 LG MMA Corporation 58, Yeosusandan 4-ro(Jungheung-dong), Yeosu-si, Jeollanam-do, 555-805 Korea Tel : (061) 805 - 3853 Fax : (061) 805 - 3858	Material Safety Data Sheet	Reg. No.	MSDS-PMMA1-000
		Crea. date	2015.12.10.
		()th	-
		Rev. date	
	Product Name : BA410 CAS No : 25608-33-7	Rev. Item	-


1. IDENTIFICATION

- A. Product name : BA410
- B. Recommended use and restriction on use
- ☐ General use : INK, PAINT
 - ☐ Restriction on use : Not available
- C. Manufacturer/Supplier/Distributor information
- ☐ Company name : LG MMA Corporation
 - ☐ Address : 55, Yeosusandan 2-ro, Yeosu-si, Jeollanam-do, Korea
 - ☐ Emergency telephone number : +82-61-680-1281
 - ☐ Dept : PMMA1 team

2. HAZARD IDENTIFICATION

- A. GHS Classification :
- Skin corrosion/irritation : Category2
 - Serious eye damage/irritation : Category2B

B. GHS label elements

<input type="radio"/> Hazard symbols	<input type="radio"/> Signal words	<input type="radio"/> Hazard statements
	Warning	H315 Causes skin irritation H320 Cause eye irritation

☐ 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. P321 Specific treatment. P332+P313 If skin irritation occurs: Get medical advice/attention. P337+P313 If eye irritation persists: Get medical advice/attention. P362 Take off contaminated clothing and wash before reuse.

Storage
Not applicable
Disposal
Not applicable

C. Other hazards which do not result in classification : (NFPA Classification)

○ NFPA : Health: 0, Flammability: 0, Reactivity: 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Trade names and Synonyms	CAS No	Contents(%)
2-Methyl-2-propenoic acid butyl ester polymer with methyl 2-methyl-2-propenoate	–	25608-33-7	100

4. FIRST AID MEASURES

A. Eye contact :

- Do not rub your eyes.
- Immediately flush eyes with plenty of water for at least 20 minutes and call a doctor/physician.

B. Skin contact :

- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Laundering enough contaminated clothing before reuse.
- Go to the hospital immediately if symptoms(flare, irritate) occur.
- Wash thoroughly after handling.

C. Inhalation contact :

- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.

D. Ingestion contact :

- About whether I should induce vomiting Take the advice of a doctor.
- Rinse your mouth with water immediately.

E. Delayed and immediate effects and also chronic effects from short and long term exposure :

- Not available

F. Notes to physician :

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.

5. FIREFIGHTING MEASURES

A. Suitable(Unsuitable) extinguishing media :

- Dry chemical, carbon dioxide, regular foam extinguishing agent, spray
- Avoid use of water jet for extinguishing

B. Specific hazards arising from the chemical

- Not available

C. Special protective actions for firefighters :

- Cool containers with water until well after fire is out.
- Keep unauthorized personnel out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank
- Keep containers cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

A. Personal precautions, protective equipment and emergency procedures :

- Do not touch spilled material. Stop leak if you can do it without risk.
- Move container to safe area from the leak area.
- Remove all sources of ignition.

B. Environmental precautions :

- Prevent runoff and contact with waterways, drains or sewers.
- If large amounts have been spilled, inform the relevant authorities.

C. Methods and materials for containment and cleaning up :

- Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
- Notification to central government, local government. When emissions at least of the standard amount.
- Dispose of waste in accordance with local regulation.
- Appropriate container for disposal of spilled material collected.
- Small liquid state spills: Appropriate container for disposal of spilled material collected.
- For disposal of spilled material in appropriate containers collected and clear surface.

7. HANDLING AND STORAGE

A. Precautions for safe handling :

- Get the manual before use.
- Refer to Engineering controls and personal protective equipment.
- Dealing only with a well-ventilated place.
- Operators should wear antistatic footwear and clothing.

B. Conditions for safe storage, including any incompatibilities :

- Check regularly for leaks.
- Do not apply any physical shock to container.
- Avoid direct sunlight.
- Keep sealed when not in use.
- Prevent static electricity and away from combustible materials or heat sources.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

A. Exposure limits

- ACGIH TLV : Not available

B. Engineering controls

– A system of local and/or general exhaust is recommended to keep employee exposures above the Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. The use of local exhaust ventilation is recommended to control emissions near the source.

C. Personal protective equipment

☐ Respiratory protection

- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
- Respiratory protection is ranked in order from minimum to maximum.
- Consider warning properties before use.
- Dust, mist, fume–purifying respiratory protection.
- Any respiratory protection with a electromotion fan(for dust, mist, fume–purifying)
- Self–contained breathing apparatus with a corpuscle filter of high efficiency.
- For Unknown Concentration or Immediately Dangerous to Life or Health: Any escape supply. supplied–air respirator with full facepiece and opeated in a pressure–demand or other positive–pressure mode in combination with a separate Any self–contained breathing apparatus with a full facepiece.

☐ Eye protection

- Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
- Provide an emergency eye wash station and quick drench shower in the immediate work area.

☐ Hand protection

- Wear appropriate glove.

☐ Skin protection

- Wear appropriate clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

A. Appearance : Soild

B. Odor : Not available

C. Odor threshold : Not available

D. pH : Not applicable

E. Melting point/Freezing point : N/D

F. Initial Boiling Point/Boiling Ranges : Not available

G. Flash point : Not available

H. Evaporation rate : Not available

I. Flammability(solid, gas) : Not available

J. Upper/Lower Flammability or explosive limits : Not available

K. Vapour pressure : Not available

L. Solubility : N/D

M. Vapour density : N/D

N. Specific gravity : 1.113g/cm³

O. Partition coefficient of n–octanol/water : Not available

P. Autoignition temperature : Not available

Q. Decomposition temperature : Not available

R. Viscosity : Not available

10. STABILITY AND REACTIVITY

A. Chemical stability

- This material is stable under recommended storage and handling conditions.

B. Possibility of hazardous reactions

- Hazardous Polymerization will not occur.

C. Conditions to avoid

- Avoid contact with incompatible materials and condition.
- Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surfaces

D. Incompatible materials

- Not available

E. Hazardous decomposition products

- May emit irritating and very toxic gas if involved in fire.

11. TOXICOLOGICAL INFORMATION

A. Information on the likely routes of exposure :

- ☐ (Respiratory tracts) : Not available
- ☐ (Oral) : Not available
- ☐ (Skin) : May cause skin irritation
- ☐ (Eye) : May cause eye irritation.

B. Delayed and immediate effects and also chronic effects from short and long term exposure :

- ☐ Acute toxicity :
 - Oral – Not available
 - Dermal – Not available
 - Inhalation – Not available
- ☐ Skin corrosion/irritation : May cause skin irritation
- ☐ Serious eye damage/irritation : May cause eye irritation.
- ☐ Respiratory sensitization : Not available
- ☐ Skin sensitization : Not available
- ☐ Carcinogenicity : Not available
- ☐ Germ cell mutagenicity : Not available
- ☐ Reproductive toxicity : Not available
- ☐ STOT–repeated exposure : Not available
- ☐ STOT–repeated exposure : Not available
- ☐ Aspiration hazard : Not available

12. ECOLOGICAL INFORMATION

A. Ecotoxicity :

- Not available

B. Persistence and degradability : Not available

- Not available

C. Bioaccumulative potential :

- Bioaccumulative potential : Not available
- Biodegradation : Not available

D. Mobility in soil : Not available

E. Other adverse effects : Not available

13. DISPOSAL CONSIDERATIONS

A. Disposal methods :

- Since more than two kinds of designaed waste is mixed, it is difficult to treat seperatly, then can be reduction or stabilization by incineration or similar process.
- If water separation is possible, pre-process with Water separation process.
- Dispose by incineration.

B. Special precautions for disposal :

- The user of this product must disposal by oneself or entrust to waste disposer or person who other's waste recycle and dispose, person who establish and operate waste disposal facilities.
- Dispose of waste in accordance with all applicable laws and regulations.

14. TRANSPORT INFORMATION

A. UN No. (IMDG) : Not available

B. Proper shipping name : Not available

C. Hazard Class : Not available

D. IMDG Packing group : Not available

E. Marine pollutant ☐ applicable ☒ Not applicable

F. Special precautions for user related to transport or transportation measures

- Local transport follows in accordance with Dangerous goods Safety Management Law.
- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.
- EmS FIRE SCHEDULE : Not available
- EmS SPILLAGE SCHEDULE : Not available

15. REGULATORY INFORMATION

A. National and/or international regulatory information :

☐ POPs Management Law : Not applicable

☐ Information of EU Classification :

- * Classification : Not applicable
- * Risk Phrases : Not applicable
- * Safety Phrase : Not applicable

☐ U.S. Federal regulations :

- * OSHA PROCESS SAFETY (29CFR1910.119) : Not applicable
- * CERCLA Section 103 (40CFR302.4) : Not applicable
- * EPCRA Section 302 (40CFR355.30) : Not applicable
- * EPCRA Section 304 (40CFR355.40) : Not applicable
- * EPCRA Section 313 (40CFR372.65) : Not applicable

☐ Rotterdam Convention listed ingredients : Not applicable

☐ Stockholm Convention listed ingredients : Not applicable

○ Montreal Protocol listed ingredients : Not applicable

16. OTHER INFORMATION

A. Reference :

– The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein.

– This Safety Data Sheet was compiled with data and information from the following sources: KOSHA, NITE, ESIS, NLM, SIDS, IPCS

B. Issue date

– 2015. 04. 17.

C. Revision number and Last date revised

– Not applicable

D. Other

– This MSDS is prepared according to the Globally Harmonized System (GHS).

<Other Data>

Preparing person	Deliberator	Approver
PMMA 1 team HAE JONG HWAN	Safety&Environment KIM JIN HO	PMMA1 team KIM JONG HEE

LG MMA Corporation

A4(210mm X 297mm)