအမြစ်လုပ်ငန်းအတွက်
 ဖတ်ကောက်စီမံခန့်ခွဲမှုစာချုပ် (Environmental Management Plan - EMP) အချုပ်အခြာမှုမူဝါဒတင်ပြ
 ဝါဒတင်ပြမှုစာချုပ် လုပ်ငန်းစဉ်စီမံခန့်ခွဲမှု အခြေခံချက်များကို

၁။ လုပ်ငန်းစဉ်ကျမ်းမာချက်အရ အခြေခံချက်များကို အတည်ပြုရန်အတွက်

(က) လုပ်ငန်းစဉ်အတွက် အခြေခံချက်များ (အခြေခံချက်များ)

(ခ) စတင်ချုပ်ကွပ်မှု (စတင်ချုပ်ကွပ်မှု)

(ဂ) သတ်မှတ်ချက်များ (သတ်မှတ်ချက်များ)

(ဃ) စတင်ချုပ်ကွပ်မှုစာချုပ် (စတင်ချုပ်ကွပ်မှုစာချုပ်)

၂။ လုပ်ငန်းစဉ်အလုပ်လုပ်ကိုင်မှုအခြေခံချက်များအတွက်

(က) စတင်ချုပ်ကွပ်မှုစာချုပ် (စတင်ချုပ်ကွပ်မှုစာချုပ်)

(ခ) အခြေခံချက်များ (အခြေခံချက်များ)

(ဂ) လုပ်ငန်းစဉ်အလုပ်လုပ်ကိုင်မှု (လုပ်ငန်းစဉ်အလုပ်လုပ်ကိုင်မှု)

(ဃ) အခြေခံချက်များအခြေခံချက်များ (အခြေခံချက်များ)

(င) စတင်ချုပ်ကွပ်မှုစာချုပ် (စတင်ချုပ်ကွပ်မှုစာချုပ်)

၃။ လုပ်ငန်းစဉ် လူ့အရင်းအမြစ်အခြေခံချက်များအတွက်

(က) လုပ်ငန်းစဉ်လုပ်ငန်းစဉ် (လုပ်ငန်းစဉ်လုပ်ငန်းစဉ်)

(ခ) လုပ်ငန်းစဉ်လုပ်ငန်းစဉ် (လုပ်ငန်းစဉ်လုပ်ငန်းစဉ်)

(ဂ) လုပ်ငန်းစဉ်လုပ်ငန်းစဉ် (လုပ်ငန်းစဉ်လုပ်ငန်းစဉ်)

၄။ လုပ်ငန်းစဉ်လုပ်ငန်းစဉ်

(က) လုပ်ငန်းစဉ်လုပ်ငန်းစဉ် (လုပ်ငန်းစဉ်လုပ်ငန်းစဉ်)

(ခ) လုပ်ငန်းစဉ်လုပ်ငန်းစဉ် (လုပ်ငန်းစဉ်လုပ်ငန်းစဉ်)


(ဂ) လုပ်ငန်းစဉ်လုပ်ငန်းစဉ် (လုပ်ငန်းစဉ်လုပ်ငန်းစဉ်)

၅။ လုပ်ငန်းစဉ်လုပ်ငန်းစဉ်

(က) လုပ်ငန်းစဉ်လုပ်ငန်းစဉ် (လုပ်ငန်းစဉ်လုပ်ငန်းစဉ်)

(ခ) လုပ်ငန်းစဉ်လုပ်ငန်းစဉ် (လုပ်ငန်းစဉ်လုပ်ငန်းစဉ်)

(ဂ) လုပ်ငန်းစဉ်လုပ်ငန်းစဉ် (လုပ်ငန်းစဉ်လုပ်ငန်းစဉ်)



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 28, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

၁၈

၁၉

၂၀

၂၁

၂၂

၂၃

၂၄

၁၈ Myanmar Asia Optical International Co., Ltd. ၏ ပုံမှန်လုပ်ငန်းများလုပ်ကိုင်ရာတွင် လုပ်ငန်းအတွက် ဖတ်သုံးရန်လိုအပ်သော (Environmental Management Plan - EMP) မူဝါဒပြင်ဆင်မှုပတ်သက်၍ ဝန်ထမ်းများ၊ လုပ်ငန်းခွင်သို့ဝင် အကြွေ့ချက်များပေးခြင်း

၁၉ လုပ်ငန်းခွင်ကျန်းမာရေးနှင့်ဘေးအန္တရာယ်ကာကွယ်ရေးမူဝါဒများကို လက်မှတ်ရေးထိုးခြင်း

(က) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ အသုံးပြုမှုစာရင်း (၂၀၂၄)

(ခ) ဝေခတ်သုံးဆွဲရည် ပေးသုံးမှုစာရင်း (၂၀၂၄)

(ဂ) သန့်ရှင်းရေးများ မြေသုံး နေရာတွင်းသို့ ပေးသုံးမှု၊ အဆောက်အအုံအတွင်းသို့ ပေးသုံးမှုများ

(ဃ) အဆေးကြောသန့်ရှင်းရေးစနစ် မြှုပ်နှံမှုစာရင်း (၂၀၂၄)

၂၀ လုပ်ငန်းခွင်လုပ်ကိုင်မှုအခြေအနေအထား အကြွေ့ချက်

(က) ထုတ်လုပ်မှုအခြေအနေ အောက်ဆုံးသုံးသန့်ရှင်းမှုစာရင်း

(ခ) အနုအသက်အခြေအနေများ လူမှုပတ်ဝန်းကျင်သို့ အနုအသက်အခြေအနေများ

(ဂ) လုပ်ငန်းခွင်အလုပ်ပေးမှုစနစ် အဆောက်အအုံ

(ဃ) အနုအသက်များအခြေအနေများ မြေ

(င) လေထုလေထုထုတ် အဆောက်အအုံ

၂၁ လုပ်ငန်းခွင် လူထုထိန်းသိမ်းမှုအခြေအနေအထား အကြွေ့ချက်

(က) လုပ်ငန်းခွင်ကျန်းမာရေး (ပိတ်ဆို့ထုတ်) အဆောက်အအုံ

(ခ) လုပ်ငန်းခွင်ကျန်းမာရေး (အဆောက်အအုံ) အဆောက်အအုံ

(ဂ) လက်အောက်ကျန်းမာရေး (ပိတ်ဆို့ထုတ်) အဆောက်အအုံ

၂၂ သီးခြားအကြွေ့ချက်များ

၂၃ မြေသုံး နေရာတွင်းသို့ ပေးသုံးမှုစာရင်း (၂၀၂၄)

၂၄ အဆောက်အအုံအတွင်းသို့ ပေးသုံးမှုစာရင်း (၂၀၂၄)

လက်မှတ်: Bil

အမည်: Rya Mga Thein

နိုင်ငံသားစိစစ်ရေးအမှတ်: 12/30431/1988

လုပ်သက်: 16 နှစ်

ရာထူး: Manager


ဌာန: HR

မူရင်းမှတ်: ၀၉ ၁၃၁၃၁၀၆၃

စက်သွယ်လုပ်ကိုင်ပုံစံ: အဆောက်အအုံအတွင်းသို့ ပေးသုံးမှုစာရင်း (၂၀၂၄)

[illegible]

[illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

*** Myanmar Asia Optical International Co., Ltd. * ခန့်မှန်းချက်ပြုစုရာတွင် လုပ်ငန်းအတွက် ဝတ်ငြိမ်းကုန်သွင်းမှုခွင့်အစဉ် (Environmental Management Plan - EMP) ဖော်ပြခြင်းနှင့် ပတ်သက်၍ ဝန်ဆောင်မှုအစီ၊ လုပ်ငန်းခွင့်ဆိုင်ရာ အကြံပြုချက်များ ရယူခြင်း**

၁။ လုပ်ငန်းခွင့်ကွန်ပလက်ဆစ်အတွက် အသွယ်ဝင်တာဝန်ယူမှုစည်းကမ်းချက်စစ်လုပ်ငန်းအကြံပြုချက်

(က) လုပ်ငန်းခွင့်အကာအကွယ်ပစ္စည်းများ မရပါ

(ခ) အောက်သုံးခရ မရပါ

(ဂ) သန့်စင်ရန်များ မရပါ

(ဃ) အေးခဲကြောသန့်ရန်ခရရမည် မရပါ

၂။ လုပ်ငန်းခွင့်အလုပ်လုပ်ကိုင်မှုအခြေအနေအထား အကြံပြုချက်

(က) ဆည်သုံးများအခြေအနေ မရပါ

(ခ) အနံ့အသက်/အနံ့အငွေ့များ မရပါ

(ဂ) လုပ်ငန်းခွင့်အလုပ်လုပ်ကိုင်မှု မရပါ

(ဃ) အသုံးအဆောင်များအခြေအနေ မရပါ

(င) လေဝင်လေထွက် မရပါ

၃။ လုပ်ငန်းခွင့် လူမှုဘက်ဆိုင်ရာအခြေအနေအထား အကြံပြုချက်

(က) လုပ်ငန်းခွင့်ပြုစုရာတွင် (မိမိအထက်) မရပါ

(ခ) လုပ်ငန်းခွင့်ကိုင်ဆောင် (အဆင့်ထူ) မရပါ

(ဂ) လက်အောက်ကိုင်ဆောင် (မိမိလက်အောက်) မရပါ

၄။ သီးခြားအကြံပြုချက်များ

လက်မှတ် မရပါ

အထည် မရပါ

နိုင်ငံသားစီစစ်ရေးရာအတွက် မရပါ

လုပ်ငန်းခွင့် မရပါ

ရောင်း မရပါ


ငွေ မရပါ

ရန်ပုံငွေ မရပါ

ဆက်သွယ်ရန်မရပါ မရပါ

[illegible][illegible]

[illegible]



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Oyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescocompany@gmail.com, info@gmesc-mn.com

၁။ မြန်မာ့အသံ့အသွယ်အတွက် လုပ်ငန်းအတွက်
ပတ်ဝန်းကျင်ထိခိုက်မှုအစီအစဉ် (Environmental Management Plan - EMP) ဖော်ပြခြင်းနှင့်ပတ်သက်၍
ပုံစံအရင်းအမြစ်များကို လုပ်ငန်းခွင်ထဲသို့ အသုံးပြုရန်အတွက် ဖော်ပြပါသည်။

၁။ လုပ်ငန်းခွင်ထဲသို့အသုံးပြုရန်အတွက် အသုံးပြုရန်အတွက် အသုံးပြုရန်အတွက်

(က) လုပ်ငန်းခွင်အတွက်အသုံးပြုရန်အတွက် အသုံးပြုရန်အတွက် _____

(ခ) အသုံးပြုရန်အတွက် အသုံးပြုရန်အတွက် _____

(ဂ) အသုံးပြုရန်အတွက် အသုံးပြုရန်အတွက် _____

(ဃ) အသုံးပြုရန်အတွက် အသုံးပြုရန်အတွက် _____

၂။ လုပ်ငန်းခွင်ထဲသို့လုပ်ငန်းအသုံးပြုရန်အတွက် အသုံးပြုရန်အတွက်

(က) အသုံးပြုရန်အတွက် အသုံးပြုရန်အတွက် _____

(ခ) အသုံးပြုရန်အတွက် အသုံးပြုရန်အတွက် _____

(ဂ) လုပ်ငန်းခွင်အသုံးပြုရန်အတွက် အသုံးပြုရန်အတွက် _____

(ဃ) အသုံးပြုရန်အတွက် အသုံးပြုရန်အတွက် _____

(င) အသုံးပြုရန်အတွက် အသုံးပြုရန်အတွက် _____

၃။ လုပ်ငန်းခွင်ထဲသို့လုပ်ငန်းအသုံးပြုရန်အတွက် အသုံးပြုရန်အတွက်

(က) လုပ်ငန်းခွင်ထဲသို့လုပ်ငန်းအသုံးပြုရန်အတွက် အသုံးပြုရန်အတွက် _____

(ခ) လုပ်ငန်းခွင်ထဲသို့လုပ်ငန်းအသုံးပြုရန်အတွက် အသုံးပြုရန်အတွက် _____

(ဂ) လုပ်ငန်းခွင်ထဲသို့လုပ်ငန်းအသုံးပြုရန်အတွက် အသုံးပြုရန်အတွက် _____

၄။ အသုံးပြုရန်အတွက် အသုံးပြုရန်အတွက်

လက်မှတ် _____

အမည် _____

နိုင်ငံသားစိစစ်ရေးအဖွဲ့ _____

လုပ်ငန်းခွင် _____


ရက်စွဲ _____

ဌာန _____

ရက်စွဲ _____

လက်မှတ် _____

[illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. “ မှ ပူးပေါင်းလုပ်ငန်းများလုပ်ကိုင်ခြင်းလုပ်ငန်းအတွက်
ပတ်ဝန်းကျင်ထိန်းချုပ်မှုအစီအစဉ် (Environmental Management Plan – EMP) ဝေဖန်ခြင်းနှင့်ပတ်သက်၍
ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်ဆိုင်ရာ အကြံပြုချက်များရယူခြင်း

၀၁ လုပ်ငန်းခွင်ကြည့်ရှုမှုအချေပုံစံဘေးအန္တရာယ်ကင်းရှင်းရေးစာရွက်များနှင့်ပတ်သက်၍ အကြံပြုချက်

(က) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ: မရဘူး

(ခ) ဘေးကင်းသုံးခရ: ၆၂-၉-၆၇

(ဂ) သန့်ရှင်းခန်းများ: ၅

(ဃ) ဆေးဆေးကြောသန့်ရှင်းရေးခန်း: ၅

၀၂ လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှုအခြေအနေအထား အကြံပြုချက်

(က) ဆွဲသုံးမှုအခြေအနေ: မရှိ

(ခ) အနံ့အသက်/အနံ့အဝဓဇ်များ: မကင်း

(ဂ) လုပ်ငန်းခွင်အလင်းရောင်: ကောင်း

(ဃ) အမှန်အမှားများအခြေအနေ: မရှိ

(င) လေကင်းလေထွက်: ကောင်း

၀၃ လုပ်ငန်းခွင် လူမှုဆက်သွယ်ရေးအခြေအနေအထား အကြံပြုချက်

(က) လုပ်ငန်းခွင်ကြိုက်ညီသူ (မိမိထက်): အဆင်မပြေ

(ခ) လုပ်ငန်းခွင်ဆိုင်ရာ (အဆင့်တူ): ကောင်း

(ဂ) လက်အောက်ကိုင်လုပ်ငန်း (မိမိလက်အောက်): ကောင်း

၀၄ သီးခြားအကြံပြုချက်များ

လက်မှတ်: [Signature]

အမည်: မောင်စားစိုး

နိုင်ငံသားစိစစ်ရေးအမှတ်: ၅၂၀၁၁၄၂၆၁၅၅၁၇၄

လုပ်ငန်း: ၁၁၁

ရာထူး: _____

ဌာန: C.G-T

ဖုန်းနံပါတ်: ၀၉-၄၅၈၇၅၇၁၇၆

ဆက်သွယ်နံပါတ်စာ: အင်းဂျင်

Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

" Myanmar Asia Optical International Co., Ltd. " မှ ပို့ဆောင်ပေးသော လုပ်ငန်းအတွက်
ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးစီမံကိန်း (Environmental Management Plan - EMP) ဖော်ပြချက်နှင့်ပတ်သက်၍
ဝန်ဆောင်မှုအစီ လုပ်ငန်းခွင်ဆိုင်ရာ အညွှန်းချက်များအရ

၁။ လုပ်ငန်းခွင်အကျဉ်းချုပ်အချက်အလက်များနှင့်ပတ်သက်သည့်အချက်အလက်များ

(က) လုပ်ငန်းခွင်အကျဉ်းချုပ်အချက်အလက်များ - ၁၃၇

(ခ) ဆောက်လုပ်ရေး - ၁၃၇

(ဂ) သန့်ရှင်းရေး - ၁၃၇

(ဃ) ဆေးကုသရေးဆိုင်ရာအချက်အလက်များ - ၁၃၇

၂။ လုပ်ငန်းခွင်အကျဉ်းချုပ်အချက်အလက်များနှင့်ပတ်သက်သည့်အချက်အလက်များ

(က) ဆောက်လုပ်ရေးအချက်အလက်များ - ၁၃၇

(ခ) ဆောက်လုပ်ရေး/အချက်အလက်များ - ၁၃၇

(ဂ) လုပ်ငန်းခွင်အကျဉ်းချုပ်အချက်အလက်များ - ၁၃၇

(ဃ) ဆောက်လုပ်ရေးအချက်အလက်များ - ၁၃၇

(င) လုပ်ငန်းခွင်အကျဉ်းချုပ်အချက်အလက်များ - ၁၃၇

၃။ လုပ်ငန်းခွင် လုပ်ငန်းခွင်ဆိုင်ရာအချက်အလက်များနှင့်ပတ်သက်သည့်အချက်အလက်များ

(က) လုပ်ငန်းခွင်အကျဉ်းချုပ်အချက်အလက်များ (အကျဉ်းချုပ်) - ၁၃၇

(ခ) လုပ်ငန်းခွင်အကျဉ်းချုပ်အချက်အလက်များ (အကျဉ်းချုပ်) - ၁၃၇

(ဂ) လုပ်ငန်းခွင်အကျဉ်းချုပ်အချက်အလက်များ (အကျဉ်းချုပ်) - ၁၃၇

၄။ လုပ်ငန်းခွင်အကျဉ်းချုပ်အချက်အလက်များ

လက်မှတ် - ၁၃၇

အမည် - ၁၃၇

နိုင်ငံသားစံဆောင်ရွက်မှု - ၁၃၇

လုပ်ငန်းခွင် - ၁၃၇

ရာထူး - ၁၃၇

အမည် - ၁၃၇

နိုင်ငံသားစံဆောင်ရွက်မှု - ၁၃၇

လုပ်ငန်းခွင် - ၁၃၇

Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,

Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

* Myanmar Asia Optical Instrument Co., Ltd. * နိမ့်ပိုင်းလူ့အသက်မွေးသက်တမ်းလုပ်ငန်းအတွက်
ဖက်သားနားလည်စိတ်ချရသော (Environmental Management Plan - EMP) အစီအစဉ်ပြင်ဆင်သက်တမ်း
သိသေးမှုအား လုပ်ငန်းခွင်တွင်ရာ အစီအစဉ်များအရလုပ်ခြင်း

အ လုပ်ငန်းခွင်ကုန်ဆုံးအရပ်ရပ်သဘောတရားအရလုပ်ငန်းများစတင်လုပ်ငန်းများ

(က) လုပ်ငန်းစတင်အကာအကွယ်ပေးရန်များ.....

(ခ) သောက်သုံးရေ.....

(ဂ) သန့်စင်ရန်များ.....

(ဃ) ဆေးဆေးကြောသန့်ရှင်းရေးရန်.....

၂။ လုပ်ငန်းစတင်လုပ်ကိုင်မှုအစီအစဉ်အရအစီအစဉ်များ

(က) ဆည်သုံးများအစီအစဉ်များ.....

(ခ) အနံ့အသက်/အနံ့အငွေ့များ.....

(ဂ) လုပ်ငန်းခွင်အလင်းရောင်.....

(ဃ) အမှန်အမှားများအစီအစဉ်များ.....

(င) ဓလေ့ထုံးတမ်းစဉ်.....

၃။ လုပ်ငန်းစတင် လူမှုဆက်သွယ်ရေးအစီအစဉ်အရအစီအစဉ်များ

(က) လုပ်ငန်းစတင်ကြိုတင်သွယ် (မိမိအသက်).....

(ခ) လုပ်ငန်းစတင်ကြိုတင် (အဆင့်သွယ်).....

(ဂ) လက်အောက်ခံလုပ်ငန်း (မိမိလက်အောက်).....

၄။ သိမ်းဆည်းမှုများ

လက်မှတ်.....

အမည်.....

နိုင်ငံသားစိစစ်ရေးအဖွဲ့.....

လုပ်ငန်း.....

ရက်စွဲ.....


ရာထူး.....

ရက်စွဲ.....

စာထုတ်သွယ်ရန်ရက်စွဲ.....

[illegible][illegible]

[illegible][illegible]

 **Green Myanmar**
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (I), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5801451 E-mail: gmescompany@gmail.com, info@gmes-mn.com

" Myanmar Asia Optical International Co., Ltd. " မှ ပန်ဆင်လုပ်ငန်းများကို လုပ်ကိုင်ရန်အတွက်
ယာဘ်ခံကွက်ဝယ်ယူခြင်းအစီအစဉ် (Environmental Management Plan – EMP) ဖော်ပြချက်ပတ်သက်၍
ဝယ်ယူမှုအစီအစဉ် လုပ်ငန်းခွင်သစ်ပုံစံ အကြံပြုချက်များပေးပို့ခြင်း

၁။ လုပ်ငန်းခွင်ကျန်းမာရေးနှင့်သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာလုပ်ငန်းများနှင့်ပတ်သက်၍

(က) လုပ်ငန်းခွင်အကာအကွယ်ပေးစနစ်များ.....
(ခ) သဘာဝပတ်ဝန်းကျင်.....
(ဂ) သန့်ရှင်းရေးစနစ်.....
(ဃ) အဆေးကွက်သန့်ရှင်းရေးစနစ်.....

၂။ လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှုအခြေအနေအထားအကြံပြုချက်

(က) ဆည်သုံးများအခြေအနေ.....
(ခ) အနံ့အသက်/အနံ့အသက်များ.....
(ဂ) လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှု.....
(ဃ) အနံ့အသက်များအခြေအနေ.....
(င) အလုပ်လုပ်ကိုင်မှု.....

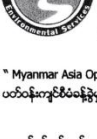
၃။ လုပ်ငန်းခွင် လူမှုပတ်ဝန်းကျင်အခြေအနေအထားအကြံပြုချက်

(က) လုပ်ငန်းခွင်ကြည့်ရှုသူ (မီးသတိပေး).....
(ခ) လုပ်ငန်းခွင်ကြည့်ရှုသူ (အသံထွက်).....
(ဂ) လုပ်ငန်းခွင်ကြည့်ရှုသူ (မီးသတိပေး).....

၄။ သိမ်းဆည်းမှုစနစ်များ

လက်မှတ်.....
အမည်.....
နိုင်ငံသားစိစစ်ရေးအဖွဲ့.....
လုပ်ငန်းခွင်.....

မှတ်စု.....
မှတ်စု.....
ရန်ကုန်.....
တက်သွယ်ရန်ရက်စာ.....



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” ၏ မှန်လုံခြုံရေးစီမံကိန်းလုပ်ငန်းလုပ်ငန်းအတွက်
 ယာယီလုပ်ငန်းစီမံကိန်းအတွက် (Environmental Management Plan – EMP) ဖော်ပြခြင်းမဟုတ်သောကြောင့်
 ဝန်ထမ်းများ၏ လုပ်ငန်းစဉ်စဉ်အတွက် အခြေခံချက်များအရ ဖော်ပြခြင်း

၁။ လုပ်ငန်းစဉ်စီမံကိန်းအရ စီမံကိန်းအတွက် အခြေခံချက်များအရ ဖော်ပြခြင်းမဟုတ်သောကြောင့်

(က) လုပ်ငန်းစဉ်အတွက် အခြေခံချက်များအရ ဖော်ပြခြင်းမဟုတ်သောကြောင့်

(ခ) အသက်သုံးစရိတ် မရှိပါ

(ဂ) အခွန်စည်းချုပ်များ လုပ်ငန်းစဉ်စီမံကိန်း

(ဃ) အခြေခံချက်များအရ ဖော်ပြခြင်းမဟုတ်သောကြောင့် မရှိပါ

၂။ လုပ်ငန်းစဉ်အတွက် လုပ်ငန်းစဉ်အတွက် အခြေခံချက်များအရ ဖော်ပြခြင်းမဟုတ်သောကြောင့်

(က) ထုတ်လုပ်မှုအခြေခံချက်များ မရှိပါ

(ခ) အခြေခံချက်များအရ ဖော်ပြခြင်းမဟုတ်သောကြောင့် မရှိပါ

(ဂ) လုပ်ငန်းစဉ်အခြေခံချက်များ မရှိပါ

(ဃ) အခြေခံချက်များအရ ဖော်ပြခြင်းမဟုတ်သောကြောင့် မရှိပါ

(င) အခြေခံချက်များအရ ဖော်ပြခြင်းမဟုတ်သောကြောင့် မရှိပါ

၃။ လုပ်ငန်းစဉ် လုပ်ငန်းစဉ်အတွက် အခြေခံချက်များအရ ဖော်ပြခြင်းမဟုတ်သောကြောင့်

(က) လုပ်ငန်းစဉ်အခြေခံချက်များ (မရှိပါသောကြောင့်) မရှိပါ

(ခ) လုပ်ငန်းစဉ်စဉ် (အသက်သုံးစရိတ်) မရှိပါ

(ဂ) လုပ်ငန်းစဉ်စဉ် (မရှိပါသောကြောင့်) မရှိပါ

၄။ အခြေခံချက်များ

လက်မှတ် မရှိပါ

အမည် မရှိပါ

နိုင်ငံသားစဉ်စဉ်စဉ် မရှိပါ

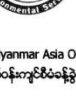
လုပ်ငန်း မရှိပါ

ရာထူး မရှိပါ

ငွေ မရှိပါ

ရန်ပုံငွေ မရှိပါ

ဆက်သွယ်ရန်လိပ်စာ မရှိပါ



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

" Myanmar Asia Optical International Co., Ltd. " ၏ မြန်မာလူ့အခွင့်အရေးလုပ်ငန်းအတွက်
ပတ်ဝန်းကျင်ထိန်းသိမ်းမှုစီမံကိန်း (Environmental Management Plan – EMP) ဖော်ပြချက်
ပတ်ဝန်းကျင်ထိန်းသိမ်းမှုစီမံကိန်း (Environmental Management Plan – EMP) ဖော်ပြချက်

၁။ လုပ်ငန်းခွင်ကို စောင့်ကြည့်ရန် အသုံးပြုမည့် အချက်အလက်များ

(က) လုပ်ငန်းခွင်အတောအတွယ်ပတ်ဝန်းကျင်များ မူလ

(ခ) အသုံးပြုမည့် အချက်အလက်များ မူလ

(ဂ) အသုံးပြုမည့် အချက်အလက်များ မူလ

(ဃ) အသုံးပြုမည့် အချက်အလက်များ မူလ

၂။ လုပ်ငန်းခွင်အတွက် လုပ်ငန်းခွင်အသုံးပြုမှုအတွက်

(က) အသုံးပြုမည့် အချက်အလက်များ မူလ

(ခ) အသုံးပြုမည့် အချက်အလက်များ မူလ

(ဂ) လုပ်ငန်းခွင်အသုံးပြုမှုအတွက် မူလ

(ဃ) အသုံးပြုမည့် အချက်အလက်များ မူလ

(င) အသုံးပြုမည့် အချက်အလက်များ မူလ

၃။ လုပ်ငန်းခွင် လုပ်ငန်းခွင်အသုံးပြုမှုအတွက်

(က) လုပ်ငန်းခွင်အသုံးပြုမှုအတွက် (မိမိအသုံးပြု) မူလ

(ခ) လုပ်ငန်းခွင်အသုံးပြုမှုအတွက် (မိမိအသုံးပြု) မူလ

(ဂ) လုပ်ငန်းခွင်အသုံးပြုမှုအတွက် (မိမိအသုံးပြု) မူလ

(ဃ) လုပ်ငန်းခွင်အသုံးပြုမှုအတွက် (မိမိအသုံးပြု) မူလ

၄။ လုပ်ငန်းခွင်အသုံးပြုမှုအတွက်

လက်မှတ် မူလ

အမည် မူလ

နိုင်ငံသားစိစစ်မှုအမည် မူလ


လုပ်သက် မူလ

ရာထူး မူလ

ငွေ မူလ

ရန်နှုန်း မူလ

ဆက်သွယ်ရန်လိပ်စာ မူလ

 **Green Myanmar**
Environmental Services Co., Ltd

No. 115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 878 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

"Myanmar Asia Optical International Co., Ltd." မှ ဓနခံ လုပ်ငန်းစဉ်များကို လုပ်ကိုင်ခြင်း လုပ်ငန်းအတွက်
ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုစာချုပ် (Environmental Management Plan - EMP) ဖန်တီးခြင်းနှင့် ပတ်သက်၍
သိရှိထင်ရှားစေရန် လုပ်ငန်းစဉ်စတင်ရာ အကြံပြုချက်များပေးပို့ခြင်း

၁။ လုပ်ငန်းစဉ်ကျွမ်းကျင်မှုအရ ခံစားရသည့် အန္တရာယ်တစ်ခုတည်းမှာ နယ်လ်လင်းရှင်းလင်းခြင်းဖြစ်သည်။

(က) လုပ်ငန်းစဉ်အကာအကွယ်ပေးရန်... မရှိပါ။

(ခ) စေ့ငြိမ်းသည့်... မရှိပါ။

(ဂ) သန့်ရှင်းစနစ်များ... မရှိပါ။

(ဃ) စေ့ငြိမ်းစနစ်များ... မရှိပါ။

၂။ လုပ်ငန်းစဉ်အကာအကွယ်ပေးရန်အတွက် အကြံပြုချက်

(က) ဆည်သုံးမျိုးအသုံးပြု... မရှိပါ။

(ခ) အန္တရာယ်အမြင့်... မရှိပါ။

(ဂ) လုပ်ငန်းစဉ်အကာအကွယ်... မရှိပါ။

(ဃ) အန္တရာယ်အမြင့်... မရှိပါ။

(င) စေ့ငြိမ်းစနစ်များ... မရှိပါ။

၃။ လုပ်ငန်းစဉ် လုပ်ငန်းစဉ်အကာအကွယ်ပေးရန်အတွက် အကြံပြုချက်

(က) လုပ်ငန်းစဉ်အကာအကွယ်... မရှိပါ။


(ခ) လုပ်ငန်းစဉ်အကာအကွယ်... မရှိပါ။

(ဂ) လုပ်ငန်းစဉ်အကာအကွယ်... မရှိပါ။

(ဃ) လုပ်ငန်းစဉ်အကာအကွယ်... မရှိပါ။

၄။ သိရှိထင်ရှားစေရန်

လက်မှတ်...
အမည်...
နိုင်ငံသားစိစစ်ရေးအဖွဲ့...
လက်မှတ်...
ရက်စွဲ...
ဌာန...
ရက်စွဲ...
ရက်စွဲ...
ရက်စွဲ...



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescscompany@gmail.com, info@gmescs-mm.com

၁၈

၁၉

၂၀

၂၁

၂၂

၂၃

၂၄

၁၈ လုပ်ငန်းစဉ်ကုန်ဆုံးအမှတ်အသားအရောက်ကုန်ဆုံးရောက်ရှိသည့်နေ့ရက်အဖြစ်ဖြည့်ရန်

(က) လုပ်ငန်းစဉ်အကောင်အထည်ဖော်သည့်နေ့ရက်.....

(ခ) စတင်သည့်နေ့ရက်.....

(ဂ) သင့်စီစဉ်နေ့ရက်.....

(ဃ) စတင်အသုံးပြုသည့်နေ့ရက်.....

၂၀ လုပ်ငန်းစဉ်အကောင်အထည်ဖော်သည့်နေ့ရက်အဖြစ်ဖြည့်ရန်

(က) ဆည်သုံးနေ့ရက်အဖြစ်ဖြည့်ရန်.....

(ခ) အနုအသက်/အသက်အရွယ်.....

(ဂ) လုပ်ငန်းစဉ်အကောင်အထည်ဖော်သည့်နေ့ရက်.....

(ဃ) အမှတ်အသားအရောက်ရှိသည့်နေ့ရက်.....

(င) လက်ခံရရှိသည့်နေ့ရက်.....

၂၁ လုပ်ငန်းစဉ် လူမှုဆက်သွယ်ရေးအရောက်ရှိသည့်နေ့ရက်အဖြစ်ဖြည့်ရန်

(က) လုပ်ငန်းစဉ်အကောင်အထည်ဖော်သည့်နေ့ရက်.....

(ခ) လုပ်ငန်းစဉ်အကောင်အထည်ဖော်သည့်နေ့ရက်.....

(ဂ) လက်ခံရရှိသည့်နေ့ရက်.....

(ဃ) လက်ခံရရှိသည့်နေ့ရက်.....

၂၂ လုပ်ငန်းစဉ်အကောင်အထည်ဖော်သည့်နေ့ရက်အဖြစ်ဖြည့်ရန်

(က) လုပ်ငန်းစဉ်အကောင်အထည်ဖော်သည့်နေ့ရက်.....

(ခ) လုပ်ငန်းစဉ်အကောင်အထည်ဖော်သည့်နေ့ရက်.....

(ဂ) လုပ်ငန်းစဉ်အကောင်အထည်ဖော်သည့်နေ့ရက်.....

(ဃ) လုပ်ငန်းစဉ်အကောင်အထည်ဖော်သည့်နေ့ရက်.....

၂၃ လုပ်ငန်းစဉ်အကောင်အထည်ဖော်သည့်နေ့ရက်အဖြစ်ဖြည့်ရန်

(က) လုပ်ငန်းစဉ်အကောင်အထည်ဖော်သည့်နေ့ရက်.....

(ခ) လုပ်ငန်းစဉ်အကောင်အထည်ဖော်သည့်နေ့ရက်.....

(ဂ) လုပ်ငန်းစဉ်အကောင်အထည်ဖော်သည့်နေ့ရက်.....

(ဃ) လုပ်ငန်းစဉ်အကောင်အထည်ဖော်သည့်နေ့ရက်.....

၂၄ လုပ်ငန်းစဉ်အကောင်အထည်ဖော်သည့်နေ့ရက်အဖြစ်ဖြည့်ရန်

(က) လုပ်ငန်းစဉ်အကောင်အထည်ဖော်သည့်နေ့ရက်.....


(ခ) လုပ်ငန်းစဉ်အကောင်အထည်ဖော်သည့်နေ့ရက်.....

(ဂ) လုပ်ငန်းစဉ်အကောင်အထည်ဖော်သည့်နေ့ရက်.....

(ဃ) လုပ်ငန်းစဉ်အကောင်အထည်ဖော်သည့်နေ့ရက်.....

[illegible]

[illegible][illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanungu Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” မှ ပေးပို့လှူဒါန်းမှုကြိုတင်လုပ်ငြင်းလုပ်ငန်းအတွက်
 ယတ်ခံကဏ္ဍစီမံခန့်ခွဲမှုစာချုပ် (Environmental Management Plan – EMP) ခြေခံမြင်ကွင်းပတ်သက်၍
 ဝါထမ်းများ၏ လုပ်ငန်းခွင်နှင့်ဆိုင်ရာ အကြံပြုချက်များလုပ်ငြင်း

၀၈ လုပ်ငန်းခွင်နှင့်ဆိုင်ရာအသေးစားသတ်မှတ်ကဏ္ဍပေးပို့ရန်များနှင့်ပတ်သက်၍ အကြံပြုချက်

(က) လုပ်ငန်းခွင်နှင့်ဆိုင်ရာအကယ်၍လုပ်ငြင်းများ: မရှိပေမည်ပါ။

(ခ) ဆေးကုသမှုဆေးရုံ: မရှိပါ။

(ဂ) သန့်ရှင်းရေး: မရှိပေမည်ပါ။

(ဃ) ဆေးကုသမှုဆေးရုံနှင့်ဆိုင်ရာ: မရှိပါ။

၂၈ လုပ်ငန်းခွင်နှင့်ဆိုင်ရာအကြီးအကဲအကြံပြုချက်

(က) ဆေးကုသမှုဆေးရုံ: မရှိပါ။

(ခ) အဆေးကုသမှုဆေးရုံ: မရှိပါ။

(ဂ) လုပ်ငန်းခွင်နှင့်ဆိုင်ရာ: မရှိပါ။

(ဃ) အဆေးကုသမှုဆေးရုံ: မရှိပါ။

(င) လုပ်ငန်းခွင်နှင့်ဆိုင်ရာ: မရှိပါ။

၃၈ လုပ်ငန်းခွင် လူမှုပတ်ဝန်းကျင်အကြီးအကဲအကြံပြုချက်

(က) လုပ်ငန်းခွင်ကြီးကြပ်သူ (ပီပီအက်က) : မရှိပါ။

(ခ) လုပ်ငန်းခွင်ကြီးကြပ်သူ (အဆင့်တ) : မရှိပါ။

(ဂ) လက်အောက်ခံလုပ်ငန်း (ပီပီလက်အောက်) :


၄၈ ငါးကြီးအကြံပြုချက်များ

လက်မှတ်: Kyatt ရာထူး: Writer

အမည်: Kyatt Kay Thi On ဌာန: CS

နိုင်ငံသားစိစစ်ရေးအမှတ်: ၁၂၀၀၄၆၁၁၇၇၀ နိုင်ငံသားစိစစ်ရေးအမှတ်: ၁၂-၁၀၆၁၄၀၇၈

လုပ်ငန်းခွင်: စက်မှု ဆက်သွယ်ရေးစိစစ်ရေး: Magway



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (I), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” ၏ မူပိုင်လုပ်ငန်းများလုပ်ကိုင်ခြင်းလုပ်ငန်းဆောင်ရွက်
ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုစာချုပ် (Environmental Management Plan – EMP) ခေတ္တပြင်ဆင်မှုပတ်သက်၍
သိမ်းသွင်းမှုပတ်သက်၍ လုပ်ငန်းစဉ်စီမံခန့်ခွဲမှု အကြံပြုချက်များပေးခြင်း

၁။ လုပ်ငန်းစဉ်ကျွန်းချာအစုအစည်းအသစ်များလုပ်ကိုင်ရာနေရာတွင်လုပ်ကိုင်ခြင်းအကြံပြုချက်
(က) လုပ်ငန်းစဉ်အကောင်အထည်ဖော်မှုစဉ်များ လုံခြုံမှုစီမံခန့်ခွဲမှု
(ခ) စတင်တည်ဆောက်မှု စတင်တည်ဆောက်မှု
(ဂ) သန့်စင်ခြင်းများ လုံခြုံမှုစီမံခန့်ခွဲမှု
(ဃ) စတင်တည်ဆောက်မှုစဉ်များ စတင်တည်ဆောက်မှု

၂။ လုပ်ငန်းစဉ်အလုပ်လုပ်ကိုင်မှုအစုအစည်းအကြံပြုချက်
(က) စတင်တည်ဆောက်မှုစဉ်များ စတင်တည်ဆောက်မှု
(ခ) အဆင့်မြှင့်တင်မှုအစုအစည်းများ အဆင့်မြှင့်တင်မှု
(ဂ) လုပ်ငန်းစဉ်အလုပ်လုပ်ကိုင်မှုစဉ်များ အဆင့်မြှင့်တင်မှု
(ဃ) အဆင့်မြှင့်တင်မှုအစုအစည်းများ အဆင့်မြှင့်တင်မှု


၃။ လုပ်ငန်းစဉ် လုပ်ကိုင်မှုအစုအစည်းအကြံပြုချက်
(က) လုပ်ငန်းစဉ်အစုအစည်းများ လုပ်ငန်းစဉ်အစုအစည်း
(ခ) လုပ်ငန်းစဉ်အစုအစည်း (အဆင့်မြှင့်တင်မှု) လုပ်ငန်းစဉ်အစုအစည်း
(ဂ) လက်အောက်ခံလုပ်ငန်း (ပိုင်ဆိုင်မှုအစုအစည်း)

၄။ သိမ်းသွင်းမှုစဉ်များ

လက်မှတ် Sander နာမည် Sander Khin ဌာန လုပ်ငန်းစဉ်အစုအစည်း
စီမံခန့်ခွဲမှုစဉ်များ စီမံခန့်ခွဲမှု
လုပ်ငန်းစဉ် 1 month

လက်မှတ် Unker နာမည် CG ဌာန စီမံခန့်ခွဲမှု
စီမံခန့်ခွဲမှုစဉ်များ စီမံခန့်ခွဲမှု

[illegible][illegible]



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

၁။ မြန်မာ့အလင်းစာမဂ္ဂဇင်း (၁၀) နှစ်အတွက်
ပတ်သက်သည့် အချက်အလက် (Environmental Management Plan - EMP) ဖော်ပြချက်များကို
အောက်ဖော်ပြပါ အချက်အလက်များအရ အကျဉ်းချုပ်ဖော်ပြပါသည်။

၂။ မြန်မာ့အလင်းစာမဂ္ဂဇင်း (၁၀) နှစ်အတွက် အကျဉ်းချုပ်ဖော်ပြချက်များ

(က) လုပ်ငန်းခွင်အကျဉ်းချုပ်ဖော်ပြချက်များ (၁၀) နှစ်အတွက်

(ခ) အကျဉ်းချုပ်ဖော်ပြချက်များ (၁၀) နှစ်အတွက်

(ဂ) အကျဉ်းချုပ်ဖော်ပြချက်များ (၁၀) နှစ်အတွက်

(ဃ) အကျဉ်းချုပ်ဖော်ပြချက်များ (၁၀) နှစ်အတွက်

၃။ မြန်မာ့အလင်းစာမဂ္ဂဇင်း (၁၀) နှစ်အတွက် အကျဉ်းချုပ်ဖော်ပြချက်များ

(က) အကျဉ်းချုပ်ဖော်ပြချက်များ (၁၀) နှစ်အတွက်

(ခ) အကျဉ်းချုပ်ဖော်ပြချက်များ (၁၀) နှစ်အတွက်

(ဂ) အကျဉ်းချုပ်ဖော်ပြချက်များ (၁၀) နှစ်အတွက်

(ဃ) အကျဉ်းချုပ်ဖော်ပြချက်များ (၁၀) နှစ်အတွက်


၄။ အကျဉ်းချုပ်ဖော်ပြချက်များ

(က) အကျဉ်းချုပ်ဖော်ပြချက်များ (၁၀) နှစ်အတွက်

(ခ) အကျဉ်းချုပ်ဖော်ပြချက်များ (၁၀) နှစ်အတွက်

(ဂ) အကျဉ်းချုပ်ဖော်ပြချက်များ (၁၀) နှစ်အတွက်

(ဃ) အကျဉ်းချုပ်ဖော်ပြချက်များ (၁၀) နှစ်အတွက်



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanung Min Thar Gyi Road, Industrial Zone (I), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel. 09 897 978 296, 09-5081451 E-mail: gmescocompany@gmail.com, info@gmcs-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” မှ နယ်စပ်ဒေသများရှိ လုပ်ငန်းများကို လုပ်ကိုင်ဆောင်ရွက်
ပတ်သက်သည့် ပတ်ဝန်းကျင်ထိခိုက်မှု (Environmental Management Plan – EMP) ဝေဖန်ခြင်းနှင့် ပတ်သက်၍
ဝါထုတ်ဖော်မှု အစီအစဉ်များကို အောက်ပါအတိုင်း ဖြည့်စွက်ရန် တောင်းဆိုပါသည်။

၁။ လုပ်ငန်းစဉ်တွင် ကျွန်ုပ်တို့၏ မေးခွန်းများအား အောက်ဖော်ပြပါအတိုင်း ဖြည့်စွက်ပေးရန် လိုအပ်ပါသည်။

(က) လုပ်ငန်းစဉ်အကာအကွယ်ပေးသည့် များ... အောက်ပါအတိုင်း ဖြည့်စွက်ပါသည်။

(ခ) အောက်ပါအတိုင်း... အောက်ပါအတိုင်း ဖြည့်စွက်ပါသည်။

(ဂ) သန့်စင်ရန်... အောက်ပါအတိုင်း ဖြည့်စွက်ပါသည်။

(ဃ) အောက်ပါအတိုင်း... အောက်ပါအတိုင်း ဖြည့်စွက်ပါသည်။

၂။ လုပ်ငန်းစဉ်အကာအကွယ်ပေးသည့် အစီအစဉ်များကို အောက်ပါအတိုင်း ဖြည့်စွက်ရန် တောင်းဆိုပါသည်။

(က) ဆည်သုံးများအခြေအနေ... အောက်ပါအတိုင်း ဖြည့်စွက်ပါသည်။

(ခ) အနီးအနားရှိ အခြေအနေ... အောက်ပါအတိုင်း ဖြည့်စွက်ပါသည်။

(ဂ) လုပ်ငန်းစဉ်အကာအကွယ်ပေးသည့်... အောက်ပါအတိုင်း ဖြည့်စွက်ပါသည်။

(ဃ) အနီးအနားရှိ အခြေအနေ... အောက်ပါအတိုင်း ဖြည့်စွက်ပါသည်။

(င) အောက်ပါအတိုင်း... အောက်ပါအတိုင်း ဖြည့်စွက်ပါသည်။

၃။ လုပ်ငန်းစဉ် လုပ်ကိုင်ဆောင်ရွက်သည့် အစီအစဉ်များကို အောက်ပါအတိုင်း ဖြည့်စွက်ရန် တောင်းဆိုပါသည်။

(က) လုပ်ငန်းစဉ်အကာအကွယ်ပေးသည့်... အောက်ပါအတိုင်း ဖြည့်စွက်ပါသည်။

(ဂ) လုပ်ငန်းစဉ်အကာအကွယ်ပေးသည့်... အောက်ပါအတိုင်း ဖြည့်စွက်ပါသည်။

(ဂ) လုပ်ငန်းစဉ်အကာအကွယ်ပေးသည့်... အောက်ပါအတိုင်း ဖြည့်စွက်ပါသည်။


၄။ နယ်စပ်ဒေသများရှိ လုပ်ငန်းစဉ်များကို အောက်ပါအတိုင်း ဖြည့်စွက်ရန် တောင်းဆိုပါသည်။

လက်မှတ်... Warakun T.

အမည်... Warakun T.

နိုင်ငံသားစိစစ်ရေးအဖွဲ့... အောက်ပါအတိုင်း ဖြည့်စွက်ပါသည်။

လုပ်ငန်း... အောက်ပါအတိုင်း ဖြည့်စွက်ပါသည်။



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

*** Myanmar Asia Optical Industrial Co., Ltd. * မိုးညိုလူ့အသက်မွေးဝမ်းကြေးလုပ်ငန်းအတွက်**
ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး (Environmental Management Plan – EMP) မေးခွန်းမြန်မာ့ပတ်သက်၍
ရန်ကုန်မြို့နယ်၊ လှိုင်လမ်းမကြီးနှင့် အလယ်လမ်းမကြီးတို့အနီးရှိ

၁။ လှိုင်လမ်းမကြီးအနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ

(က) လှိုင်လမ်းမကြီးအနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ

(ခ) အလယ်လမ်းမကြီးအနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ

(ဂ) အလယ်လမ်းမကြီးအနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ

(ဃ) အလယ်လမ်းမကြီးအနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ

၂။ လှိုင်လမ်းမကြီးအလယ်လမ်းမကြီးအနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ

(က) အလယ်လမ်းမကြီးအနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ

(ခ) အလယ်လမ်းမကြီးအနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ

(ဂ) လှိုင်လမ်းမကြီးအနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ

(ဃ) အလယ်လမ်းမကြီးအနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ

(င) အလယ်လမ်းမကြီးအနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ

၃။ လှိုင်လမ်းမကြီး လှိုင်လမ်းမကြီးအနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ

(က) လှိုင်လမ်းမကြီးအနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ

(ခ) လှိုင်လမ်းမကြီးအနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ

(ဂ) လှိုင်လမ်းမကြီးအနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ

(ဃ) လှိုင်လမ်းမကြီးအနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ အလယ်လမ်းမကြီးတို့အနီးရှိ

၄။ မြေအောက်ရေအား

၀၄

လက်မှတ် _____

အမည် _____

နိုင်ငံသားစိစစ်ရေးမှတ်ပုံတင် _____

လုပ်ငန်း _____


ရာထူး _____

မှတ်ပုံတင် _____

ရက်စွဲ _____

စာတိုင် _____

[illegible][illegible]

 **Green Myanmar**
Environmental Services Co., Ltd
No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

* Myanmar Asia Optical International Co., Ltd. *
ယာဝ်နာကွင်းစီမံခန့်ခွဲမှုအဖွဲ့အစည်း (Environmental Management Plan - EMP) မရေးဆွဲခြင်းနှင့်ပတ်သက်၍
ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်တိုင်ရာ အကြံပြုချက်များရယူခြင်း

အ။ လုပ်ငန်းခွင်ကြည့်ရှုမှုအချိန်မီသောအန္တရာတ်ကောက်ယူမှုပစ္စည်းများနှင့်လုပ်ငန်းခွင်အကြံပြုချက်
(က) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ: လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ
(ခ) သောက်သုံးရေ: သောက်သုံးရေ
(ဂ) သန့်ရှင်းရေး: သန့်ရှင်းရေး
(ဃ) အဆေးကြောသန့်ရှင်းရေးစနစ်: အဆေးကြောသန့်ရှင်းရေးစနစ်


အ။ လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှုအခြေအနေအထား အကြံပြုချက်
(က) ဆူညံသံများအခြေအနေ: အဆူညံသံများ
(ခ) အနံ့အသက်/အနံ့အသွေ့များ: အနံ့အသက်/အနံ့အသွေ့များ
(ဂ) လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှု: လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှု
(ဃ) အမှန်တရားများအခြေအနေ: အမှန်တရားများအခြေအနေ
(င) လေထုဒီဇယ်ထွက်: လေထုဒီဇယ်ထွက်

အ။ လုပ်ငန်းခွင် လူမှုပတ်ဝန်းကျင်အခြေအနေအထား အကြံပြုချက်
(က) လုပ်ငန်းခွင်ကြည့်ရှုသူ (မီဒီယာထက်): အကြံပြုချက်
(ခ) လုပ်ငန်းခွင်ကြည့်ရှုသူ (အသက်သွေး): အသက်သွေး
(ဂ) လက်အောက်ခံလုပ်သား (မီဒီယာထက်): လက်အောက်ခံလုပ်သား

အ။ သီးခြားအကြံပြုချက်များ

လက်မှတ် Ch Cho worker 12
အမည် Ch Cho CG
မှန်သားစိစစ်ရေးအဖွဲ့ CG-890137436
လုပ်သား 136 စက်သွယ်ရန်မီဒီယာ အကြံပြုချက် 12/20

[illegible][illegible]



Green Myanmar

Environmental Management Services Co., Ltd

No. 115, Kansaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” ၏ မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်းလုပ်ငန်းအတွက်
 ယတ်ခံကွက်မိမိသေချာအောင် (Environmental Management Plan – EMP) ဖန်တီးခြင်းနှင့်ပတ်သက်၍
 ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်ဆိုင်ရာ အကြံပြုချက်များယူဆခြင်း

၁။ လုပ်ငန်းခွင်ကျန်းမာရေးနှင့်အဆွေရာသီဘက်ကူးရေးဆွေလုပ်ငန်းများစတင်လုပ်ငန်းအကြံပြုချက်

(က) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ အထူးသဖြင့်
 (ခ) အသောက်သုံးခရ အထူးသဖြင့်
 (ဂ) သန့်စင်ရန်များ အထူးသဖြင့်
 (ဃ) ဆေးအကြောသန့်ရှင်းရေးရန် အထူးသဖြင့်

၂။ လုပ်ငန်းခွင်အကာလုပ်ငန်းစဉ်အကြံပြုချက်အသစ်အကြံပြုချက်

(က) ဆူညံသံများအကြံပြုချက် အထူးသဖြင့်
 (ခ) အနံ့အသက်/အနံ့အဝေ့များ အထူးသဖြင့်
 (ဂ) လုပ်ငန်းခွင်အလင်းရောင် အထူးသဖြင့်
 (ဃ) အပူအအေးများအကြံပြုချက် အထူးသဖြင့်
 (င) ဓာတ်လေဝင်ကွက် အထူးသဖြင့်


၃။ လုပ်ငန်းခွင် လူမှုထက်ဆံ့ရေးအကြံပြုချက်အသစ်အကြံပြုချက်

(က) လုပ်ငန်းခွင်ကြိုတင်သွား (မိမိအထက်) အထူးသဖြင့်
 (ဂ) လုပ်ငန်းခွင်ကြိုတင် (အထက်သွား) အထူးသဖြင့်
 (ဂ) လက်အောက်ဝန်ထမ်း (မိမိလက်အောက်)

၄။ သီးခြားအကြံပြုချက်များ

လက်မှတ်
 နာမည်
 မိမိသတ်မှတ်သောနေရာတွင်
 လုပ်ငန်းခွင်
 လက်မှတ်
 နာမည်
 မိမိသတ်မှတ်သောနေရာတွင်
 လုပ်ငန်းခွင်

[illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Global Environmental Co., Ltd. ” ၏ မြန်မာလူမှုဝန်ထမ်းကုမ္ပဏီလီမိတက် (မြန်မာလူမှုဝန်ထမ်းကုမ္ပဏီလီမိတက်) (Environmental Management Plan – EMP) ဖော်ပြချက်နှင့်ဆက်သက်ရှိ
ရပ်ကွက်များ၏ လုပ်ငန်းခွင်ဆိုင်ရာ အန္တရာယ်များစုံစမ်းခြင်း

၁။ လုပ်ငန်းခွင်တိုက်ရိုက်ဆက်သက်ရှိအန္တရာယ်များစုံစမ်းခြင်းအတွက် အန္တရာယ်များစုံစမ်းခြင်း

(က) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ: မရှိ

(ခ) ဆောက်လုပ်ရေး: မရှိ

(ဂ) သန့်ရှင်းရေး: မရှိ

(ဃ) ဆေးကုသရေးဆိုင်ရာ: မရှိ

၂။ လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှုအန္တရာယ်အတွက် အန္တရာယ်များစုံစမ်းခြင်း

(က) ဆုတ်သန့်ရေး: မရှိ

(ခ) အနံ့အသက်/အနံ့အသံ: မရှိ

(ဂ) လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှု: မရှိ

(ဃ) အမှန်အတိုင်းအခြေအနေ: မရှိ

(င) လေထုလေထု: မရှိ

၃။ လုပ်ငန်းခွင် လူမှုပတ်ဝန်းကျင်အန္တရာယ်အတွက် အန္တရာယ်များစုံစမ်းခြင်း

(က) လုပ်ငန်းခွင်ကြီးထွားမှု (ဗီဒီယို): မရှိ

(ခ) လုပ်ငန်းခွင်ကြီးထွားမှု (အသံ): မရှိ

(ဂ) လက်အောက်ခံရမှု (ဗီဒီယို): မရှိ

၄။ သီးခြားအန္တရာယ်များ

လက်မှတ်: _____

အသံ: _____

နိုင်ငံသားစီစဉ်ရေးဆွဲသူ: _____

လုပ်ငန်းခွင်: _____

မှတ်စု: Worker - Je


မှတ်စု: Binding

မှတ်စု: _____

မှတ်စု: _____

[illegible][illegible][illegible]

[illegible][illegible][illegible]

 **Green Myanmar**
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (I), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

" Myanmar Asia Optical Industrial Co., Ltd. " ၏ မှန်လုံခြုံရေးအန္တရာယ်ကင်းရှင်းရေးလုပ်ငန်းအတွက်
ပတ်ဝန်းကျင်ထိန်းသိမ်းမှုစီမံခန့်ခွဲမှု (Environmental Management Plan - EMP) ဖွဲ့စည်းခြင်းနှင့်ပတ်သက်၍
ဝန်ထမ်းများ၏ လုပ်ငန်းစဉ်စီမံခန့်ခွဲမှု အကြံပြုချက်များအရ ဖြစ်သည်။

၁။ လုပ်ငန်းစဉ်တွင် အန္တရာယ်ကင်းရှင်းရေးလုပ်ငန်းအတွက် အန္တရာယ်ကင်းရှင်းရေးစီမံခန့်ခွဲမှု

(က) လုပ်ငန်းစဉ်အတွက် အန္တရာယ်ကင်းရှင်းရေးစီမံခန့်ခွဲမှု (စီမံခန့်ခွဲမှု)

(ခ) အန္တရာယ်ကင်းရှင်းရေးစီမံခန့်ခွဲမှု

(ဂ) အန္တရာယ်ကင်းရှင်းရေးစီမံခန့်ခွဲမှု

(ဃ) အန္တရာယ်ကင်းရှင်းရေးစီမံခန့်ခွဲမှု

၂။ လုပ်ငန်းစဉ်အတွက် လုပ်ငန်းစဉ်အန္တရာယ်ကင်းရှင်းရေးစီမံခန့်ခွဲမှု

(က) အန္တရာယ်ကင်းရှင်းရေးစီမံခန့်ခွဲမှု

(ခ) အန္တရာယ်ကင်းရှင်းရေးစီမံခန့်ခွဲမှု

(ဂ) လုပ်ငန်းစဉ်အန္တရာယ်ကင်းရှင်းရေးစီမံခန့်ခွဲမှု

(ဃ) အန္တရာယ်ကင်းရှင်းရေးစီမံခန့်ခွဲမှု

(င) အန္တရာယ်ကင်းရှင်းရေးစီမံခန့်ခွဲမှု

၃။ လုပ်ငန်းစဉ် လုပ်ငန်းစဉ်အန္တရာယ်ကင်းရှင်းရေးစီမံခန့်ခွဲမှု

(က) လုပ်ငန်းစဉ်အန္တရာယ်ကင်းရှင်းရေးစီမံခန့်ခွဲမှု (စီမံခန့်ခွဲမှု)

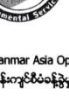
(ခ) လုပ်ငန်းစဉ်အန္တရာယ်ကင်းရှင်းရေးစီမံခန့်ခွဲမှု (စီမံခန့်ခွဲမှု)

(ဂ) လုပ်ငန်းစဉ်အန္တရာယ်ကင်းရှင်းရေးစီမံခန့်ခွဲမှု (စီမံခန့်ခွဲမှု)

၄။ အန္တရာယ်ကင်းရှင်းရေးစီမံခန့်ခွဲမှု

လက်မှတ် _____ နာမည် _____
အမည် _____
နိုင်ငံသားစစ်စစ်စာရင်းမှာ _____
လုပ်သက် _____

ရာထူး _____
ဌာန _____
ရန်ကုန်မြို့ _____
ဆက်သွယ်ရန်နံပါတ် _____



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmesccompany@gmail.com, info@gmcs-mm.com

၁။ မြန်မာ့အသံ့အသွယ်အတွက် လုပ်ငန်းအတွက်
ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင် (Environmental Management Plan - EMP) ဖော်ပြခြင်းပတ်သက်၍
ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်ဆိုင်ရာ အခြေခံဥပဒေများအရ

၁။ လုပ်ငန်းခွင်တွင် အသံ့အသွယ်အတွက် လုပ်ငန်းခွင်ထိခိုက်မှုမရှိအောင် အခြေခံဥပဒေများအရ

(က) လုပ်ငန်းခွင်အတွက် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင်
(ခ) အသံ့အသွယ်အတွက် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင်
(ဂ) အသံ့အသွယ်အတွက် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင်
(ဃ) အသံ့အသွယ်အတွက် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင်

၂။ လုပ်ငန်းခွင်အတွက် လုပ်ငန်းခွင်ထိခိုက်မှုမရှိအောင် အခြေခံဥပဒေများအရ


(က) အသံ့အသွယ်အတွက် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင်
(ခ) အသံ့အသွယ်အတွက် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင်
(ဂ) အသံ့အသွယ်အတွက် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင်
(ဃ) အသံ့အသွယ်အတွက် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင်

၃။ လုပ်ငန်းခွင် လုပ်ငန်းခွင်ထိခိုက်မှုမရှိအောင် အခြေခံဥပဒေများအရ

(က) လုပ်ငန်းခွင်အတွက် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင်
(ခ) လုပ်ငန်းခွင်အတွက် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင်
(ဂ) လုပ်ငန်းခွင်အတွက် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင်
(ဃ) လုပ်ငန်းခွင်အတွက် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင်

၄။ အခြေခံဥပဒေများအရ

လက်မှတ် _____ ရာစု _____
အသံ့ _____ ငါး _____
နိုင်ငံသားစိစစ်ရေးအဖွဲ့ _____ ဝန်ထမ်း _____
လုပ်ငန်းခွင် _____



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” ၏ မြန်မာလူ့အသိမြှင့်တင်ရေးလုပ်ငန်းအတွက်
 ဖတ်သိရသည့်စီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan - EMP) ဖေ့ချ်ပြင်ဆင်မှုပတ်သက်၍
 ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်ဆိုင်ရာ အခြေခံချက်များအရလုပ်ငန်း

အ လုပ်ငန်းခွင်တွင်အသုံးပြုသောအန္တရာယ်ကင်းရှင်းရေးစံနှုန်းနှင့်လုပ်ငန်းခြုံငုံခြင်းများ

(က) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ..... မရှိ

(ခ) ဓာတ်ငွေ့သိမ်းချ..... မရှိ

(ဂ) သန့်ရှင်းမှုများ.....

(ဃ) မဆေးကြောသန့်ရှင်းရေးစနစ်..... မရှိ

၂။ လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှုအခြေအနေအပေါ် အခြေခံချက်

(က) ဆူညံသံများအခြေအနေ..... မရှိ

(ခ) အနံ့အသက်/အနံ့အဝေ့များ..... မရှိ

(ဂ) လုပ်ငန်းခွင်အလင်းရောင်.....

(ဃ) အပူချိန်အကွာများအခြေအနေ.....

(င) ဓာတ်ငွေ့လောင်ဂျက်..... မရှိ

၃။ လုပ်ငန်းခွင် လူမှုပတ်ဝန်းကျင်အခြေအနေအပေါ် အခြေခံချက်

(က) လုပ်ငန်းခွင်ခြံနံကြောင့်သို့ (မိမိအထက်)..... မကောင်း

(ခ) လုပ်ငန်းခွင်ရင်ဆိုင် (အထင်အရှင်)..... မကောင်း 100%

(ဂ) လက်အောက်ခံပုံစံ (မိမိလက်အောက်)..... မကောင်း

၄။ ဘုံခြုံအခြေခံချက်များ.....

.....

.....


လက်မှတ်..... မရှိ..... ဘဝသူ..... Worker

အမည်..... မောင်သိန်းဇော်..... ဌာန..... CG

မိမိခံသဘာဝပတ်ဝန်းကျင်မှတ်..... ၉, ကာကွယ်ရေးဌာန..... လုပ်ငန်းခွင်..... ၁၃, ၃၃၂, ၃၃၃, ၃၃၄

လုပ်သော်..... ဆက်သွယ်ရန်ဖုန်းနံပါတ်..... မရှိ

[illegible][illegible]



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 78 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

၁။ Myanmar Asia Optical International Co., Ltd. ၁။ မြန်မာအော့ပတီကယ်လက်လုံခြုံရေးလုပ်ငန်းအတွက်
ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုစာရင်း (Environmental Management Plan - EMP) မြေပုံပြင်ဆင်ပတ်ဝန်းကျင်
လိုအပ်ချက်များကို လုပ်ငန်းစဉ်တစ်လျှောက် အကြည့်ရှုစစ်ဆေးရမည်။

၁။ လုပ်ငန်းစဉ်တစ်လျှောက်ပတ်ဝန်းကျင်ဆိုင်ရာအန္တရာယ်များကို စောင့်ကြည့်စစ်ဆေးရမည်။

(က) လုပ်ငန်းစဉ်အတွင်းပတ်ဝန်းကျင်ဆိုင်ရာအန္တရာယ်များ
(ခ) အသက်အန္တရာယ်
(ဂ) သန့်ရှင်းရေး
(ဃ) အသံအကြွေး
(င) လုပ်ငန်းစဉ်အတွင်းပတ်ဝန်းကျင်ဆိုင်ရာအန္တရာယ်များ

၂။ လုပ်ငန်းစဉ်အတွင်းပတ်ဝန်းကျင်ဆိုင်ရာအန္တရာယ်များကို အကြည့်ရှုစစ်ဆေးရမည်။

(က) ဆိုင်ရင်းများအကြောင်း
(ခ) အသက်အန္တရာယ်
(ဂ) လုပ်ငန်းစဉ်အတွင်းပတ်ဝန်းကျင်ဆိုင်ရာအန္တရာယ်များ
(ဃ) အသံအကြွေး
(င) လုပ်ငန်းစဉ်အတွင်းပတ်ဝန်းကျင်ဆိုင်ရာအန္တရာယ်များ


၃။ လုပ်ငန်းစဉ် လုပ်ငန်းစဉ်ဆိုင်ရာအန္တရာယ်များကို အကြည့်ရှုစစ်ဆေးရမည်။

(က) လုပ်ငန်းစဉ်အတွင်းပတ်ဝန်းကျင်ဆိုင်ရာအန္တရာယ်များ
(ခ) လုပ်ငန်းစဉ်အတွင်းပတ်ဝန်းကျင်ဆိုင်ရာအန္တရာယ်များ
(ဂ) လုပ်ငန်းစဉ်အတွင်းပတ်ဝန်းကျင်ဆိုင်ရာအန္တရာယ်များ
(ဃ) လုပ်ငန်းစဉ်အတွင်းပတ်ဝန်းကျင်ဆိုင်ရာအန္တရာယ်များ
(င) လုပ်ငန်းစဉ်အတွင်းပတ်ဝန်းကျင်ဆိုင်ရာအန္တရာယ်များ

၄။ အကြည့်ရှုစစ်ဆေးရမည်။

လက်မှတ်
အမည်
နိုင်ငံသားစာရင်းအမှတ်
လုပ်ငန်းစဉ်
စာရင်း
အမည်
လုပ်ငန်းစဉ်
စာရင်း

[illegible][illegible][illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmesmm@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” ၏ မှန်ဘီလူးအမှတ်တံဆိပ်လုပ်ငန်းအတွက်
 ဖတ်ဝင်မှုအတွက် ဝင်ခံရသူအားလုံးအတွက် (Environmental Management Plan - EMP) မေးမြန်းမှု ဖတ်ဝင်သက်ရှိ
 ဝင်ခံရသူအားလုံး လုပ်ငန်းစဉ်စဉ်ဆက် အကြံပြုချက်များအရ ပြုလုပ်ရမည်


၁။ လုပ်ငန်းစဉ်တိုင်းစနစ်များနှင့်ဆက်သွယ်သော အကျိုးသက်ရောက်မှုများစွာရှိသည့် လုပ်ငန်းစဉ်များကို
 (က) လုပ်ငန်းစဉ်အကာအကွယ်ပေးရန်အတွက် အချက်အလက်များ
 (ခ) အသက်အသက်များ အချက်အလက်များ
 (ဂ) သမိုင်းဆိုင်ရာများ အချက်အလက်များ
 (ဃ) အခြားအချက်အလက်များအရ ပြုလုပ်ရမည်

၂။ လုပ်ငန်းစဉ်အတွက် လုပ်ငန်းစဉ်အကာအကွယ် အကြံပြုချက်
 (က) ဆုံးဖြတ်ချက်အကြံပြုချက်များ
 (ခ) အချက်အလက်/အချက်အလက်များ
 (ဂ) လုပ်ငန်းစဉ်အလုပ်အကိုင်များ
 (ဃ) အချက်အလက်များအကြံပြုချက်များ
 (င) အခြားအချက်အလက်များ

၃။ လုပ်ငန်းစဉ် လုပ်ငန်းစဉ်အကာအကွယ် အကြံပြုချက်
 (က) လုပ်ငန်းစဉ်အကြံပြုချက်များ (မိမိအတွက်)
 (ခ) လုပ်ငန်းစဉ်အကြံပြုချက် (အသက်အသက်)
 (ဂ) လက်အောက်ခံအကြံပြုချက် (မိမိအတွက်အောက်ခံ)

၄။ သိပ္ပံနည်းကျအကြံပြုချက်များ

လက်မှတ် _____ မှတ်တမ်း: Wahkes T-Z
 အမည် Phy. Tin Tin Aye ဌာန CS
 နိုင်ငံသားစစ်ဆေးရေးအမှတ် _____ ဖုန်းနံပါတ် 09-5081451
 လုပ်သက် _____ လက်သွယ်ရန်လိပ်စာ _____



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mmm.com

“ Myanmar Asia Optical International Co., Ltd. ” ၏ မှန်လှေကားအမျိုးမျိုးထုတ်လုပ်ခြင်းလုပ်ငန်းအတွက်
 ဝတ်လုပ်မှုနှင့်ပတ်သက်သည့် (Environmental Management Plan - EMP) ဖော်ပြချက်နှင့်ပတ်သက်သည့်
 ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်ဆိုင်ရာ အခြေခံချက်များအရ

၁။ လုပ်ငန်းခွင်ကန့်သတ်ချက်အရလုပ်ငန်းခွင်အတွင်းနေထိုင်သူများနှင့်ပတ်သက်သည့်အချက်များ

(က) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ: မရှိပါ

(ခ) အသက်သုံးဆေး: မရှိပါ

(ဂ) သန့်ရှင်းရေးပစ္စည်း: မရှိပါ

(ဃ) ဆေးဝါးကြောသန့်ရှင်းရေးပစ္စည်း: မရှိပါ

၂။ လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှုအခြေအနေအထား အခြေခံချက်

(က) ထုတ်လုပ်မှုအခြေအနေ: အလုပ်လုပ်ကိုင်မှု

(ခ) အနံ့အသက်/အနံ့အဝေ့များ: မရှိပါ

(ဂ) လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှု: မရှိပါ

(ဃ) အပူချိန်အသွင်အပြောင်းအလဲ: မရှိပါ

(င) အသက်သုံးဆေးပစ္စည်း: မရှိပါ

၃။ လုပ်ငန်းခွင် လူမှုပတ်ဝန်းကျင်အခြေအနေအထား အခြေခံချက်

(က) လုပ်ငန်းခွင်ကြီးကြပ်သူ (ပိတ်ဆို့သူ): မရှိပါ

(ခ) လုပ်ငန်းခွင်ကြီးကြပ်သူ (အသက်သုံးဆေး): မရှိပါ

(ဂ) လက်အောက်ခံပစ္စည်း (ပိတ်ဆို့သူ): မရှိပါ

၄။ သိကြီးအခြေခံချက်များ

လက်မှတ်: Ma Phye Inetar Aung

အမည်: Ma Phye Inetar Aung

နိုင်ငံသား/လက်ထပ်ရေးမှတ်: Myanmar

လုပ်သက်: ၂၄


မှတ်: Worker ID

မှတ်: CGI

မှတ်: ၀၄.၂၄.၂၀၂၄

မှတ်: ၀၄.၂၄.၂၀၂၄

[illegible][illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanung Min Thar Gyi Road, Industrial Zone (I), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” မှ ပြုလုပ်သည့် မြေပုံအရ လုပ်ငန်းအတွက်
ပတ်ဝန်းကျင်ထိန်းသိမ်းမှုစီမံခန့်ခွဲမှု (Environmental Management Plan - EMP) ဖော်ပြချက်နှင့် ပတ်သက်၍
ရရှိသည့် အချက်အလက်များကို အောက်ပါအတိုင်း ဖော်ပြပါသည်။

၁။ လုပ်ငန်းခွင်ကျန်းမာရေးနှင့် အန္တရာယ်ဆိုင်ရာ အန္တရာယ်များကို လုံခြုံစေရန်အတွက်

(က) လုပ်ငန်းခွင်အတွင်း အန္တရာယ်များကို ထိန်းချုပ်ပေးရန်

(ခ) စောင့်ကြည့်မှုများ

(ဂ) သန့်ရှင်းရေးများ

(ဃ) စောင့်ကြည့်မှုများနှင့် အန္တရာယ်များ

၂။ လုပ်ငန်းခွင်အတွင်း လုပ်ငန်းများအတွက် အန္တရာယ်များကို

(က) ဆိုက်ဘယ်များအတွက် အန္တရာယ်များ

(ခ) အန္တရာယ်/အန္တရာယ်များ

(ဂ) လုပ်ငန်းခွင်အတွင်း အန္တရာယ်များ

(ဃ) အန္တရာယ်များအတွက် အန္တရာယ်များ

(င) စောင့်ကြည့်မှုများ

၃။ လုပ်ငန်းခွင် လူမှုပတ်ဝန်းကျင်အန္တရာယ်အတွက် အန္တရာယ်များ

(က) လုပ်ငန်းခွင်ကြီးကြပ်သူ (မိမိအတွက်)

(ခ) လုပ်ငန်းခွင်အတွက် (အသက်အတွက်)

(ဂ) လက်အောက်ခံများ (မိမိလက်အောက်ခံ)

၄။ သီးခြားအန္တရာယ်များ

လက်မှတ် _____ နာမည် _____

အသက် _____ နာမည် _____

မိမိအတွက် _____ နာမည် _____

လုပ်ငန်းခွင် _____ နာမည် _____


ရာထူး _____

အသက် _____

မိမိအတွက် _____

လုပ်ငန်းခွင် _____

[illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kaungung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

*** Myanmar Asia Optical International Co., Ltd. *၏ နယ်လီလူအသိပညာဆိုင်ရာလုပ်ငန်းလုပ်ငန်းအတွက် ဖတ်ဝင်သောစီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan - EMP) ရေးဆွဲခြင်းနယ်လီလူသက်ရှိ ဝန်ထမ်းများ၏ လုပ်ငန်းနှင့်ပတ်သက် အကြံပြုချက်များရယူခြင်း**

၁။ လုပ်ငန်းစဉ်ကျွန်းလှေအနေနဲ့ပေးသောအထောက်အကူပေးသောစီမံခန့်ခွဲမှုနယ်လီလူအသိပညာဆိုင်ရာလုပ်ငန်း

(က) လုပ်ငန်းစဉ်အကာအကွယ်ပေးခြင်းများ.....

(ခ) စောက်သိုလှေ..... စက်ပုံမှန်သေဆုံး

(ဂ) သန့်စင်စနစ်များ..... မရှိအောင်မြင်မှုမရှိ

(ဃ) ဆေးကြောသန့်ရှင်းရေးစနစ်..... မရှိ

၂။ လုပ်ငန်းစဉ်အလုပ်လုပ်ကိုင်မှုအခြေအနေအထား အကြံပြုချက်

(က) ထုတ်သိမ်းမှုအခြေအနေ..... မရှိ

(ခ) အနံ့အသက်/အနံ့အငွေ့များ..... မရှိ

(ဂ) လုပ်ငန်းစဉ်အလုပ်လုပ်ကိုင်..... မရှိအောင်မြင်မှုမရှိ

(ဃ) အမှန်အတိုင်းအခြေအနေ..... မရှိ

(င) လေဝင်လေထွက်..... အောင်မြင်မှုမရှိ

၃။ လုပ်ငန်းစဉ် လူမှုပတ်ဝန်းကျင်အခြေအနေအထား အကြံပြုချက်

(က) လုပ်ငန်းစဉ်ကြိုကြိုသွင်း (မီမီအထက်)..... အောင်မြင်မှုမရှိ

(ခ) လုပ်ငန်းစဉ်ကြိုသွင်း (အထက်သို့).....

(ဂ) လက်အောက်ဝန်ထမ်း (မီမီလက်အောက်).....

၄။ သီးခြားအကြံပြုချက်များ

.....

.....

.....

လက်မှတ် Khing.....

အမည် Jo Pyaw Khing.....

နိုင်ငံသားစိစစ်ရေးအမှတ် ၁၈၀၁၁၆၆၁၂၄၆၁၆.....

လုပ်သက် ၄၂၀၀၀.....


ရာထူး Inspector-JE.....

၄၈၄ ၆၆.....

ဖုန်းနံပါတ် ၀၉-၉၇၆၆၃၀၁၄၆၁.....

ဆက်သွယ်ရန်ပိတ်စက်.....

[illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial Park,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

" Myanmar Asia Optical International Co., Ltd. " ၏ မြန်မာ့လူ့အခွင့်အရေးစောင့်ရှောက်ရေးလုပ်ငန်းအတွက်
ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုစာချုပ် (Environmental Management Plan – EMP) အရာကြောင်းနှင့်ပတ်သက်၍
ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်သို့ရောက် အကြံပြုချက်များပေးခြင်း

၁။ လုပ်ငန်းခွင်တစ်ခုခုအသစ်ဖန်တီးသည့်နေရာသို့ရောက်လာကုန်သောနေရာပတ်ဝန်းကျင်များနှင့်အကြံပြုချက်

(က) လုပ်ငန်းခွင်အကွာအဝေးပစ္စည်းများ: အတန်အသင့် ၂၀ မီတာ

(ခ) ခေ့ကတ်သုံးစရ: ၆၄ ခု

(ဂ) သန့်စင်သုံးများ: ၁၁၃၄၀ ခု

(ဃ) ဆေးအကြွေသန့်ရှင်းရေးပစ္စည်း: ၂

၂။ လုပ်ငန်းခွင်အတွင်းလုပ်ငန်းများအခြေအနေအထား အကြံပြုချက်

(က) ဆည်သုံးများအခြေအနေ: ၂

(ခ) အနံ့အသက်/အနံ့အဝေ့များ: ၂

(ဂ) လုပ်ငန်းခွင်အပေါင်းအရပ်: ၆၅

(ဃ) အမှန်အတိုင်းများအခြေအနေ: ၂

(င) ဝေလင်စလထွက်: ၂

၃။ လုပ်ငန်းခွင် လူမှုဆက်သွယ်ရေးအခြေအနေအထား အကြံပြုချက်

(က) လုပ်ငန်းခွင်ကြိုတင်လွှဲ (မိမိအထက်): ၆၀၀၆

(ခ) လုပ်ငန်းခွင်ကိုးကွယ် (အထွေထွေ): အတန်အသင့်

(ဂ) လက်အောက်ခံပုံစံ (မိမိလက်အောက်): ၁၅၆

၄။ သိကြေးမင်္ဂလာအကြံပြုချက်များ

လက်မှတ်: လှိုင်

အမည်: Ms. Aye Win Kywe

နိုင်ငံသားစံစစ်ရေးအမှတ်: ၇-၁-၁၁၆၁၁၁၁၁၁၁၁

လုပ်သက်: ၇၂ နှစ်

ရက်စွဲ: ၂၀၁၈.၁၁.၂၃

၄၁၃: C.G


ရန်ကုန်မြို့: ၀၁-၁၆၁၆၁၆၁၆၁၆၁၆

ဆက်သွယ်ရန်နံပါတ်: ၀၁-၁၆၁၆၁၆၁၆၁၆၁၆

[illegible][illegible][illegible]

[illegible][illegible][illegible][illegible]

[illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanungu Min Thar Gyi Road, Industrial Zone (I), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmeiscompany@gmail.com, info@gmeis-nm.com

“ Myanmar Asia Optical International Co., Ltd. ” ၏ မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်းလုပ်ငန်းအတွက်
 ဖတ်ဝန်ကုန်ဝင်ရောင်းမှုအစီအစဉ် (Environmental Management Plan – EMP) ဝေဖန်ခြင်းနှင့်ပတ်သက်၍
 ဝယ်ယူမှုအစီ လုပ်ငန်းနှင့်ဆိုင်ရာ အကြံပြုချက်များပေးခြင်း

၁။ လုပ်ငန်းနှင့်ကျွန်းဆောင်မှုနှင့်ဆောင်သွယ်ပတ်သက်သည့်အချက်အလက်များနှင့်ပတ်သက်၍ အကြံပြုချက်များ

(က) လုပ်ငန်းနှင့်ဆောင်သွယ်ပတ်သက်သည့်အချက်အလက်များ

(ခ) ဝေဖန်ချက်များ

(ဂ) သင်္ချာဆိုင်ရာများ

(ဃ) ဝေဖန်ချက်များနှင့်ဆိုင်ရာများ

၂။ လုပ်ငန်းနှင့်ဆောင်သွယ်ပတ်သက်သည့်အချက်အလက်များနှင့်ဆိုင်ရာများ

(က) ဆောင်သွယ်ပတ်သက်သည့်အချက်အလက်များ

(ခ) အချက်အလက်များ/အချက်အလက်များ

(ဂ) လုပ်ငန်းနှင့်ဆောင်သွယ်ပတ်သက်သည့်အချက်အလက်များ

(ဃ) အချက်အလက်များနှင့်ဆိုင်ရာများ

(င) ဝေဖန်ချက်များ

၃။ လုပ်ငန်းနှင့် လုပ်ငန်းဆောင်သွယ်ပတ်သက်သည့်အချက်အလက်များ

(က) လုပ်ငန်းနှင့်ဆိုင်ရာများ (ပုံစံအတိုင်း)

(ခ) လုပ်ငန်းဆောင်သွယ်ပတ်သက်သည့်အချက်အလက်များ

(ဂ) လုပ်ငန်းဆောင်သွယ်ပတ်သက်သည့်အချက်အလက်များ (ပုံစံအတိုင်း)

၄။ ဝေဖန်ချက်များ


လက်မှတ် _____ လက်မှတ် _____

အမည် _____ ငါး _____

နိုင်ငံသားစစ်စစ်လေ့ကျင့် _____ နိုင်ငံသားစစ်စစ်လေ့ကျင့် _____

လုပ်သား _____ လုပ်သား _____

[illegible][illegible]



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmesccompany@gmail.com, info@gmesc-mm.com

*** Myanmar Asia Optical International Co., Ltd. * အမှတ်တံဆိပ်ရင်းနှီးမြှုပ်နှံမှုလုပ်ငန်းအတွက်**
ထိန်းသိမ်းရေးအစီအစဉ် (Environmental Management Plan - EMP) ဖော်ပြချက်နှင့်ပတ်သက်၍
ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်ဆိုင်ရာ အကြံပြုချက်များရယူခြင်း

၁။ လုပ်ငန်းခွင်ကျန်းမာရေးနှင့် အန္တရာယ်ကင်းရှင်းရေးစည်းမျဉ်းနှင့်ပတ်သက်၍ အကြံပြုချက်များ

(က) လုပ်ငန်းခွင်အတွင်းအန္တရာယ်ရှိမှုများ မရှိ

(ခ) အသက်ဆုံးရှုံးမှုများ မသားဘဲ

(ဂ) သန့်ရှင်းမှုများ ရှိပါသည်

(ဃ) အန္တရာယ်ရှိမှုများ မရှိပါ

၂။ လုပ်ငန်းခွင်အန္တရာယ်ကင်းရှင်းမှုအခြေအနေအထား အကြံပြုချက်

(က) ဆုံးရှုံးမှုအခြေအနေ မရှိ

(ခ) အန္တရာယ်ကင်းရှင်းမှုများ မရှိ

(ဂ) လုပ်ငန်းခွင်အန္တရာယ်များ မရှိ

(ဃ) အန္တရာယ်များအခြေအနေ မရှိ

(င) အန္တရာယ်ကင်းရှင်းမှုများ မရှိပါ

၃။ လုပ်ငန်းခွင် လူမှုဘက်ဆိုင်ရာအခြေအနေအထား အကြံပြုချက်

(က) လုပ်ငန်းခွင်ကြီးကြပ်သူ (ပိတ်ဆို့သတ်)

(ခ) လုပ်ငန်းခွင်ထဲသို့ (အဆင့်တက်)

(ဂ) လက်အောက်ခံများ (ပိတ်ဆို့သတ်)

၄။ သီးခြားအကြံပြုချက်များ

.....

.....

.....

လက်မှတ် Rin

အမည် Rin E. Phyu

နိုင်ငံသားစိစစ်ရေးအဖွဲ့ ၀၁/၀၄/၉၁ J69969


လုပ်သက် ၃

ရာထူး Worker ၂၀

မှန် MT

ရက်စွဲ ၀၄-၀၄-၂၀၁၆

ဆက်သွယ်ရန်နံပါတ်



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (I), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

၂။ မြန်မာ့အသံ့အသွယ်အရ လုပ်ငန်းအတွက်
ယာဉ်အသုံးပြုမှု (Environmental Management Plan - EMP) ချမှတ်ခြင်းနှင့်ပတ်သက်၍
လိုအပ်သည့်အချက်အလက်များအရ အောက်ပါအတိုင်းဖြည့်စွက်ရမည်။

၁။ လုပ်ငန်းခွင်ကျန်းမာရေးနှင့်အဆာအနာရောဂါပျံ့နှံ့မှုဆိုင်ရာအန္တရာယ်အချက်အလက်များ

(က) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ အန္တရာယ်

(ခ) ခေတ္တလုံးသုံးဆေး အန္တရာယ်

(ဂ) သန့်စင်ရန်များ အန္တရာယ်

(ဃ) ဆေးဆေးကြောသန့်စင်ရန်များ အန္တရာယ်

၃။ လုပ်ငန်းခွင်အသုံးပြုမှုအရ လုပ်ငန်းခွင်အသုံးပြုမှုအရ အောက်ပါအတိုင်းဖြည့်စွက်ရမည်။

(က) ဆည်သုံးများအသုံးပြုမှုများ အန္တရာယ်

(ခ) အနံ့အသက်/အနံ့အသွယ်များ အန္တရာယ်

(ဂ) လုပ်ငန်းခွင်အသုံးပြုမှုများ အန္တရာယ်

(ဃ) အနံ့အသွယ်များအသုံးပြုမှုများ အန္တရာယ်

(င) ခရိုင်ခရိုင်လက်ထောက် အန္တရာယ်

၄။ လုပ်ငန်းခွင် လူမှုဘဝလက်ထောက်အသုံးပြုမှုများ

(က) လုပ်ငန်းခွင်အသုံးပြုမှု (ပိတ်ဆို့မှု) အန္တရာယ်

(ခ) လုပ်ငန်းခွင်အသုံးပြုမှု (အသုံးပြုမှု) အန္တရာယ်

(ဂ) လက်ထောက်လက်ထောက် (ပိတ်ဆို့မှုအသုံးပြုမှု) အန္တရာယ်

၅။ သိမ်းဆည်းမှုများ

အန္တရာယ်

လက်မှတ် _____

အမည် _____

နိုင်ငံသားစစ်ဆေးမှုများ _____


လုပ်ငန်းခွင် _____

ရာထူး _____

မှတ် _____

မှတ်နံပါတ် _____

ဆက်သွယ်ရန်နံပါတ် _____



Green Myanmar
Environmental Services Co., Ltd

No. 115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

၁။ မြန်မာ့လူ့အခွင့်အရေးကော်မရှင်က လုပ်ငန်းအတွက်
ပတ်ဝန်းကျင်ထိခိုက်မှုအစီအစဉ် (Environmental Management Plan – EMP) ခေတ္တဖြစ်နိုင်ပတ်သက်၍
ထိန်းသိမ်းမှုအား လုပ်ငန်းခွင်သို့ရောက် အပ်ကြရမည်ဟုဖော်ပြသည်။

၂။ လုပ်ငန်းခွင်တွင် အန္တရာယ်ရှိသော အန္တရာယ်ကင်းရှင်းရေးအစီအစဉ်အား အောက်ဖော်ပြပါအတိုင်း
(က) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ
(ခ) စတုရန်းပုံစံ
(ဂ) သန့်ရှင်းရေး
(ဃ) အဆေးကြောသန့်ရှင်းရေးပစ္စည်းများ

၃။ လုပ်ငန်းခွင်အား လုပ်ငန်းစဉ်အစတွင် အပ်ကြရမည်
(က) ဆိုက်ဘယ်များအစီအစဉ်
(ခ) အန္တရာယ်ကင်းရေးအစီအစဉ်
(ဂ) လုပ်ငန်းခွင်အလင်းရောင်
(ဃ) အမှန်အတိုင်းအစီအစဉ်
(င) အလုပ်လုပ်ကိုင်မှု

၄။ လုပ်ငန်းခွင် လူမှုဆက်စပ်ရေးအစီအစဉ်အား အပ်ကြရမည်
(က) လုပ်ငန်းခွင်ကြိုတင်သုံး (မိမိအတွက်)
(ခ) လုပ်ငန်းခွင်အတွက် (အသုံးပြု)
(ဂ) လက်အောက်ခံပေး (မိမိလက်အောက်ခံ)

၅။ သီးခြားအပ်ကြရမည်များ

လက်ကိုင်
အမည်
နိုင်ငံသားစိစစ်ရေးအဖွဲ့
လုပ်သက်
မှတ်စု
အမှတ်
ရန်ပုံငွေ
ဆက်သွယ်ရန်နံပါတ်

Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (I), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

" Myanmar Asia Optical International Co., Ltd. " ၏ မြန်မာလူ့အခွင့်အရေးလုပ်ငန်းအတွက်
တတ်သန်တတ်မြောက်မှုစံနှုန်းအစဉ် (Environmental Management Plan - EMP) ဖော်ပြခြင်းနှင့်သက်သက်
ထိန်းသိမ်းမှုအစီအစဉ် လုပ်ငန်းခွင်စီမံခန့်ခွဲမှု အခြေခံချက်များဖော်ပြခြင်း

၁။ လုပ်ငန်းခွင်တွင်အသုံးပြုသောဆေးဝါးအမျိုးအစားအရအသုံးပြုသည့်ဆေးဝါးများနှင့်ပတ်သက်သည့်အချက်များ

(က) လုပ်ငန်းခွင်အတွင်းအသုံးပြုသည့်ဆေးဝါးများ..... များ

(ခ) ဆေးဝါးအမျိုးအစား..... များ

(ဂ) သန့်စင်ဆေးဝါးများ..... များ

(ဃ) ဆေးဝါးအသုံးပြုမှုနှင့်ပတ်သက်သည့်အချက်များ..... များ

၂။ လုပ်ငန်းခွင်အတွင်းလုပ်ငန်းဆောင်ရွက်သည့်အခါအတွက်အခြေခံချက်များ

(က) ဆေးဝါးအသုံးပြုမှုအခြေခံချက်များ..... များ

(ခ) အသုံးပြုသည့်ဆေးဝါးအမျိုးအစားများ..... များ

(ဂ) လုပ်ငန်းခွင်အတွင်းအသုံးပြုသည့်ဆေးဝါးများ..... များ

(ဃ) အသုံးပြုသည့်ဆေးဝါးအမျိုးအစားများ..... များ

(င) ဆေးဝါးအသုံးပြုမှုနှင့်ပတ်သက်သည့်အချက်များ..... များ

၃။ လုပ်ငန်းခွင် လူမှုပတ်ဝန်းကျင်အခြေခံချက်အစီအစဉ်အတွက်အခြေခံချက်များ

(က) လုပ်ငန်းခွင်အတွင်းလုပ်ငန်းဆောင်ရွက်မှု (မိမိအသုံးပြုသည့်)..... များ

(ခ) လုပ်ငန်းခွင်အတွင်းလုပ်ငန်းဆောင်ရွက်မှု (အသုံးပြုသည့်)..... များ


(ဂ) လုပ်ငန်းခွင်အတွင်းလုပ်ငန်းဆောင်ရွက်မှု (မိမိလုပ်ငန်းဆောင်ရွက်သည့်)..... များ

၄။ သိမ်းဆည်းမှုအခြေခံချက်များ

လက်မှတ်.....
အမည်.....
နိုင်ငံသားစံသေဆုံးရက်စွဲ.....
လုပ်ငန်းခွင်.....

ရာထူး.....
ဌာန.....
ရန်ကုန်မြို့.....
ဆက်သွယ်ရန်လိပ်စာ.....

[illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

*** Myanmar Asia Optical International Co., Ltd. * ကို ပူးတွဲလုပ်ငန်းစဉ်များကို လုပ်ငန်းစဉ်အတွက်**
ဖတ်လိုက်သောစံနှုန်းအရ (Environmental Management Plan - EMP) ဝန်ဆောင်မှုပေးသော
ရန်ကုန်မြို့နယ်၊ လှိုင်ခန့်ရွာသို့ ဆိုက် အကြည့်ရှုရန်များပေးခြင်း

၁။ လှိုင်ခန့်ရွာသို့ နေရာချမှတ်သော ဆည်တည်ဆောက်ရာတွင် လုပ်ငန်းစဉ်အကြည့်ရှုရန်

(၁) လှိုင်ခန့်ရွာသို့ ဆက်သွယ်သော လမ်းပန်းများ ၁၂

(၂) ဆည်တည်ဆောက်ရာတွင် လုပ်ငန်းစဉ်များ ၁၃

(၃) သန့်ရှင်းရေးများ ၁၄

(၄) ဆည်တည်ဆောက်ရာတွင် လုပ်ငန်းစဉ်များ ၁၅

၂။ လှိုင်ခန့်ရွာသို့ ဆက်သွယ်သော လမ်းပန်းအကြည့်ရှုရန်

(၁) ဆည်တည်ဆောက်ရာတွင် လုပ်ငန်းစဉ်များ ၁၆

(၂) ဆည်တည်ဆောက်ရာတွင် လုပ်ငန်းစဉ်များ ၁၇

(၃) လှိုင်ခန့်ရွာသို့ လမ်းပန်းများ ၁၈

(၄) ဆည်တည်ဆောက်ရာတွင် လုပ်ငန်းစဉ်များ ၁၉

(၅) ဆည်တည်ဆောက်ရာတွင် လုပ်ငန်းစဉ်များ ၂၀

၃။ လှိုင်ခန့်ရွာ လူမှုဘက်ဆိုင်ရာ အကြည့်ရှုရန်

(၁) လှိုင်ခန့်ရွာသို့ လမ်းပန်းများ ၂၁

(၂) လှိုင်ခန့်ရွာသို့ လမ်းပန်းများ ၂၂

(၃) လှိုင်ခန့်ရွာသို့ လမ်းပန်းများ ၂၃

(၄) လှိုင်ခန့်ရွာသို့ လမ်းပန်းများ ၂၄

၄။ လှိုင်ခန့်ရွာသို့ လမ်းပန်းများ

လက်မှတ် ၂၅

အမည် ၂၆

နိုင်ငံသားစံနှုန်းအရ ၂၇

လုပ်ငန်းစဉ် ၂၈

မှတ်တမ်း ၂၉

မှတ်တမ်း ၃၀

မှတ်တမ်း ၃၁

မှတ်တမ်း ၃၂

မှတ်တမ်း ၃၃

မှတ်တမ်း ၃၄

မှတ်တမ်း ၃၅

မှတ်တမ်း ၃၆

မှတ်တမ်း ၃၇

မှတ်တမ်း ၃၈

မှတ်တမ်း ၃၉

မှတ်တမ်း ၄၀

မှတ်တမ်း ၄၁

မှတ်တမ်း ၄၂

မှတ်တမ်း ၄၃

မှတ်တမ်း ၄၄

မှတ်တမ်း ၄၅

မှတ်တမ်း ၄၆

မှတ်တမ်း ၄၇

မှတ်တမ်း ၄၈

မှတ်တမ်း ၄၉

မှတ်တမ်း ၅၀

မှတ်တမ်း ၅၁

မှတ်တမ်း ၅၂

မှတ်တမ်း ၅၃

မှတ်တမ်း ၅၄

မှတ်တမ်း ၅၅

မှတ်တမ်း ၅၆

မှတ်တမ်း ၅၇

မှတ်တမ်း ၅၈

မှတ်တမ်း ၅၉

မှတ်တမ်း ၆၀

မှတ်တမ်း ၆၁

မှတ်တမ်း ၆၂

မှတ်တမ်း ၆၃

မှတ်တမ်း ၆၄

မှတ်တမ်း ၆၅

မှတ်တမ်း ၆၆

မှတ်တမ်း ၆၇

မှတ်တမ်း ၆၈

မှတ်တမ်း ၆၉

မှတ်တမ်း ၇၀

မှတ်တမ်း ၇၁

မှတ်တမ်း ၇၂

မှတ်တမ်း ၇၃

မှတ်တမ်း ၇၄

မှတ်တမ်း ၇၅

မှတ်တမ်း ၇၆

မှတ်တမ်း ၇၇

မှတ်တမ်း ၇၈

မှတ်တမ်း ၇၉

မှတ်တမ်း ၈၀

မှတ်တမ်း ၈၁

မှတ်တမ်း ၈၂

မှတ်တမ်း ၈၃

မှတ်တမ်း ၈၄

မှတ်တမ်း ၈၅

မှတ်တမ်း ၈၆

မှတ်တမ်း ၈၇

မှတ်တမ်း ၈၈

မှတ်တမ်း ၈၉

မှတ်တမ်း ၉၀

မှတ်တမ်း ၉၁

မှတ်တမ်း ၉၂

မှတ်တမ်း ၉၃

မှတ်တမ်း ၉၄

မှတ်တမ်း ၉၅

မှတ်တမ်း ၉၆


မှတ်တမ်း ၉၇

မှတ်တမ်း ၉၈

မှတ်တမ်း ၉၉

မှတ်တမ်း ၁၀၀

[illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” မှ ပို့ဆောင်လာသော ပစ္စည်းများကို လုပ်ငန်းအတွက်
ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစဉ် (Environmental Management Plan – EMP) ခေတ္တဖြစ်နိုင်သည့်ပတ်ဝန်းကျင်
ဝန်းကျင်များ၏ လုပ်ငန်းစဉ်ဆိုင်ရာ အခြေခံချက်များအရ ဖြည့်စွက်ပါ။


၁။ လုပ်ငန်းစဉ်များအားလုံးအတွက် အသေးစိတ်ဆောင်ရွက်ရမည့်အချက်များနှင့် လုပ်ငန်းစဉ်အတွက်
 (က) လုပ်ငန်းစဉ်များအားလုံးအတွက် ပြုပြင်ဆင်ခြင်မှုများ: ပါးလျှော့ခြင်း၊ ပြန်လည်ထူထောင်ခြင်း၊ ပြန်လည်ထူထောင်ခြင်း
 (ခ) အသေးစိတ်ဆောင်ရွက်ရမည့် အချက်များ: အချက်အလက်များကို အသေးစိတ်ဆောင်ရွက်ခြင်း
 (ဂ) သင့်လျော်သော အချက်များ: လုပ်ငန်းစဉ်များအားလုံးအတွက်
 (ဃ) အသေးစိတ်ဆောင်ရွက်ရမည့် အချက်များ: လုပ်ငန်းစဉ်များအားလုံးအတွက်

၂။ လုပ်ငန်းစဉ်အတွက် လုပ်ငန်းစဉ်အခြေခံချက်အား အခြေခံချက်
 (က) ဆောင်ရွက်ရမည့် အခြေခံချက်များ: အခြေခံချက်များ
 (ခ) အခြေခံချက်အားလုံးအတွက် အခြေခံချက်များ: အခြေခံချက်များ
 (ဂ) လုပ်ငန်းစဉ်အားလုံးအတွက် အခြေခံချက်များ: အခြေခံချက်များ
 (ဃ) အခြေခံချက်အားလုံးအတွက် အခြေခံချက်များ: အခြေခံချက်များ

၃။ လုပ်ငန်းစဉ် လုပ်ငန်းစဉ်အခြေခံချက်အား အခြေခံချက်
 (က) လုပ်ငန်းစဉ်အားလုံးအတွက် (အခြေခံချက်) အခြေခံချက်
 (ခ) လုပ်ငန်းစဉ်ဆိုင်ရာ (အခြေခံချက်) အခြေခံချက်
 (ဂ) လုပ်ငန်းစဉ်အားလုံးအတွက် (အခြေခံချက်) အခြေခံချက်

၄။ သို့ဖြစ်ပါက အခြေခံချက်များ

လက်မှတ် Angelat ရာထူး 95 < Line leader >
 အမည် မအေးအေးအောင် ဌာန QA
 နိုင်ငံသားစံသေဆောင်ခြင်း ၁၂/၁၁/၂၀၂၀ ဖန်တီးရက် ၀၇-၁၄-၂၀၂၀
 လက်မှတ် ၃၆၆ ဆက်သွယ်ရန်လိုက် မရှိပါ



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanungu Min Thar Gyi Road, Industrial Zone (I), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescocompany@gmail.com, info@gmes-mm.com

၂၀၁၈ ခုနှစ် ဇူလိုင်လ ၁၀ ရက်နေ့

“ Myanmar Asia Optical International Co., Ltd. ” ၏ ပုံနှိပ်လုပ်ငန်းစဉ်များတွင် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင် (Environmental Management Plan – EMP) ဖော်ပြချက်များထုတ်ဝေခြင်း

၁။ လုပ်ငန်းစဉ်တွင် အသုံးပြုသော အပူချိန်မြှင့်တင်ရေးစနစ်များနှင့် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင်

(က) လုပ်ငန်းစဉ်အတွင်း အပူချိန်မြှင့်တင်ရေးစနစ်များ

(ခ) အသုံးပြုသော အပူချိန်မြှင့်တင်ရေးစနစ်များ

(ဂ) အသုံးပြုသော အပူချိန်မြှင့်တင်ရေးစနစ်များ

(ဃ) အသုံးပြုသော အပူချိန်မြှင့်တင်ရေးစနစ်များ

၂။ လုပ်ငန်းစဉ်အတွင်း ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင် အသုံးပြုသော

(က) အသုံးပြုသော အပူချိန်မြှင့်တင်ရေးစနစ်များ

(ခ) အသုံးပြုသော အပူချိန်မြှင့်တင်ရေးစနစ်များ

(ဂ) လုပ်ငန်းစဉ်အတွင်း အပူချိန်မြှင့်တင်ရေးစနစ်များ

(ဃ) အသုံးပြုသော အပူချိန်မြှင့်တင်ရေးစနစ်များ

(င) အသုံးပြုသော အပူချိန်မြှင့်တင်ရေးစနစ်များ

၃။ လုပ်ငန်းစဉ် လုပ်ငန်းစဉ်အတွင်း အသုံးပြုသော

(က) လုပ်ငန်းစဉ်အတွင်း အပူချိန်မြှင့်တင်ရေးစနစ်များ

(ခ) လုပ်ငန်းစဉ်အတွင်း အပူချိန်မြှင့်တင်ရေးစနစ်များ

(ဂ) လုပ်ငန်းစဉ်အတွင်း အပူချိန်မြှင့်တင်ရေးစနစ်များ

(ဃ) လုပ်ငန်းစဉ်အတွင်း အပူချိန်မြှင့်တင်ရေးစနစ်များ

၄။ အသုံးပြုသော အပူချိန်မြှင့်တင်ရေးစနစ်များ

လက်မှတ်: _____

အမည်: Ming Htein Thi Ha

နိုင်ငံသားစိစစ်ရေးဌာန: နိုင်ငံသားစိစစ်ရေးဌာန


လက်သတ်: ၃. ၈၈၈၈၈

ရာထူး: Worker-2

၄၁: CS

ရန်ပုံငွေ: ၀.၇-၇၈၈-၆၀၀-၆၁၇

ဆက်သွယ်ရန်နံပါတ်: ၀၇-၇၈၈-၆၀၀-၆၁၇



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

၁။ Myanmar Asia Optical International Co., Ltd. " မြန်မာအော့ပတီကယ်မြန်မာလုပ်ငန်းအတွက်
ဖတ်သားကျွမ်းကျင်မှုဦးစီးဌာန (Environmental Management Plan – EMP) ခေတ္တမြှုပ်နှံမှုစာချုပ်သက်ရှိ
ဝယ်ယူမှုအစီရင်ခံစာ" လုပ်ငန်းခွင်ဆိုင်ရာ အကြံပြုချက်များပေးပို့ခြင်း

၁။ လုပ်ငန်းခွင်ကျွမ်းကျင်မှုအစီရင်ခံစာအတွက်လုပ်ငန်းခွင်ဆိုင်ရာပေးပို့ရမည့်အချက်အလက်များ

(က) လုပ်ငန်းခွင်အကာအကွယ်ပေးရမည့်များ - သစ်တောပေးပို့ခြင်း

(ခ) သောက်သုံးရေ - အသုံးပြုရမည့်

(ဂ) သန့်စင်ရန်များ - လုပ်ငန်းခွင်အတွင်း

(ဃ) အကာအကွယ်ပေးရန်များ - အသုံးပြုရမည့်

၂။ လုပ်ငန်းခွင်အလုပ်လုပ်ငန်းအစီရင်ခံစာအတွက် အကြံပြုချက်

(က) ဆွဲသားရန်အစီရင်ခံစာများ - အသုံးပြုရမည့်

(ခ) အသုံးပြုရန်အစီရင်ခံစာများ - အသုံးပြုရမည့်

(ဂ) လုပ်ငန်းခွင်အလုပ်အကိုင်များ - အသုံးပြုရမည့်

(ဃ) အသုံးပြုရန်အစီရင်ခံစာများ - အသုံးပြုရမည့်

၃။ လုပ်ငန်းခွင် လုပ်ငန်းခွင်ဆိုင်ရာအစီရင်ခံစာအတွက် အကြံပြုချက်

(က) လုပ်ငန်းခွင်အလုပ်အကိုင်များ (မိမိအသုံးပြု) - အသုံးပြုရမည့်

(ခ) လုပ်ငန်းခွင်အလုပ်အကိုင်များ (အသုံးပြု) - အသုံးပြုရမည့်

(ဂ) လုပ်ငန်းခွင်အလုပ်အကိုင်များ (မိမိအသုံးပြု) - အသုံးပြုရမည့်

၄။ ငါးမြှုပ်နှံမှုအစီရင်ခံစာများ

လက်မှတ် - Thant Zin Moe

အမည် - Thant Zin Moe

နိုင်ငံသားစိစစ်ရန်အထောက်အကူ - ၀၁/၀၁/၀၁


လုပ်ငန်းခွင် - ၀၁/၀၁/၀၁

မှတ်ချက် - ၀၁/၀၁/၀၁

မှတ်ချက် - ၀၁/၀၁/၀၁

[illegible][illegible]

[illegible][illegible][illegible][illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” မှ မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ဖြန့်ချိရောင်းချနေသောကုမ္ပဏီ
ဖတ်သန်းရှုမိမိသိရှိမှုအတွက် (Environmental Management Plan – EMP) ခေတ္တဖြည့်ဆည်းပုံစံသတ်မှတ်
ဝိထိထားရာမီ လုပ်ငန်းခွင်ဆိုင်ရာ အခြေခံချက်များလုပ်ငန်း

၁။ လုပ်ငန်းခွင်ကျန်းမာရေးနှင့်ဘေးအန္တရာယ်ကာကွယ်ရေးဆိုင်ရာအခြေခံချက်များနှင့်ပတ်သက်သည့်အခြေခံချက်

(က) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ မရှိသေး

(ခ) သောက်သုံးရေရ ရေအဆိုး

(ဂ) သန့်စင်ရန်များ မသင့်လျော်

(ဃ) အစားအသောက်သုံးစွဲခြင်းမရသေး

၂။ လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှုအခြေခံချက်အသစ်အခြေခံချက်

(က) ဆည်းခံမှုအခြေခံချက် မရှိ

(ခ) အနံ့အသက်/အနံ့အဝတ်များ အနံ့အသက်မရှိ / မရှိ

(ဂ) လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်ခြင်း မရှိ

(ဃ) အမှန်အမှန်အခြေခံချက် မရှိ

(င) ဝတ်စုံအလုပ်ထုတ် မရှိ

၃။ လုပ်ငန်းခွင် လူမှုထုတ်ဝေမှုအခြေခံချက်အသစ်အခြေခံချက်

(က) လုပ်ငန်းခွင်အခြေခံချက် (မိမိအသက်) မရှိ

(ခ) လုပ်ငန်းခွင်အခြေခံချက် (အသက်) မရှိ

(ဂ) လက်အသက်ဝန်ထမ်း (မိမိလက်အသက်) မရှိ

၄။ သိမ်းဆည်းမှုအခြေခံချက်များ

လက်မှတ် _____ ရက်စွဲ _____


အမည် _____ ဌာန _____

နိုင်ငံသားစိစစ်ရေးအဖွဲ့ဝင် _____

လုပ်သက် _____

စာကိစ္စဆိုင်ရာဆက်သွယ်ရန်နံပါတ် _____

[illegible]



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel. 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

*** Myanmar Asia Optical International Co., Ltd. * ခန့်မှန်းချက်အတွက် လုပ်ငန်းအတွက်**
ဟတ်ပတ်အတွက် လုပ်ငန်းအတွက် (Environmental Management Plan - EMP) ခေတ္တလုပ်ငန်းအတွက်
လုပ်ငန်းအတွက် လုပ်ငန်းအတွက် အခြေခံချက်များနှင့်

၁။ လုပ်ငန်းအတွက် အခြေခံချက်များနှင့် အခြေခံချက်များနှင့်

(က) လုပ်ငန်းအတွက် အခြေခံချက်များနှင့် အခြေခံချက်များနှင့်

(ခ) လုပ်ငန်းအတွက် အခြေခံချက်များနှင့် အခြေခံချက်များနှင့်

(ဂ) လုပ်ငန်းအတွက် အခြေခံချက်များနှင့် အခြေခံချက်များနှင့်

(ဃ) လုပ်ငန်းအတွက် အခြေခံချက်များနှင့် အခြေခံချက်များနှင့်

၂။ လုပ်ငန်းအတွက် အခြေခံချက်များနှင့် အခြေခံချက်များနှင့်

(က) လုပ်ငန်းအတွက် အခြေခံချက်များနှင့် အခြေခံချက်များနှင့်

(ခ) လုပ်ငန်းအတွက် အခြေခံချက်များနှင့် အခြေခံချက်များနှင့်

(ဂ) လုပ်ငန်းအတွက် အခြေခံချက်များနှင့် အခြေခံချက်များနှင့်

(ဃ) လုပ်ငန်းအတွက် အခြေခံချက်များနှင့် အခြေခံချက်များနှင့်

၃။ လုပ်ငန်းအတွက် အခြေခံချက်များနှင့် အခြေခံချက်များနှင့်

(က) လုပ်ငန်းအတွက် အခြေခံချက်များနှင့် အခြေခံချက်များနှင့်

(ခ) လုပ်ငန်းအတွက် အခြေခံချက်များနှင့် အခြေခံချက်များနှင့်

(ဂ) လုပ်ငန်းအတွက် အခြေခံချက်များနှင့် အခြေခံချက်များနှင့်

၄။ လုပ်ငန်းအတွက် အခြေခံချက်များနှင့် အခြေခံချက်များနှင့်


လက်မှတ် _____ ရက်စွဲ _____

အမည် _____ ဌာန _____

နိုင်ငံသားစိစစ်ရမည့် _____ နံပါတ် _____

လက်သတ် _____ စက်သုံးသည့် _____

[illegible]



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (I), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

၁။ လုပ်ငန်းခွင်တွင်းပတ်ဝန်းကျင်ဆေးချုပ်စစ်ချက်

(က) လုပ်ငန်းခွင်အကောင်အထည်ဖော်မှုအစီအစဉ်များ

(ခ) အောက်သုံးစရိတ်

(ဂ) သန့်ရှင်းရေးစရိတ်

(ဃ) အခြားအသုံးစရိတ်

၂။ လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှုအခြေအနေအထား

(က) အသုံးစရိတ်အခြေအနေ

(ခ) အသုံးစရိတ်အခြေအနေ

(ဂ) လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှု

(ဃ) အသုံးစရိတ်အခြေအနေ

(င) လုပ်ငန်းခွင်အခြေအနေ

၃။ လုပ်ငန်းခွင် လုပ်ကိုင်မှုအခြေအနေအထား

(က) လုပ်ငန်းခွင်အခြေအနေ

(ခ) လုပ်ငန်းခွင်အခြေအနေ

(ဂ) လုပ်ငန်းခွင်အခြေအနေ

၄။ အခြားအသုံးစရိတ်

လက်မှတ်

အမည်

အုပ်စု


လုပ်ငန်းခွင်

မှတ်ချက်

မှတ်ချက်


မှတ်ချက်

မှတ်ချက်

	<h1 style="margin: 0;">Green Myanmar</h1> <h2 style="margin: 0;">Environmental Services Co., Ltd</h2> <p>No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City, Yangon, Myanmar Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com</p>
<p>* Myanmar Asia Optical International Co., Ltd. * အိ မြန်မာအော့ပတစ်ကုသရေးလီမိတက်</p> <p>ယဉ်ကျေးမှုစီမံခန့်ခွဲမှုအဖွဲ့အစည်း (Environmental Management Plan - EMP) ရေးဆွဲခြင်းနှင့်ပတ်သက်၍ ဝယ်ယူမှုများ၏ လုပ်ငန်းစဉ်တွင်ရာ အကြံပြုချက်များရယူခြင်း</p>	
<p>၁။ လုပ်ငန်းစဉ်ကျမှီအနေနှင့်အခါအခွင့်အလမ်းတို့ကိုအသုံးပြုနိုင်ရန်အတွက်</p> <p>(က) လုပ်ငန်းစဉ်အကာအကွယ်ပစ္စည်းများ _____</p> <p>(ခ) ဆောက်လုပ်ရေး _____</p> <p>(ဂ) သန့်ရှင်းရေးများ _____</p> <p>(ဃ) စေတနာ့ကြိုသန့်ရှင်းရေးများ _____</p>	<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
<p>၂။ လုပ်ငန်းစဉ်အလုပ်လုပ်ကိုင်မှုအဖြစ်အခန်းအားအကြံပြုချက်</p> <p>(က) စတင်သုံးသပ်အကြံပြုအခန်း _____</p> <p>(ခ) အခန်းသက်/အခန်းအစ ပျော် _____</p> <p>(ဂ) လုပ်ငန်းစဉ်အလုပ်လုပ်ကိုင် _____</p> <p>(ဃ) အမှန်အတိုင်းအကြံပြုအခန်း _____</p> <p>(င) ဝေဟနဝေဟနထုတ် _____</p>	<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
<p>၃။ လုပ်ငန်းစဉ် ကုမ္ပဏီဝင်ရောက်အကြံပြုအခန်းအားအကြံပြုချက်</p> <p>(က) လုပ်ငန်းစဉ်ကြိုတင်လှ (မိမိအထက်) _____</p> <p>(ခ) လုပ်ငန်းစဉ်ကိုင်ကိုင် (အဆင့်တူ) _____</p> <p>(ဂ) လက်အောက်ကိုင်ကိုင် (မိမိလက်အောက်) _____</p>	<p>_____</p> <p>_____</p> <p>_____</p>
<p>၄။ သီးခြားအကြံပြုချက်များ</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>_____</p> <p>_____</p> <p>_____</p>
<p>လက်မှတ် <u>Khin</u> _____</p> <p>အမည် <u>Maw Pyaw Win</u> _____</p> <p>နိုင်ငံသားစိစစ်ရေးအမှတ် <u>၈/၀၁၅၆၇၃၁၁/၁၁</u> _____</p> <p>လုပ်သက် _____</p>	<p>ရာထူး <u>Worker J2</u> _____</p> <p>ဌာန <u>Construction</u> _____</p> <p>မှန်နှစ် <u>၀၇.၈.၆.၁၇.၇.၄.၂၄</u> _____</p> <p>ထက်သွယ်ရန်လိုက်ပါ <u>အသွယ်ရန်လိုက်ပါ</u> _____</p>

[illegible][illegible]

[illegible][illegible][illegible]



Green Myanmar
Environmental Services Co., Ltd.

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (I), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

၂၀၁၈ ခုနှစ် ဇူလိုင်လ ၁၀ ရက်နေ့

“ Myanmar Asia Optical International Co., Ltd. ” ၏ မှန်သီလှူအဖွဲ့ချုပ်မှ လုပ်ငန်းခြင်းလုပ်ငန်းအတွက်
 ဖတ်ဝန်ကိုင်စီမံခန့်ခွဲမှုအစဉ် (Environmental Management Plan – EMP) ဖော်ပြခြင်းနှင့်ပတ်သက်၍
 ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်စဉ်ရာ အကြံပြုချက်များရယူခြင်း

၁။ လုပ်ငန်းခွင်တွင်ပါဝင်သောအရာများအားအလုပ်အကိုင်အတွင်းလုပ်ငန်းခွင်သို့အကြံပြုချက်
 (က) လုပ်ငန်းခွင်အတွင်းအကောင်အထည်ဖော်ခြင်းများ (၄)

(ခ) စေ့တက်သုံးစရ (၁၅၁၄)

(ဂ) သန့်စင်ရန်များ (သန့်စင်မှုစရိတ်)

(ဃ) ဆေးဆေးကြောရန်စရိတ်စရိတ်များ (၄)

၂။ လုပ်ငန်းခွင်အတွင်းလုပ်ငန်းများအတွင်းအကြံပြုချက်
 (က) ဆွဲသတ်မှုအစဉ်အခန်း (၄)

(ခ) အနုအသက်/အမျိုးအသားများ (၁၅၀)

(ဂ) လုပ်ငန်းခွင်အလုပ်အကိုင်များ (သို့မဟုတ်)

(ဃ) အမှန်အတိုင်းများအခြေအနေ (၈၇)

(င) ခရစ်တော်လက်ထက် (၄)

၃။ လုပ်ငန်းခွင် လူမှုအသက်မွေးဝမ်းကြေးအခြေအနေအတိုင်းအကြံပြုချက်
 (က) လုပ်ငန်းခွင်ကြီးကြပ်သူ (ဗီစီအက်) (၁၈၈၈)

(ဂ) လုပ်ငန်းခွင်စဉ်ရာ (အသက်မွေး) (၁၈၈၈)

(ဂ) လက်အောက်ခံဝန်ထမ်း (ဗီစီလက်အောက်) (၁၈၈၈)

၄။ သီးခြားအကြံပြုချက်များ


လက်မှတ် လက်မှတ်

အမည် လက်မှတ်

နိုင်ငံသားစစ်စစ်အမည် လက်မှတ်

လုပ်ငန်းခွင် လက်မှတ်

[illegible][illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanung Min Thar Gyi Road, Industrial Zone (I), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” ၏ မှန်ဘီလူးအဖွဲ့ချုပ်လုပ်ငန်းလုပ်ငန်းအတွက်
 ဝတ်နံ့အသုံးပြုမှုအစီအစဉ် (Environmental Management Plan – EMP) ဖော်ပြချက်အတိုင်း
 လုပ်ငန်းများ ၏ လုပ်ငန်းစဉ်အတွက် အကျိုးပြုမှုများအရရှိရန်

၁။ လုပ်ငန်းစဉ်တိုင်းအစမှစ၍ အသုံးပြုမှုအစီအစဉ်အရ လုပ်ငန်းစဉ်အတွက် အကျိုးပြုမှုများ

(က) လုပ်ငန်းစဉ်အကာအကွယ်ပေးရန်အတွက် မှန်ဘီလူးအဖွဲ့ချုပ်

(ခ) အသုံးပြုမှုအစီအစဉ်အရ မှန်ဘီလူးအဖွဲ့ချုပ်

(ဂ) အသုံးပြုမှုအစီအစဉ်အရ မှန်ဘီလူးအဖွဲ့ချုပ်

(ဃ) အသုံးပြုမှုအစီအစဉ်အရ မှန်ဘီလူးအဖွဲ့ချုပ်

၂။ လုပ်ငန်းစဉ်အလုပ်လုပ်ငန်းအစီအစဉ်အရ အကျိုးပြုမှုများ

(က) အသုံးပြုမှုအစီအစဉ်အရ မှန်ဘီလူးအဖွဲ့ချုပ်

(ခ) အသုံးပြုမှုအစီအစဉ်အရ မှန်ဘီလူးအဖွဲ့ချုပ်

(ဂ) လုပ်ငန်းစဉ်အလုပ်လုပ်ငန်းအစီအစဉ်အရ မှန်ဘီလူးအဖွဲ့ချုပ်

(ဃ) အသုံးပြုမှုအစီအစဉ်အရ မှန်ဘီလူးအဖွဲ့ချုပ်

(င) အသုံးပြုမှုအစီအစဉ်အရ မှန်ဘီလူးအဖွဲ့ချုပ်

၃။ လုပ်ငန်းစဉ် လုပ်ငန်းစဉ်အစီအစဉ်အရ အကျိုးပြုမှုများ

(က) လုပ်ငန်းစဉ်အစီအစဉ်အရ မှန်ဘီလူးအဖွဲ့ချုပ်

(ခ) လုပ်ငန်းစဉ်အစီအစဉ်အရ မှန်ဘီလူးအဖွဲ့ချုပ်

(ဂ) လုပ်ငန်းစဉ်အစီအစဉ်အရ မှန်ဘီလူးအဖွဲ့ချုပ်

၄။ အသုံးပြုမှုအစီအစဉ်အရ မှန်ဘီလူးအဖွဲ့ချုပ်

လက်မှတ် ပေးရန်

အသုံးပြုမှုအစီအစဉ်အရ မှန်ဘီလူးအဖွဲ့ချုပ်

လုပ်ငန်းစဉ်အစီအစဉ်အရ မှန်ဘီလူးအဖွဲ့ချုပ်


လက်မှတ် ပေးရန်

အသုံးပြုမှုအစီအစဉ်အရ မှန်ဘီလူးအဖွဲ့ချုပ်

လုပ်ငန်းစဉ်အစီအစဉ်အရ မှန်ဘီလူးအဖွဲ့ချုပ်

[illegible]

[illegible][illegible][illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” ၏ မှန်ပုံလူသေ့မှိုင်းရုံထုတ်လုပ်ခြင်းလုပ်ငန်းအတွက်
 ဟတ်လ်နာကွင်းပိတ်ပင်ခြင်းအစီအစဉ် (Environmental Management Plan – EMP) မူရင်းဩဇာနှင့်လတ်သက်ရှိ
 ဝန်းကျင်ပတ်ဝန်းကျင် လုပ်ငန်းနှင့်ပတ်သက်သည့် အကြံပြုချက်များမူရင်း

၁။ လုပ်ငန်းခွင်တွင်မူရင်းမူရင်းအခြေအနေအထားနှင့်လုပ်ငန်းခွင်ပတ်ဝန်းကျင်အခြေအနေအထား

(က) လုပ်ငန်းခွင်အကျယ်အဝန်းနှင့်အခြေအနေအထား

(ခ) အသက်သွေးရေ

(ဂ) သန့်စင်ရေမူရင်း

(ဃ) အခြေခံအဆောက်အအုံနှင့်အခြေအနေအထား

၂။ လုပ်ငန်းခွင်အကျယ်အဝန်းနှင့်အခြေအနေအထားအကြံပြုချက်

(က) ထုတ်လုပ်မှုအခြေအနေအထား

(ခ) အသက်သွေးရေ/အခြေခံအဆောက်အအုံ

(ဂ) လုပ်ငန်းခွင်အကျယ်အဝန်း

(ဃ) အခြေခံအဆောက်အအုံအခြေအနေအထား

(င) အခြေခံအဆောက်အအုံ

၃။ လုပ်ငန်းခွင် လူမှုပတ်ဝန်းကျင်အခြေအနေအထားအကြံပြုချက်

(က) လုပ်ငန်းခွင်ကြီးကြပ်သူ (ပိတ်ဆို့သူ)

(ခ) လုပ်ငန်းခွင်ကြီးကြပ်သူ (အသက်သွေး)

(ဂ) လက်အောက်ခံပတ်ဝန်းကျင် (ပိတ်ဆို့သူ)

၄။ အခြေခံအဆောက်အအုံအခြေအနေအထား


လက်မှတ် _____ ရာထူး _____

အမည် _____ ဌာန _____

ပိုင်ဆိုင်သူ/အခြေခံအဆောက်အအုံ _____ ရန်ကုန်မြို့ _____

လက်သက် _____ ဆက်သွယ်ရန်လိုက်ပါ _____

[illegible][illegible][illegible]



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. “ မှ နယ်လီလူသေ့မိန့်လုပ်ငန်းလုပ်ငန်းအတွက်
ပတ်ဝန်းကျင်ထိန်းသိမ်းမှုစီမံကိန်း (Environmental Management Plan – EMP) ရေးသားပြင်ဆင်ပတ်သက်၍
ဝန်ဆောင်မှုပေးရန် လုပ်ငန်းခွင်စီမံခန့်ခွဲမှု အကြံပြုချက်များရေးသားခြင်း

၁။ လုပ်ငန်းခွင်လုပ်ငန်းအမျိုးအမည်အရ အသေးစိတ်အချက်အလက်များ

(က) လုပ်ငန်းခွင်အသေးစိတ်အချက်အလက်များ.....**အလုပ်သမား**

(ခ) ဆောက်လုပ်ရေး.....**ဆောက်လုပ်ရေး**

(ဂ) သန့်ရှင်းရေး.....**သန့်ရှင်းရေး**

(ဃ) ဆေးကုသရေး.....**ဆေးကုသရေး**

၂။ လုပ်ငန်းခွင်လုပ်ငန်းအခြေအနေအထားအကြောင်း

(က) ဆောက်လုပ်ရေးအခြေအနေ.....**ဆောက်လုပ်ရေး**

(ခ) အနီးအနားအခြေအနေ.....**အနီးအနား**

(ဂ) လုပ်ငန်းခွင်အခြေအနေ.....**အနီးအနား**

(ဃ) အနီးအနားအခြေအနေ.....**အနီးအနား**

(င) လေထုလေထု.....**အနီးအနား**

၃။ လုပ်ငန်းခွင် လူသေ့မိန့်လုပ်ငန်းအခြေအနေအထားအကြောင်း

(က) လုပ်ငန်းခွင်လုပ်ငန်း (ပိတ်ဆို့မှု).....**အနီးအနား**

(ခ) လုပ်ငန်းခွင်လုပ်ငန်း (အသေးစိတ်).....**အနီးအနား**

(ဂ) လက်အောက်ခံလုပ်ငန်း (ပိတ်ဆို့မှု).....**အနီးအနား**

၄။ သီးခြားအကြံပြုချက်များ

လက်မှတ်.....**EMO**

အမည်.....**Min Ma Oo**

နိုင်ငံသားစာရင်းအမှတ်.....**၁၂၃၄၅၆၇**

လုပ်ငန်း.....**4 years**


ရက်စွဲ.....**Workbox 72**

၄၈.....**Working**

စာရင်းအမှတ်.....**၀၁၆၇၈၉၀၁၀၀**

စာရင်းအမှတ်.....**၀၁၆၇၈၉၀၁၀၀**

[illegible]



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

၁။ Myanmar Asia Scientific International Co., Ltd. "အီ နိုဗိုသီအာဆီနိုဇ်" လုပ်ငန်းခွင်လုပ်ငန်းအတွက်
ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan - EMP) ဆောင်ရွက်ခြင်းနည်းလမ်းသတ်မှတ်
ဝိသေသနများ၏ လုပ်ငန်းခွင်ဆိုင်ရာ အခြေခံချက်များအရ

၁။ လုပ်ငန်းခွင်ကန့်သတ်ချက်အသစ်နှင့်ပတ်သက်သည့်အခြေခံချက်များနှင့်စပ်လျဉ်းသည့်အခြေခံချက်

(က) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ - မရှိ

(ခ) စတုရန်းပေ - ၁၆၆၁၀.၆၆ စတုရန်းပေ

(ဂ) သန့်ရှင်းရေး - ၁၂၃၂၄၆

(ဃ) ဆေးဆေးကြောသန့်ရှင်းရေးရန် - ၁၈၈၁၂၃

၂။ လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှုအခြေခံချက်အသစ်အခြေခံချက်

(က) ဆူညံသံများအခြေခံချက် - ၈၀

(ခ) အနံ့အသက်/အနံ့အဝေ့များ - ၁၂

(ဂ) လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်ခြင်း - ၃၂၀

(ဃ) အပူချိန်အသွယ်အသွယ်အခြေခံချက် - ၂၂၁၆၂

(င) လေအေးလေသွက် - ၂

၃။ လုပ်ငန်းခွင် လူထုကိုင်ဆောင်မှုအခြေခံချက်အသစ်အခြေခံချက်

(က) လုပ်ငန်းခွင်လုပ်ကိုင်သူ (မိမိအသက်) - ၆၈၈၁၆

(ဂ) လုပ်ကိုင်ကိုင်ကိုင် (အသက်) - ၆၈၈၆

(ဂ) လက်အောက်ကိုင်ကိုင် (မိမိလက်အောက်) - ၆၈၈၆

၄။ သီးခြားအခြေခံချက်များ


လက်မှတ် NP ရာထူး Line leader M.A.

အမည် Aye Aye Phyu ဌာန Grinding

နိုင်ငံသားစာရင်းအမှတ် ၂၂.၈၈၆၆၆၆.၆၆၆၆ ဝန်ထုပ် - ၀၉-၄၅၄၀၅၄၅၄၀

လုပ်ကိုင် ၂၀.၃၆ ဆက်သွယ်ရန်နံပါတ် ၀၃-၄၆၆.၈၈၈၆

[illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. “ မှ ပို့ဆောင်ပေးသည့် လုပ်ငန်းအတွက်
 ဝတ်လုံကွင်းပုံဆွဲချက်အတွက် (Environmental Management Plan – EMP) ခေတ္တမြဲသုံးစနစ်ပတ်သက်၍
 ဝိသေသများ၏ လုပ်ငန်းခွင်ဆိုင်ရာ အခြေခံချက်များလုပ်ငန်း

၁။ လုပ်ငန်းခွင်တွင်အသုံးပြုသောဆေးကုသဆေးဝါးကုသဆေးဝါးများနှင့်လုပ်ငန်းခွင်အခြေခံချက်များ

(၁) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ	မရှိ
(၂) ဆေးကုသဆေးဝါးများ	မရှိ
(၃) ဆေးကုသဆေးဝါးများ	မရှိ
(၄) ဆေးကုသဆေးဝါးများ	မရှိ

၂။ လုပ်ငန်းခွင်အသုံးပြုသောဆေးကုသဆေးဝါးအခြေခံချက်များ

(၁) ဆေးကုသဆေးဝါးအခြေခံချက်များ	မရှိ
(၂) ဆေးကုသဆေးဝါးအခြေခံချက်များ	မရှိ
(၃) လုပ်ငန်းခွင်အသုံးပြုသောဆေးကုသဆေးဝါးများ	မရှိ
(၄) ဆေးကုသဆေးဝါးအခြေခံချက်များ	မရှိ
(၅) လုပ်ငန်းခွင်အသုံးပြုသောဆေးကုသဆေးဝါးများ	မရှိ


၃။ လုပ်ငန်းခွင် လူထုဆက်သွယ်ရေးဆေးကုသဆေးဝါးအခြေခံချက်များ

(၁) လုပ်ငန်းခွင်အသုံးပြုသောဆေးကုသဆေးဝါးများ	မရှိ
(၂) လုပ်ငန်းခွင်အသုံးပြုသောဆေးကုသဆေးဝါးများ	မရှိ
(၃) လုပ်ငန်းခွင်အသုံးပြုသောဆေးကုသဆေးဝါးများ	မရှိ

၄။ ဆေးကုသဆေးဝါးအခြေခံချက်များ

လက်မှတ်	မရှိ
အမည်	မရှိ
အုပ်စု	မရှိ
လုပ်ငန်းခွင်အသုံးပြုသောဆေးကုသဆေးဝါးများ	မရှိ
လုပ်ငန်းခွင်အသုံးပြုသောဆေးကုသဆေးဝါးများ	မရှိ

[illegible][illegible]



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

*** Myanmar Asia Optical International Co., Ltd. * ဝါး မြန်မာအော့ပတီကယ်လီဒရီလီမိတက်**

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan – EMP) ခေတ္တဖြည့်ချုပ်မှုညွှန်းတမ်း

ဝါးလီမိတက်၏ လုပ်ငန်းခွင်ဆိုင်ရာ အခြေပြချက်များအရ

၁။ လုပ်ငန်းခွင်တည်ဆောက်ရေးဆောင်ရွက်ရာတွင်အသုံးပြုမည့်ပစ္စည်းများနှင့်ပတ်ဝန်းကျင်ဆိုင်ရာအခြေပြချက်

(က) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ ၂

(ခ) ဆောက်လုပ်ရေး အခြေပြချက်

(ဂ) သန့်စင်ရန်များ အခြေပြချက်

(ဃ) ဆေးကြောသန့်ရှင်းရေးများ အခြေပြချက်

၂။ လုပ်ငန်းခွင်လုပ်ကိုင်မှုအခြေပြချက်အား အခြေပြချက်

(က) ဆည်သုံးများအခြေပြချက် အခြေပြချက်

(ခ) အနံ့အသက်/အပူအမြေများ အခြေပြချက်

(ဂ) လုပ်ငန်းခွင်အသုံးပြုမှုများ အခြေပြချက်

(ဃ) အမှန်အတိုင်းအခြေပြချက် အခြေပြချက်

(င) လေဝင်အလွတ် အခြေပြချက်

၃။ လုပ်ငန်းခွင် လူမှုဆက်သွယ်ရေးအခြေပြချက်အား အခြေပြချက်

(က) လုပ်ငန်းခွင်ကြိုတင်သုံး (မိမိအသက်) အခြေပြချက်

(ခ) လုပ်ငန်းခွင်ဆိုင်ရာ (အသုံးပြု) အခြေပြချက်

(ဂ) လက်အောက်ခံများ (မိမိလက်အောက်) အခြေပြချက်


၄။ သီးခြားအခြေပြချက်များ

လက်မှတ် _____ ဘဏ္ဍာ _____

အမည် _____ ဌာန _____

နိုင်ငံသားစိစစ်ရေးအဖွဲ့ဝင် _____ ဝန်ထုပ်ဝန်ပိုး _____

လုပ်ငန်းခွင် _____ ဆက်သွယ်ရေးလီမိတက် _____



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (I), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

" Myanmar Asia Optical International Co., Ltd. "၏ မိုက်ခရိုအောက်စီယံလုပ်ငန်းလုပ်ငန်းအတွက် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan – EMP) ခေတ္တပြင်ဆင်မှုပတ်သက်၍ ဝါသနာရှင်၏ လုပ်ငန်းခွင်သို့ဝင်ရာ အကြိုစစ်ချက်များဖြည့်စွက်

၁။ လုပ်ငန်းခွင်တွင်နယ်ပယ်အနေနှင့်အသေးစုလုပ်ငန်းလုပ်ငန်းခွင်အနေဖြင့်အကြိုစစ်ချက်

(က) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ သင့်ပါသည်။

(ခ) အသေးစုလုပ်ငန်းခွင် မရှိပါ။

(ဂ) သန့်စင်သန့်ရှင်းမှုများ သန့်စင်ပါသည်။

(ဃ) အသေးစုလုပ်ငန်းခွင်အနေဖြင့် မရှိပါ။

၂။ လုပ်ငန်းခွင်အလုပ်လုပ်ငန်းအခြေအနေအား အကြိုစစ်ချက်

(က) စုစည်းသန့်ရှင်းမှုအခြေအနေ မရှိပါ။

(ခ) အနုစုလုပ်ငန်းခွင်အနေဖြင့် မရှိပါ။

(ဂ) လုပ်ငန်းခွင်အလုပ်လုပ်ငန်းခွင် လုပ်ငန်းခွင်ပါသည်။

(ဃ) အနုစုလုပ်ငန်းခွင်အနေဖြင့် မရှိပါ။

(င) အလုပ်လုပ်ငန်းခွင် မရှိပါ။

၃။ လုပ်ငန်းခွင် လူမှုပတ်ဝန်းကျင်အခြေအနေအား အကြိုစစ်ချက်

(က) လုပ်ငန်းခွင်အကြိုစစ်ချက် (မိမိအထက်) မရှိပါ။

(ဂ) လုပ်ငန်းခွင်အကြိုစစ်ချက် (အထက်) မရှိပါ။

(ဃ) လုပ်ငန်းခွင်အကြိုစစ်ချက် (မိမိအထက်) မရှိပါ။


၄။ အကြိုစစ်ချက်များ

လက်မှတ် _____ ရာထူး Worker Je

အမည် အောင်အောင် ဌာန Marketing

မိုက်ခရိုအောက်စီယံလုပ်ငန်းခွင် ၄/၁၃/၂၀၂၁ နံပါတ် ၁၇-447441-193

လုပ်ငန်းခွင် ၈၁၃ ဆက်သွယ်ရန်နံပါတ် Asia Optical



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (I), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mn.com

“ Myanmar Asia Optical International Co., Ltd. ” မှ ပို့ဆောင်ပေးသော အချက်အလက်များကို အောက်ပါအတိုင်း ဖော်ပြပါသည်။

၁။ လုပ်ငန်းခွင်တည်ဆောက်ရေးအတွက် လိုအပ်သည့် အချက်အလက်များကို အောက်ပါအတိုင်း ဖော်ပြပါသည်။

(က) လုပ်ငန်းခွင်အောက်တွင် ရှိသည့် အချက်အလက်များကို အောက်ပါအတိုင်း ဖော်ပြပါသည်။

(ခ) အောက်ပါအတိုင်း ဖော်ပြပါသည်။

(ဂ) အောက်ပါအတိုင်း ဖော်ပြပါသည်။

(ဃ) အောက်ပါအတိုင်း ဖော်ပြပါသည်။

၂။ လုပ်ငန်းခွင်အောက်တွင် ရှိသည့် အချက်အလက်များကို အောက်ပါအတိုင်း ဖော်ပြပါသည်။

(က) အောက်ပါအတိုင်း ဖော်ပြပါသည်။

(ခ) အောက်ပါအတိုင်း ဖော်ပြပါသည်။

(ဂ) လုပ်ငန်းခွင်အောက်တွင် ရှိသည့် အချက်အလက်များကို အောက်ပါအတိုင်း ဖော်ပြပါသည်။

(ဃ) အောက်ပါအတိုင်း ဖော်ပြပါသည်။

၃။ လုပ်ငန်းခွင် အောက်တွင် ရှိသည့် အချက်အလက်များကို အောက်ပါအတိုင်း ဖော်ပြပါသည်။

(က) လုပ်ငန်းခွင်အောက်တွင် ရှိသည့် အချက်အလက်များကို အောက်ပါအတိုင်း ဖော်ပြပါသည်။

(ခ) လုပ်ငန်းခွင်အောက်တွင် ရှိသည့် အချက်အလက်များကို အောက်ပါအတိုင်း ဖော်ပြပါသည်။

(ဂ) လုပ်ငန်းခွင်အောက်တွင် ရှိသည့် အချက်အလက်များကို အောက်ပါအတိုင်း ဖော်ပြပါသည်။

၄။ အောက်ပါအတိုင်း ဖော်ပြပါသည်။

လက်မှတ် - _____

အမည် - _____

နိုင်ငံသားစိစစ်ရေးအဖွဲ့ - _____


လက်သတ် - _____

ရာထူး - _____

အမည် - _____

ဖုန်းနံပါတ် - _____

စာလုံးရပ် - _____



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” မှ ပို့သော အချက်အလက်များကို လက်ခံရရှိရန် အတွက်
ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan - EMP) ခေမာဗြူရှင်နှင့် ပတ်သက်၍
ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်ဆိုင်ရာ အကြံပြုချက်များ ရယူရန်

၁။ လုပ်ငန်းခွင်ကုန်သွယ်ရေးဆိုင်ရာ အချက်အလက်များကို လက်ခံရရှိရန် အတွက် အကြံပြုချက်

(က) လုပ်ငန်းခွင်အတွက် အချက်အလက်များ: အကြံပြုချက်

(ခ) အောက်သုံးအချက်: အကြံပြုချက်

(ဂ) သန့်ရှင်းရေးများ: အကြံပြုချက်

(ဃ) အခြားအချက်အလက်များ: အကြံပြုချက်

၂။ လုပ်ငန်းခွင်အတွက် လုပ်ငန်းခွင်အချက်အလက်များ အကြံပြုချက်

(က) အောက်သုံးအချက်များ: အကြံပြုချက်

(ခ) အချက်အလက်/အချက်အလက်များ: အကြံပြုချက်

(ဂ) လုပ်ငန်းခွင်အချက်အလက်များ: အကြံပြုချက်

(ဃ) အချက်အလက်များအချက်အလက်များ: အကြံပြုချက်

(င) အောက်သုံးအချက်များ: အကြံပြုချက်

၃။ လုပ်ငန်းခွင် လုပ်ငန်းခွင်အချက်အလက်များ အကြံပြုချက်

(က) လုပ်ငန်းခွင်အချက်အလက်များ (အောက်သုံးအချက်): အကြံပြုချက်

(ခ) လုပ်ငန်းခွင်အချက်အလက်များ (အောက်သုံးအချက်): အကြံပြုချက်

(ဂ) လုပ်ငန်းခွင်အချက်အလက်များ (အောက်သုံးအချက်): အကြံပြုချက်

၄။ အကြံပြုချက်များ

လက်မှတ် Thon

အမည် Ma Chit Ma Thon

နိုင်ငံသားစိစစ်ရေးအမှတ် ၁၂၃၄၅


လုပ်ငန်းခွင် ၁၂၃၄၅

ရာထူး Manager

ဖုန်းနံပါတ် ၀၉-၁၂၃၄၅၆၇၈၉

အောက်သုံးအချက်များ ၁၂၃၄၅၆၇၈၉

[illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanungu Min Thar Gyi Road, Industrial Zone (I), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” မှ ပူးပေါင်းဆောင်ရွက်ထားသည့် လုပ်ငန်းအတွက်
ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုစံနှုန်း (Environmental Management Plan - EMP) ဝန်ဆောင်မှုပေးသည့်
ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်သို့ရောက်ရှိရန် အကြံပြုချက်များထုတ်ပြန်ခြင်း

၁။ လုပ်ငန်းခွင်ကျန်းမာရေးနှင့်ဘေးအန္တရာယ်ကာကွယ်ရေးစံနှုန်းများနှင့်လုပ်ငန်းခွင်အကြံပြုချက်
(၇၇) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ: အကြံပြုချက်

(၈) ခေတ်သစ်သုံးရေ: အကြံပြုချက်

(၉) သန့်ရှင်းရေးများ: အကြံပြုချက်

(၁၀) ခေတ်သစ်သုံးရေ: အကြံပြုချက်

၂။ လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှုအခြေအနေအထား အကြံပြုချက်
(၇၇) ဆင်နွှဲသယ်ယူမှုအခြေအနေ: အကြံပြုချက်

(၈) အနံ့အသက်/အနံ့အငွေ့များ: အကြံပြုချက်

(၉) လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှု: အကြံပြုချက်

(၁၀) အနံ့အသက်/အနံ့အငွေ့များ: အကြံပြုချက်

(၁၁) လေစက်လေသွက်: အကြံပြုချက်

၃။ လုပ်ငန်းခွင် လူမှုဘက်ဆိုင်ရာအခြေအနေအထား အကြံပြုချက်
(၇၇) လုပ်ငန်းခွင်အကြံပြုချက် (မိမိအသက်): အကြံပြုချက်

(၈) လုပ်ငန်းခွင်အကြံပြုချက် (အသက်): အကြံပြုချက်

(၉) လုပ်ငန်းခွင်အကြံပြုချက် (မိမိအသက်): အကြံပြုချက်

၄။ သီးခြားအကြံပြုချက်များ


လက်မှတ်: Ma Cho Wai Tun ရာထူး: Monitor

အမည်: Ma Cho Wai Tun ဌာန: Grinding

နိုင်ငံသားစိစစ်ရေးဌာနမှ: 09-89886697 ဝန်ခံခြင်း: Asia Optical

လုပ်ငန်းခွင်: 5. 56 စက်သွယ်ရန်လုပ်ငန်း

[illegible][illegible][illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

" Myanmar Asia Optical International Co., Ltd. " ၏ ပုဂံခရိုင်လူ့အရင်းအမြစ်လုပ်ငန်းအတွက်
 ဖတ်သန်ကွင်းစီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan – EMP) ဖန်တီးခြင်းနှင့်ပတ်သက်၍
 ဝန်ဆောင်မှုပေးရန် လုပ်ငန်းခွင်ဆိုင်ရာ အကြံပြုချက်များပေးခြင်း

၁။ လုပ်ငန်းခွင်ကျန်းမာရေးနှင့်ဘေးအန္တရာယ်ကာကွယ်ရေးမူဝါဒများနှင့်လုပ်ငန်းအကြံပြုချက်

(က) လုပ်ငန်းခွင်အတွက်အတွင်းပင်လုပ်ငန်းများ မူဝါဒအရ

(ခ) သောက်သုံးရေ စောင့်ရှောက်ခြင်း၊ စနစ်ဆိုင်ရာ၊ စီမံခန့်ခွဲခြင်း

(ဂ) သန့်ရှင်းရေးများ အန္တရာယ်ရှိ

(ဃ) ဆေးဝါးကြောသန့်ရှင်းရေးစနစ် မရှိ

၂။ လုပ်ငန်းခွင်အတွင်းပင်လုပ်ငန်းအစီအစဉ်အားမည်သို့ အကြံပြုချက်

(က) ဆိုင်သုံးပစ္စည်းအခြားဝန် အသုံးပြု

(ခ) အန္တရာယ်ကင်းရှင်းရေးများ မရှိ

(ဂ) လုပ်ငန်းခွင်အလင်းရောင် မရှိ

(ဃ) အမှန်အတိုင်းများအခြားဝန် မရှိ

(င) ဓာတ်ငွေ့ဓာတ်လွှတ် မရှိ

၃။ လုပ်ငန်းခွင် လူမှုဆက်သွယ်ရေးအခြားဝန်အစီအစဉ်အားမည်သို့

(က) လုပ်ငန်းခွင်ပတ်ဝန်းကျင် (မိမိအတွက်) အစီအစဉ်

(ခ) လူမှုဆက်သွယ်ရေး (အဆင့်တူ) အစီအစဉ်

(ဂ) လက်အောက်ခံပိုင်ဆိုင်မှု (မိမိလက်အောက်) မရှိ

၄။ အခြားအကြံပြုချက်များ

လက်မှတ် _____ ရာထူး line leader (M.S.)


အမည် San Myint ဌာန General

ပိုင်သားစစ်စစ်အမှတ် ၃/၁၄/၆၆/၂၃၅၈၆၀ ဖန်နံပတ် ၇၆၆၆၆၆၆၆၆၆၆၆

လက်သတ် ၆၆၆၆ ဆက်သွယ်ရန်နံပါတ် ၆၆၆၆ ၇၆၆၆

[illegible]

[illegible]



Green Myanmar

Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar

Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

“ Myanmar Asia Optical International Co., Ltd. ” မှ ဝန်ထမ်းလုပ်ငန်းခွင်သစ်ဖွင့်လှစ်သည့်အခွင့်အလမ်းအကြောင်း
 ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan – EMP) ဖော်ပြချက်နှင့်ပတ်သက်၍
 ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်သို့ရာ အကြံပြုချက်များလုပ်ငန်း

၁။ လုပ်ငန်းခွင်ကြည့်ရှုမှုများနှင့်သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာအန္တရာယ်များနှင့်ဆိုင်သည့်အကြံပြုချက်

(က) လုပ်ငန်းခွင်အတွက်အကွယ်ပစ္စည်းများ: အကြံပြုချက်

(ခ) စသောကိစ္စများ: အကြံပြုချက်

(ဂ) သန့်ရှင်းရေးများ: အကြံပြုချက်

(ဃ) အဆေးကြောသန့်ရှင်းရေးနှင့်: အကြံပြုချက်

၂။ လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှုအခြေအနေအထား အကြံပြုချက်

(က) ဆည်သုံးမျိုးအခြေအနေ: အကြံပြုချက်

(ခ) အနံ့အသက်/အနံ့အငွေ့များ: အကြံပြုချက်

(ဂ) လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှု: အကြံပြုချက်

(ဃ) အမှန်အတိုင်းအခြေအနေ: အကြံပြုချက်

(င) လေဝင်လေထွက်: အကြံပြုချက်

၃။ လုပ်ငန်းခွင် လူမှုဆက်သွယ်ရေးအခြေအနေအထား အကြံပြုချက်

(က) လုပ်ငန်းခွင်ကြည့်ရှုမှု (ပီအိုင်အက်): အကြံပြုချက်

(ခ) လုပ်ငန်းခွင်ကြည့်ရှုမှု (အဆင့်မြင့်): အကြံပြုချက်

(ဂ) လက်အောက်ခံများ (ပီအိုင်အက်): အကြံပြုချက်

၄။ သီးခြားအကြံပြုချက်များ

လက်မှတ် _____

အမည် Mya Kyi Win

နိုင်ငံသားစစ်ဆေးမှုနံပါတ် ၁၉၇၈.၇.၂၀၇၀၀

လုပ်ငန်းခွင် _____

ရာထူး The Worker Is

အမည် Aring ding


နိုင်ငံသားစစ်ဆေးမှုနံပါတ် ၁၉.၇.၇၈.၇၈.၇၈.၇၈

လုပ်ငန်းခွင် _____

ဆက်သွယ်ရန်လိပ်စာ အကြံပြုချက်

[illegible][illegible]

[illegible]



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanungu Min Thar Gyi Road, Industrial Zone (I), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

၁၀

၁။ Myanmar Asia Optical International Co., Ltd. ၏ မြန်မာလူ့အရင်းအမြစ်လုပ်ငန်းအတွက်
 ဖတ်ငြိမ်းစီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan - EMP) ဝေဖန်ခြင်းနှင့်ပတ်သက်၍
 ဝယ်ယူသုံးစွဲမှု၊ လုပ်ငန်းဆောင်ရွက်ရာ အကြံပြုချက်များပေးခြင်း

၁။ လုပ်ငန်းကြိုတန်းစာမေးပွဲအခါ အသုံးပြုသောကာလဝင်စာမေးပွဲများနှင့်ပတ်သက်၍ အကြံပြုချက်

(က) လုပ်ငန်းဆောင်ရွက်ရာတွင် ပစ္စည်းများ

(ခ) အသောက်သုံးစရိတ်

(ဂ) သန့်ရှင်းရေးပစ္စည်း

(ဃ) ဆေးကြောသန့်ရှင်းရေးပစ္စည်း

၂။ လုပ်ငန်းဆောင်ရွက်ရာတွင် ပစ္စည်းအခြေအနေအထား အကြံပြုချက်

(က) ဆည်သုံးစွဲသောအခြေအနေ

(ခ) အနံ့အသက်/အခြေအနေအထား

(ဂ) လုပ်ငန်းဆောင်ရွက်ရာတွင် အသုံးပြုသော

(ဃ) အမှန်အမှားအခြေအနေအထား

(င) လေဝင်လေထွက်

၃။ လုပ်ငန်းဆောင်ရွက်ရာတွင် အခြေအနေအထား အကြံပြုချက်

(က) လုပ်ငန်းဆောင်ရွက်ရာတွင် (ပိတ်ဆို့ထား)

(ဂ) လုပ်ငန်းဆောင်ရွက်ရာတွင် (အသုံးပြုရာ)

(ဂ) လက်အောက်ခံပစ္စည်း (ပိတ်ဆို့ထား)

၄။ ဆီဖြူအကြံပြုချက်များ

လက်မှတ်

အမည်

နိုင်ငံသားစာရင်းစံအမှတ်

လုပ်ငန်း

ရာထူး

ဌာန

ရန်ကုန်မြို့

ဆက်သွယ်ရန်လိပ်စာ

Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-5081451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

* Myanmar Asia Optical International Co., Ltd. *
ပတ်ဝန်းကျင်ထိခိုက်မှုမှီခိုမှုအစီအစဉ် (Environmental Management Plan - EMP) ရေးဆွဲခြင်းနှင့်ပတ်သက်၍
သိရှိသည့်အတိုင်း လုပ်ငန်းခွင်ဆိုင်ရာ အကြံပြုချက်များရရှိခဲ့ပါသည်။

၁။ လုပ်ငန်းခွင်ကျန်းမာရေးနှင့်ဘေးအန္တရာယ်ကာကွယ်ရေးဆိုင်ရာများနှင့်ပတ်သက်သည့်အကြံပြုချက်

(က) လုပ်ငန်းခွင်အကာအကွယ်စည်းများ
(ခ) ခေ့သောက်သုံးရေ
(ဂ) သန့်စင်ရန်များ
(ဃ) ဆေးကြောသန့်ရှင်းရေးလုပ်ငန်း

၂။ လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှုအခြေအနေအထား အကြံပြုချက်


(က) ဆည်သုံးများအခြေအနေ
(ခ) အနံ့အသက်/အနံ့အငွေ့များ
(ဂ) လုပ်ငန်းခွင်အလင်းရောင်
(ဃ) အမှန်အသိများအခြေအနေ
(င) ဓာတ်ငွေ့လေထွက်

၃။ လုပ်ငန်းခွင် လူ့ဘဝဆိုင်ရာအခြေအနေအထား အကြံပြုချက်

(က) လုပ်ငန်းခွင်ကြိုက်ညီသူ (အဆောင်ထက်)
(ခ) လုပ်ကိုင်ကိုင်ကိုင် (အဆောင်ထက်)
(ဂ) လက်အောက်ကိုင်ကိုင် (ပိတ်ဆို့အောက်ထက်)

၄။ သိရှိသည့်အကြံပြုချက်များ

လက်မှတ်
အမည် Ma. Mo San
နိုင်ငံသားစစ်ဆေးမှုမှတ်ပုံတင်အမှတ် ၉၊ ၁၆၊ ၁၇၊ ၁၈၊ ၁၉၊ ၂၀၊ ၂၁၊ ၂၂၊ ၂၃၊ ၂၄၊ ၂၅၊ ၂၆၊ ၂၇၊ ၂၈၊ ၂၉၊ ၃၀၊ ၃၁၊ ၃၂၊ ၃၃၊ ၃၄၊ ၃၅၊ ၃၆၊ ၃၇၊ ၃၈၊ ၃၉၊ ၄၀၊ ၄၁၊ ၄၂၊ ၄၃၊ ၄၄၊ ၄၅၊ ၄၆၊ ၄၇၊ ၄၈၊ ၄၉၊ ၅၀၊ ၅၁၊ ၅၂၊ ၅၃၊ ၅၄၊ ၅၅၊ ၅၆၊ ၅၇၊ ၅၈၊ ၅၉၊ ၆၀၊ ၆၁၊ ၆၂၊ ၆၃၊ ၆၄၊ ၆၅၊ ၆၆၊ ၆၇၊ ၆၈၊ ၆၉၊ ၇၀၊ ၇၁၊ ၇၂၊ ၇၃၊ ၇၄၊ ၇၅၊ ၇၆၊ ၇၇၊ ၇၈၊ ၇၉၊ ၈၀၊ ၈၁၊ ၈၂၊ ၈၃၊ ၈၄၊ ၈၅၊ ၈၆၊ ၈၇၊ ၈၈၊ ၈၉၊ ၉၀၊ ၉၁၊ ၉၂၊ ၉၃၊ ၉၄၊ ၉၅၊ ၉၆၊ ၉၇၊ ၉၈၊ ၉၉၊ ၁၀၀၊ ၁၀၁၊ ၁၀၂၊ ၁၀၃၊ ၁၀၄၊ ၁၀၅၊ ၁၀၆၊ ၁၀၇၊ ၁၀၈၊ ၁၀၉၊ ၁၁၀၊ ၁၁၁၊ ၁၁၂၊ ၁၁၃၊ ၁၁၄၊ ၁၁၅၊ ၁၁၆၊ ၁၁၇၊ ၁၁၈၊ ၁၁၉၊ ၁၂၀၊ ၁၂၁၊ ၁၂၂၊ ၁၂၃၊ ၁၂၄၊ ၁၂၅၊ ၁၂၆၊ ၁၂၇၊ ၁၂၈၊ ၁၂၉၊ ၁၃၀၊ ၁၃၁၊ ၁၃၂၊ ၁၃၃၊ ၁၃၄၊ ၁၃၅၊ ၁၃၆၊ ၁၃၇၊ ၁၃၈၊ ၁၃၉၊ ၁၄၀၊ ၁၄၁၊ ၁၄၂၊ ၁၄၃၊ ၁၄၄၊ ၁၄၅၊ ၁၄၆၊ ၁၄၇၊ ၁၄၈၊ ၁၄၉၊ ၁၅၀၊ ၁၅၁၊ ၁၅၂၊ ၁၅၃၊ ၁၅၄၊ ၁၅၅၊ ၁၅၆၊ ၁၅၇၊ ၁၅၈၊ ၁၅၉၊ ၁၆၀၊ ၁၆၁၊ ၁၆၂၊ ၁၆၃၊ ၁၆၄၊ ၁၆၅၊ ၁၆၆၊ ၁၆၇၊ ၁၆၈၊ ၁၆၉၊ ၁၇၀၊ ၁၇၁၊ ၁၇၂၊ ၁၇၃၊ ၁၇၄၊ ၁၇၅၊ ၁၇၆၊ ၁၇၇၊ ၁၇၈၊ ၁၇၉၊ ၁၈၀၊ ၁၈၁၊ ၁၈၂၊ ၁၈၃၊ ၁၈၄၊ ၁၈၅၊ ၁၈၆၊ ၁၈၇၊ ၁၈၈၊ ၁၈၉၊ ၁၉၀၊ ၁၉၁၊ ၁၉၂၊ ၁၉၃၊ ၁၉၄၊ ၁၉၅၊ ၁၉၆၊ ၁၉၇၊ ၁၉၈၊ ၁၉၉၊ ၂၀၀၊ ၂၀၁၊ ၂၀၂၊ ၂၀၃၊ ၂၀၄၊ ၂၀၅၊ ၂၀၆၊ ၂၀၇၊ ၂၀၈၊ ၂၀၉၊ ၂၁၀၊ ၂၁၁၊ ၂၁၂၊ ၂၁၃၊ ၂၁၄၊ ၂၁၅၊ ၂၁၆၊ ၂၁၇၊ ၂၁၈၊ ၂၁၉၊ ၂၂၀၊ ၂၂၁၊ ၂၂၂၊ ၂၂၃၊ ၂၂၄၊ ၂၂၅၊ ၂၂၆၊ ၂၂၇၊ ၂၂၈၊ ၂၂၉၊ ၂၃၀၊ ၂၃၁၊ ၂၃၂၊ ၂၃၃၊ ၂၃၄၊ ၂၃၅၊ ၂၃၆၊ ၂၃၇၊ ၂၃၈၊ ၂၃၉၊ ၂၄၀၊ ၂၄၁၊ ၂၄၂၊ ၂၄၃၊ ၂၄၄၊ ၂၄၅၊ ၂၄၆၊ ၂၄၇၊ ၂၄၈၊ ၂၄၉၊ ၂၅၀၊ ၂၅၁၊ ၂၅၂၊ ၂၅၃၊ ၂၅၄၊ ၂၅၅၊ ၂၅၆၊ ၂၅၇၊ ၂၅၈၊ ၂၅၉၊ ၂၆၀၊ ၂၆၁၊ ၂၆၂၊ ၂၆၃၊ ၂၆၄၊ ၂၆၅၊ ၂၆၆၊ ၂၆၇၊ ၂၆၈၊ ၂၆၉၊ ၂၇၀၊ ၂၇၁၊ ၂၇၂၊ ၂၇၃၊ ၂၇၄၊ ၂၇၅၊ ၂၇၆၊ ၂၇၇၊ ၂၇၈၊ ၂၇၉၊ ၂၈၀၊ ၂၈၁၊ ၂၈၂၊ ၂၈၃၊ ၂၈၄၊ ၂၈၅၊ ၂၈၆၊ ၂၈၇၊ ၂၈၈၊ ၂၈၉၊ ၂၉၀၊ ၂၉၁၊ ၂၉၂၊ ၂၉၃၊ ၂၉၄၊ ၂၉၅၊ ၂၉၆၊ ၂၉၇၊ ၂၉၈၊ ၂၉၉၊ ၃၀၀၊ ၃၀၁၊ ၃၀၂၊ ၃၀၃၊ ၃၀၄၊ ၃၀၅၊ ၃၀၆၊ ၃၀၇၊ ၃၀၈၊ ၃၀၉၊ ၃၁၀၊ ၃၁၁၊ ၃၁၂၊ ၃၁၃၊ ၃၁၄၊ ၃၁၅၊ ၃၁၆၊ ၃၁၇၊ ၃၁၈၊ ၃၁၉၊ ၃၂၀၊ ၃၂၁၊ ၃၂၂၊ ၃၂၃၊ ၃၂၄၊ ၃၂၅၊ ၃၂၆၊ ၃၂၇၊ ၃၂၈၊ ၃၂၉၊ ၃၃၀၊ ၃၃၁၊ ၃၃၂၊ ၃၃၃၊ ၃၃၄၊ ၃၃၅၊ ၃၃၆၊ ၃၃၇၊ ၃၃၈၊ ၃၃၉၊ ၃၄၀၊ ၃၄၁၊ ၃၄၂၊ ၃၄၃၊ ၃၄၄၊ ၃၄၅၊ ၃၄၆၊ ၃၄၇၊ ၃၄၈၊ ၃၄၉၊ ၃၅၀၊ ၃၅၁၊ ၃၅၂၊ ၃၅၃၊ ၃၅၄၊ ၃၅၅၊ ၃၅၆၊ ၃၅၇၊ ၃၅၈၊ ၃၅၉၊ ၃၆၀၊ ၃၆၁၊ ၃၆၂၊ ၃၆၃၊ ၃၆၄၊ ၃၆၅၊ ၃၆၆၊ ၃၆၇၊ ၃၆၈၊ ၃၆၉၊ ၃၇၀၊ ၃၇၁၊ ၃၇၂၊ ၃၇၃၊ ၃၇၄၊ ၃၇၅၊ ၃၇၆၊ ၃၇၇၊ ၃၇၈၊ ၃၇၉၊ ၃၈၀၊ ၃၈၁၊ ၃၈၂၊ ၃၈၃၊ ၃၈၄၊ ၃၈၅၊ ၃၈၆၊ ၃၈၇၊ ၃၈၈၊ ၃၈၉၊ ၃၉၀၊ ၃၉၁၊ ၃၉၂၊ ၃၉၃၊ ၃၉၄၊ ၃၉၅၊ ၃၉၆၊ ၃၉၇၊ ၃၉၈၊ ၃၉၉၊ ၄၀၀၊ ၄၀၁၊ ၄၀၂၊ ၄၀၃၊ ၄၀၄၊ ၄၀၅၊ ၄၀၆၊ ၄၀၇၊ ၄၀၈၊ ၄၀၉၊ ၄၁၀၊ ၄၁၁၊ ၄၁၂၊ ၄၁၃၊ ၄၁၄၊ ၄၁၅၊ ၄၁၆၊ ၄၁၇၊ ၄၁၈၊ ၄၁၉၊ ၄၂၀၊ ၄၂၁၊ ၄၂၂၊ ၄၂၃၊ ၄၂၄၊ ၄၂၅၊ ၄၂၆၊ ၄၂၇၊ ၄၂၈၊ ၄၂၉၊ ၄၃၀၊ ၄၃၁၊ ၄၃၂၊ ၄၃၃၊ ၄၃၄၊ ၄၃၅၊ ၄၃၆၊ ၄၃၇၊ ၄၃၈၊ ၄၃၉၊ ၄၄၀၊ ၄၄၁၊ ၄၄၂၊ ၄၄၃၊ ၄၄၄၊ ၄၄၅၊ ၄၄၆၊ ၄၄၇၊ ၄၄၈၊ ၄၄၉၊ ၄၅၀၊ ၄၅၁၊ ၄၅၂၊ ၄၅၃၊ ၄၅၄၊ ၄၅၅၊ ၄၅၆၊ ၄၅၇၊ ၄၅၈၊ ၄၅၉၊ ၄၆၀၊ ၄၆၁၊ ၄၆၂၊ ၄၆၃၊ ၄၆၄၊ ၄၆၅၊ ၄၆၆၊ ၄၆၇၊ ၄၆၈၊ ၄၆၉၊ ၄၇



Green Myanmar
Environmental Services Co., Ltd

No.115, Kanaung Min Thar Gyi Road, Industrial Zone (1), Hlaing Thar Yar Industrial City,
Yangon, Myanmar
Tel: 09 897 978 296, 09-508451 E-mail: gmescompany@gmail.com, info@gmes-mm.com

" Myanmar Asia Optical International Co., Ltd. " မှန်ဘီလူးအမျိုးမျိုးထုတ်လုပ်ခြင်းလုပ်ငန်းအတွက်
ပတ်ဝန်းကျင်ထိခိုက်မှုမှီခိုင်းစာတမ်း (Environmental Management Plan – EMP) ဖန်တီးခြင်းနှင့်ပတ်သက်၍
သိထားရမည့်အချက်များကို လုပ်ငန်းခွင်သို့ရောက် အကြံပြုချက်များပေးရမည်။

၁။ လုပ်ငန်းခွင်တွင်ရှိသောနေရာနှင့်ဝေသနာပြုသက်တက်ကွယ်လွန်နေသည့်များနှင့်လုပ်ငန်းခွင်အကြံပြုချက်

(က) လုပ်ငန်းခွင်အကာအကွယ်ပစ္စည်းများ: မရှိ

(ခ) ဝေသနာပြုသုံးရေ: မရှိပါ

(ဂ) သန့်စင်ရန်များ: အခါအခါ ရေ၊ မြေ၊ မြေ

(ဃ) ဝေသနာပြုသုံးရေသန့်စင်ရန်: မရှိ

၂။ လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှုအခြေအနေအထား အကြံပြုချက်

(က) ဆည်သုံးများအခြေအနေ: မရှိ

(ခ) အနုအသက်/အမျိုးအမတ်များ: မရှိ

(ဂ) လုပ်ငန်းခွင်အလုပ်လုပ်ကိုင်မှု: မရှိပါ

(ဃ) အမျိုးအမတ်များအခြေအနေ: မရှိ

(င) ဝေသနာပြုသုံးရေ: မရှိ

၃။ လုပ်ငန်းခွင် လူမှုပတ်ဝန်းကျင်အခြေအနေအထား အကြံပြုချက်

(က) လုပ်ငန်းခွင်အကြံပြုချက် (မိမိအထက်): အခါအခါ

(ခ) လုပ်ငန်းခွင်အကြံပြုချက် (အဆင့်မြင့်): မရှိပါ

(ဂ) လက်အောက်ခံများ (မိမိလက်အောက်): မရှိပါ

၄။ သိရှိရမည့်အကြံပြုချက်များ

လက်မှတ်: 2021

အမည်: 2021 2021 500

နိုင်ငံသားစံသတ်မှတ်ရန်: အခါအခါ

လုပ်ငန်း: မရှိပါ

ရာထူး: Manager

ဌာန: Marketing

ရန်ကုန်: ၁၇. ၇၇၈. ၅၅၀. ၇၈၀

စက်သွယ်ရန်လက်: မရှိပါ

[illegible][illegible][illegible][illegible]

Appendix 31 Attendance List from Public Consultation Meeting

[illegible][illegible]

Appendix 32 Suggestion Letters from Public Consultation Meeting

[illegible]

Myanmar Asia Optical International Co., Ltd. (အိတ်. လီမိတက်) မှတ်ပုံတင်အမှတ် (၁၁-၁-၁၁-၁) နှင့် အကွက်အမှတ် (၆-၁-၆-၁) တွင် လုပ်ကိုင်ဆောင်ရွက်လျက်ရှိသည့် လက်စာအုပ်နှင့် ပုံနှိပ်ကိရိယာများ ပုံနှိပ်ကိရိယာများ အလင်းနှင့်ဆိုင်သော စက်ကိရိယာများ ဆုံချက်စာလင်းတန်းမှန်ဘီလူးချောင်း (Self focus lens array-SLA) အီလက်ထရောနစ်ကိရိယာများနှင့် အခြားကိရိယာများတွင် အသုံးပြုသည့် ပလတ်စတစ်အစိတ်အပိုင်းများ ထုတ်လုပ်ခြင်းလုပ်ငန်းအတွက် ပတ်ဝန်းကျင်ထိခံစွန့်မှုအစီအစဉ် (EMP)အစီရင်ခံစာရေးဆွဲခြင်းနှင့်ပတ်သက်၍ အကျိုးပြုစာ

ရင်းနှီးမြှုပ်နှံလုပ်ငန်း အကျိုးပြုစေသောပုံစံပါးမပြောင်းနိုင်လှူဒါန်းတို့၏ အကျိုးပြုမှုများကို စက်ရုံထဲသို့ စိုက်ပျိုးမှုနှင့် တည်မြဲသောအခါ အသုံးပြုနိုင်ခြင်းပါသည်။

စဉ်	အမည်နှင့်အကျိုးပြုမှု
	<p>လက်မှတ်</p> <p>အသွယ်</p> <p>ရင်းနှီးမြှုပ်နှံ</p> <p>ဆက်သွယ်ရန်အိတ်</p>

Myanmar Asia Optical International Co., Ltd မှီ ခန့်ကုန်တိုင်းအသင့်ကြီး မက်လက်ကြီး နယ်
 မံလော့တံတံယူညာညံရှိ အတွက်အမှတ် (အေ-၁၊ အေ-၂၊ အေ-၃) နှင့် အတွက်အမှတ် (စီ-၁၊ စီ-၂) တွင်
 လုပ်ကိုင်စေသည့်လက်လျှောက်ရှိသည်

လက်စေ့စေ့စုံဖြင့် "မှန်ဘီလူးများ မှန်ဘီလူးယူနစ်များ၊ အလင်းမှန်ဆိုင်သော စက်ကိရိယာများ၊
 ဆုံချက်အလင်းတန်းမှန်ဘီလူးချောင်း (Self focus lens array-SLA) ဘီလက်ထရော့မှန်ကိရိယာများနှင့်
 အခြားကိရိယာများတွင် အသုံးပြုသည့် ပလတ်စတစ်အစိတ်အပိုင်းများ ထုတ်လုပ်ခြင်းလုပ်ငန်း"အတွက်
 ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (EIMP)အစီရင်ခံစာရေးဆွဲခြင်းနှင့်ပတ်သက်၍ အကြံပြုစာ

ရင်းနှီးမြှုပ်နှံလက်အွှာ အကြံပြုရေးသားနိုင်ပါသည်။အစီအစဉ် အကြံပြုချက်များကို စက်ရုံတာဝန် ရှိသူများနှင့် ထည့်သွင်းဆွေးနွေး
 ပေးသွားမည်ဖြစ်ပါသည်။

စဉ်	ဆွေးနွေးအကြံပြုချက်
၁	၁၅၂၂

လက်မှတ် _____
 အမည် _____
 ရန်ကုန်တိုက် _____
 ဆက်သွယ်ရန်ဖုန်းလိပ်စာ _____

[illegible]

Environmental Management Plan (EMP) Report for Factory-1 and Factory-2 (Part-III)

Myanmar Asia Optical International Company Limited

Myanmar Asia Optical International Co., Ltd ၏ ရန်ကုန်တိုင်းဒေသကြီး၊ မင်္ဂလာဒုံမြို့နယ်၊ မင်္ဂလာဒုံစက်မှုဥယျာဉ်ရှိ အကွက်အမှတ် (အေ-၁၊ အေ-၂၊ အေ-၃) နှင့် အကွက်အမှတ် (ဇီ-၁၊ ဇီ-၂) တွင် လုပ်ကိုင်ဆောင်ရွက်လျက်ရှိသည့် လက်စောစနစ်ဖြင့် "ပုံနှိပ်လှေကား၊ ပုံနှိပ်လှေကားများ အလင်းနှင့်ဆိုင်သော စက်ကိရိယာများ၊ ဆုံချက်အလင်းတန်းပုံနှိပ်လှေကား (Self focus lens array-SLA)၊ အီလက်ထရောနစ်ကိရိယာများနှင့် အခြားကိရိယာများတွင် အသုံးပြုသည့် ပလတ်စတစ်အိတ်အပိုင်းများ ထုတ်လုပ်ခြင်းလုပ်ငန်း"အတွက် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင် (EMP)အစီစဉ်ဆောင်ရွက်ခြင်းနှင့်ပတ်သက်၍ အကြံပြုစာ

ရင်းနှီးမြှုပ်နှံမှုအတွက် အကြံပြုချက်အရ အကြံပြုချက်များကို စက်ကိရိယာနှင့် တပ်ဆင်ဆောင်ရွက်ပေးသည့်အခါမှစ၍

စဉ်	ဆောင်ရွက်ရန်အကြံပြုချက်
၁	Govt. Rule & Regulation ကိုလိုက်နာပါ။

လက်မှတ် _____
 အမည် _____
 ရန်ပုံငွေ _____
 ဆက်သွယ်ရန်လိပ်စာ _____

Myanmar Asia Optical International Co., Ltd ၏ ရန်ကုန်တိုင်းဒေသကြီး၊ မင်္ဂလာဒုံမြို့နယ်၊ မင်္ဂလာဒုံစက်မှုဥယျာဉ်ရှိ အကွက်အမှတ် (အေ-၁၊ အေ-၂၊ အေ-၃) နှင့် အကွက်အမှတ် (ဇီ-၁၊ ဇီ-၂) တွင် လုပ်ကိုင်ဆောင်ရွက်လျက်ရှိသည့် လက်စောစနစ်ဖြင့် "ပုံနှိပ်လှေကား၊ ပုံနှိပ်လှေကားများ အလင်းနှင့်ဆိုင်သော စက်ကိရိယာများ၊ ဆုံချက်အလင်းတန်းပုံနှိပ်လှေကား (Self focus lens array-SLA)၊ အီလက်ထရောနစ်ကိရိယာများနှင့် အခြားကိရိယာများတွင် အသုံးပြုသည့် ပလတ်စတစ်အိတ်အပိုင်းများ ထုတ်လုပ်ခြင်းလုပ်ငန်း"အတွက် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင် (EMP)အစီစဉ်ဆောင်ရွက်ခြင်းနှင့်ပတ်သက်၍ အကြံပြုစာ

ရင်းနှီးမြှုပ်နှံမှုအတွက် အကြံပြုချက်အရ အကြံပြုချက်များကို စက်ကိရိယာနှင့် တပ်ဆင်ဆောင်ရွက်ပေးသည့်အခါမှစ၍

စဉ်	ဆောင်ရွက်ရန်အကြံပြုချက်
၁	မိမိတို့အနေဖြင့် အစီအစဉ်များ စီစဉ်ပါမည်။

လက်မှတ် _____
 အမည် _____
 ရန်ပုံငွေ _____
 ဆက်သွယ်ရန်လိပ်စာ _____

Myanmar Asia Optical International Co., Ltd ၏ ရန်ကုန်တိုင်းဒေသကြီး၊ မင်္ဂလာဒုံမြို့နယ်၊ မင်္ဂလာဒုံစက်မှုဥယျာဉ်ရှိ အကွက်အမှတ် (အေ-၁၊ အေ-၂၊ အေ-၃) နှင့် အကွက်အမှတ် (ဇီ-၁၊ ဇီ-၂) တွင် လုပ်ကိုင်ဆောင်ရွက်လျက်ရှိသည့် လက်စောစနစ်ဖြင့် "ပုံနှိပ်လှေကား၊ ပုံနှိပ်လှေကားများ အလင်းနှင့်ဆိုင်သော စက်ကိရိယာများ၊ ဆုံချက်အလင်းတန်းပုံနှိပ်လှေကား (Self focus lens array-SLA)၊ အီလက်ထရောနစ်ကိရိယာများနှင့် အခြားကိရိယာများတွင် အသုံးပြုသည့် ပလတ်စတစ်အိတ်အပိုင်းများ ထုတ်လုပ်ခြင်းလုပ်ငန်း"အတွက် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင် (EMP)အစီစဉ်ဆောင်ရွက်ခြင်းနှင့်ပတ်သက်၍ အကြံပြုစာ

ရင်းနှီးမြှုပ်နှံမှုအတွက် အကြံပြုချက်အရ အကြံပြုချက်များကို စက်ကိရိယာနှင့် တပ်ဆင်ဆောင်ရွက်ပေးသည့်အခါမှစ၍

စဉ်	ဆောင်ရွက်ရန်အကြံပြုချက်
၁	Waste water treatment system စားသုံးရန် စောင့်ကြည့်ပါ။ Green Myanmar ၏ Analysis မှ လျှပ်စစ် PH level 6.35 ဖြစ်ပါသည်။ Chemical စားသုံးခြင်းနှင့် waste water treatment မှ regular maintain ပြုလုပ်ပါမည်။
၂	Plastic Injection စက်များမှ အမှတ်အသားပြုသည့် အမှတ်အသားများမှ ဖြစ်ပေါ်လာသည့် ventilation system စောင့်ကြည့်ပါ။
၃	ရုပ်ပုံများနှင့် အမှတ်အသားများမှ ဖြစ်ပေါ်လာသည့် chemical management Plan မှ စောင့်ကြည့်ပါ။

လက်မှတ် _____
 အမည် _____
 ရန်ပုံငွေ _____
 ဆက်သွယ်ရန်လိပ်စာ _____


Myanmar Asia Optical International Co., Ltd ၏ ရန်ကုန်တိုင်းဒေသကြီး၊ မင်္ဂလာဒုံမြို့နယ်၊ မင်္ဂလာဒုံစက်မှုဥယျာဉ်ရှိ အကွက်အမှတ် (အေ-၁၊ အေ-၂၊ အေ-၃) နှင့် အကွက်အမှတ် (ဇီ-၁၊ ဇီ-၂) တွင် လုပ်ကိုင်ဆောင်ရွက်လျက်ရှိသည့် လက်စောစနစ်ဖြင့် "ပုံနှိပ်လှေကား၊ ပုံနှိပ်လှေကားများ အလင်းနှင့်ဆိုင်သော စက်ကိရိယာများ၊ ဆုံချက်အလင်းတန်းပုံနှိပ်လှေကား (Self focus lens array-SLA)၊ အီလက်ထရောနစ်ကိရိယာများနှင့် အခြားကိရိယာများတွင် အသုံးပြုသည့် ပလတ်စတစ်အိတ်အပိုင်းများ ထုတ်လုပ်ခြင်းလုပ်ငန်း"အတွက် ပတ်ဝန်းကျင်ထိခိုက်မှုမရှိအောင် (EMP)အစီစဉ်ဆောင်ရွက်ခြင်းနှင့်ပတ်သက်၍ အကြံပြုစာ

ရင်းနှီးမြှုပ်နှံမှုအတွက် အကြံပြုချက်အရ အကြံပြုချက်များကို စက်ကိရိယာနှင့် တပ်ဆင်ဆောင်ရွက်ပေးသည့်အခါမှစ၍

စဉ်	ဆောင်ရွက်ရန်အကြံပြုချက်
၁	လက်စောစနစ်များ စောင့်ကြည့်ပါမည်။ အမှတ်အသားများ စောင့်ကြည့်ပါမည်။

လက်မှတ် _____
 အမည် _____
 ရန်ပုံငွေ _____
 ဆက်သွယ်ရန်လိပ်စာ _____

Appendix 33 Project Proponent's Commitment on Suggestion Form



MYANMAR ASIA OPTICAL INTERNATIONAL CO.,LTD.
 PLOT NO A-2, A-3 & C-1, C-2 MINGALADON INDUSTRIAL PARK, MINGALADON T/S, YANGON,
 MYANMAR. TEL : +95-9974453837, +95-95173541 FAX: 951 - 639034, 639035

သို့
 မန်နေဂျင်းဒါရိုက်တာ
 စိမ်းလန်းမြန်မာပတ်ဝန်းကျင်ဆိုင်ရာဝန်ဆောင်မှုလုပ်ငန်းကုမ္ပဏီလီမိတက်
 အမှတ်(၁၁၅)၊ ကနောင်မင်းသာကြီးလမ်း၊
 လှိုင်သာယာစက်မှုဇုန်(၁)၊ လှိုင်သာယာမြို့နယ်၊
 ရန်ကုန်တိုင်းဒေသကြီး။


ရက်စွဲ - ၂၀၂၁ ခုနှစ်၊ ၁၆ ဇူလိုင်လ (၇) ရက်

အကြောင်းအရာ ။ Myanmar Asia Optical International Co., Ltd ၏ လက်စားစနစ်ဖြင့်
 "မှန်ဘီလူးများ၊ မှန်ဘီလူးယူနစ်များ၊ အလင်းနှင့်ဆိုင်သော စက်ကိရိယာများ၊
 ဆုံချက်စုအလင်းတန်းမှန်ဘီလူးချောင်း (Self focus Lens Array-SLA)၊
 အီလက်ထရောနစ်ကိရိယာများနှင့် အခြားကိရိယာများတွင် အသုံးပြုသည့်
 ပလတ်စတစ်အစိတ်အပိုင်းများထုတ်လုပ်ခြင်းလုပ်ငန်း" စက်ရုံအတွက် စက်ရုံနှင့်
 ပတ်သက်၍ စက်ရုံဝန်ထမ်းများနှင့် အများပြည်သူများ၏ အကြံပြုချက်များ
 ဆောင်ရွက်ပေးသည့် မြန်ကြားခြင်းကိစ္စ။

ရည်ညွှန်းချက် ။ ၂၀၂၁ ခုနှစ်၊ ၁၆ ဇူလိုင်လ (၇) ရက်နေ့တွင် စိမ်းလန်းမြန်မာပတ်ဝန်းကျင်
 ဆိုင်ရာဝန်ဆောင်မှုလုပ်ငန်းကုမ္ပဏီလီမိတက်၏ ပေးပို့စာ။

အထက်ဖော်ပြပါကိစ္စနှင့်စပ်လျဉ်း၍ ရည်ညွှန်းပါစာဖြင့် Myanmar Asia Optical International Co.,
 Ltd ၏ စက်ရုံလုပ်ငန်းနှင့်ပတ်သက်၍ စက်ရုံဝန်ထမ်းများနှင့် အများပြည်သူများ၏ ဆွေးနွေး အကြံပြုချက်များကို
 စက်ရုံဘက်မှဆောင်ရွက်ပေးမည့် အစီအစဉ်များကို မြန်ကြားအပ်ပါသည်။

ပူးတွဲ ။ ။ အကြံပြုချက်၊ ဆန္ဒသဘောထားများအပေါ် စက်ရုံမှ ဆောင်ရွက်ပေးမည့် အစီအစဉ်။

လက်မှတ် 

တာဝန်ခံအမည် - Mr. Han Jung Chen-----
 Director
 ရာထူး Myanmar Asia Optical Int'l Co., Ltd.
 Myanmar Asia Optical International Co., Ltd
 အကွက်အမှတ် (အေ-၁၊ အေ-၂၊ အေ-၃)နှင့် (စီ-၁၊ စီ-၂)
 မင်္ဂလာဒုံစက်မှုဥယျာဉ်၊ မင်္ဂလာဒုံမြို့နယ်၊
 ရန်ကုန်တိုင်းဒေသကြီး။

[illegible]

[illegible]