

SAFETY DATA SHEET

Issuing Date 24-May-2015

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Revision Number 3

This document complies with the US OSHA Hazard Communication Standard (29 CFR 1910.1200), Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR), and Mexico's NMX-R-019-SC-2011.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

GHS product identifier

Product Name CA-40 MP, CA-40 MP DI, PIHP-200 Part B

Other means of identification

Product Code(s) 400430, 800142

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Solder mask part B

Uses advised against No information available

Supplier's details

Supplier Address

Taiyo America, Inc.
2675 Antler Drive
Carson City, NV 89701
TEL: 775-885-9959

Emergency telephone number

Emergency Telephone Number 775-885-9959

2. HAZARDS IDENTIFICATION

Classification

This product is considered hazardous according to the criteria set within the US OSHA Hazard Communication Standard (29 CFR 1910.1200), Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR), and Mexico's NMX-R-019-SC-2011.

Acute Oral Toxicity	Category 4
Serious Eye Damage/Eye Irritation	Category 1
Skin Sensitization	Category 1
Germ Cell Mutagenicity	Category 1B
Specific Target Organ Toxicity (Repeated Exposure)	Category 2
Flammable liquids	Category 4

Label Elements

Signal Word

Danger

**Hazard Statements**

Harmful if swallowed

Causes serious eye damage

May cause an allergic skin reaction

May cause genetic defects

May cause damage to organs through prolonged or repeated exposure

Combustible liquid.

Physical and Health Hazards Not Otherwise Classified

Not applicable.

Precautionary Statements**Prevention**

- Wash face, hands and any exposed skin thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Use personal protective equipment as required.
- Contaminated work clothing should not be allowed out of the workplace.
- Do not breathe dust/fume/gas/mist/vapors/spray.
- Keep away from heat/sparks/open flames/hot surfaces - No smoking.
- Wear protective gloves/protective clothing/eye protection/face protection.

General Advice

- If exposed or concerned: Get medical attention/advice
- Specific treatment (see supplemental first aid instructions on this label)

Eyes

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Immediately call a POISON CENTER or doctor/physician.

Skin

- IF ON SKIN: Wash with plenty of soap and water.
- If skin irritation or rash occurs: Get medical advice/attention.
- Wash contaminated clothing before reuse.

Ingestion

- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- Rinse mouth.

Fire

- In case of fire: Use CO₂, dry chemical, or foam for extinction.

Storage

- Store locked up.
- Store in a well-ventilated place. Keep cool.

Disposal

- Dispose of contents/container to an approved waste disposal plant.

Other information**Unknown acute toxicity**

24.268% of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Barium sulfate	7727-43-7	10-30	-	-
1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(oxiranylmethyl)-	2451-62-9	10-30	-	-
Dipropylene glycol monomethyl ether	34590-94-8	5-25	-	-
Naphtha (petroleum), heavy aromatic	64742-94-5	0-5	-	-

4. FIRST AID MEASURES

Description of necessary first-aid measures

General Advice	Immediate medical attention is required.
Eye Contact	Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if applicable, and continue flushing. Keep eye wide open while rinsing. Do not rub affected area.
Skin Contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. In the case of skin irritation or allergic reactions see a physician.
Inhalation	Move to fresh air.
Ingestion	Clean mouth with water and afterwards drink plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Protection of First-aiders	Use personal protective equipment. Avoid contact with skin, eyes and clothing.

Most important symptoms/effects, acute and delayed

Most Important Symptoms/Effects Serious eye irritation or damage. Itching. Rashes. Hives. May cause allergic skin reaction.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to Physician Treat symptomatically. May cause sensitization of susceptible persons.

5. FIRE-FIGHTING MEASURES

<u>Suitable Extinguishing Media</u>	Dry powder. Dry chemical, CO ₂ , water spray or regular foam.
<u>Unsuitable Extinguishing Media</u>	No information available
<u>Specific Hazards Arising from the Chemical</u>	Combustible material. Vapors may travel to source of ignition and flash back. Product is or contains a sensitizer. May cause sensitization by skin contact. Burning produces obnoxious and toxic fumes.
Hazardous Combustion Products	Carbon oxides. Sulfur oxides. Nitrogen oxides (NOx). Barium oxides.
Explosion Data	
Sensitivity to Mechanical Impact	Yes.
Sensitivity to Static Discharge	None.
<u>Protective Equipment and</u>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH

Precautions for Firefighters (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Evacuate personnel to safe areas. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Remove all sources of ignition. Keep people away from and upwind of spill/leak. Take precautionary measures against static discharges. Pay attention to flashback. In case of insufficient ventilation wear suitable respiratory equipment.

Environmental Precautions

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. See Section 12 for additional Ecological Information. Avoid release to the environment. Dispose of contents/container to an approved waste disposal plant.

Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Dam up. Take up with sand, earth or other noncombustible absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). In case of insufficient ventilation, wear suitable respiratory equipment. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Use only in area provided with appropriate exhaust ventilation. Keep away from heat, sparks and open flame. No smoking. Do not take internally.

Conditions for safe storage, including any incompatibilities

Storage Keep in properly labeled containers. Keep away from heat and sources of ignition. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Products Strong oxidizing agents. Strong acids. Strong bases.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(oxiranylmethyl)- 2451-62-9	TWA: 0.05 mg/m ³	-	-
Barium sulfate 7727-43-7	TWA: 5 mg/m ³ inhalable particulate matter, particulate matter containing no asbestos and <1% crystalline silica	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 10 mg/m ³ total dust (vacated) TWA: 5 mg/m ³	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust

		respirable fraction	
Dipropylene glycol monomethyl ether 34590-94-8	STEL: 150 ppm TWA: 100 ppm S*	TWA: 100 ppm TWA: 600 mg/m ³ (vacated) TWA: 100 ppm (vacated) TWA: 600 mg/m ³ (vacated) STEL: 150 ppm (vacated) STEL: 900 mg/m ³ (vacated) S* S*	IDLH: 600 ppm TWA: 100 ppm TWA: 600 mg/m ³ STEL: 150 ppm STEL: 900 mg/m ³
Naphthalene 91-20-3	TWA: 10 ppm S*	TWA: 10 ppm TWA: 50 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 50 mg/m ³ (vacated) STEL: 15 ppm (vacated) STEL: 75 mg/m ³	IDLH: 250 ppm TWA: 10 ppm TWA: 50 mg/m ³ STEL: 15 ppm STEL: 75 mg/m ³

Appropriate engineering controls**Engineering Measures**

Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment**Eye/Face Protection**

Tightly fitting safety goggles.

Skin and Body Protection

Lightweight protective clothing. Impervious gloves.

Respiratory Protection

No special protective equipment required. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

Hygiene Measures

When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. Keep away from food, drink and animal feeding stuffs. Wash hands before breaks and immediately after handling the product. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical State
Odor

Viscous liquid.
Mild Solvent.

Appearance
Odor Threshold

Off-white.
No information available.

<u>Property</u>	<u>Values</u>	<u>Remarks/ - Method</u>
pH	No data available	None known
Melting Point/Range	No data available	None known
Boiling Point/Boiling Range	No data available	None known
Flash Point	78 °C	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
upper flammability limit	No data available	
lower flammability limit	No data available	
Vapor Pressure	No data available	None known
Vapor Density	No data available	None known
Relative Density	No data available	None known
Specific Gravity	No data available	None known
Water Solubility	No data available	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition Temperature	No data available	None known
Decomposition Temperature	No data available	None known
Viscosity	No data available	None known

Flammable Properties

Combustible material: may burn but does not ignite readily

Explosive Properties

No data available

Oxidizing Properties No data available

Other information

VOC Content (%) 23
VOC (g/l) 344

10. STABILITY AND REACTIVITY

Reactivity No data available.

Chemical stability Stable under recommended storage conditions.

Possibility of hazardous reactions None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to avoid Heat, flames and sparks. Incompatible products.

Incompatible materials Strong oxidizing agents. Strong acids. Strong bases.

Hazardous decomposition products Carbon oxides. Nitrogen oxides (NOx). Sulfur oxides. Barium oxides. Burning produces obnoxious and toxic fumes.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation Not an expected route of exposure. Harmful if inhaled.
Eye Contact Causes serious eye damage.
Skin Contact May cause allergic skin reaction.
Ingestion Harmful if swallowed.

Numerical measures of toxicity - Product

The following values are calculated based on chapter 3.1 of the GHS document:

LD50 Oral 347 mg/kg; Acute toxicity estimate
LD50 Dermal 16768 mg/kg; Acute toxicity estimate
Unknown acute toxicity 24.268% of the mixture consists of ingredient(s) of unknown toxicity.
Acute Oral Toxicity 24.268% of the mixture consists of ingredient(s) of unknown acute oral toxicity

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
1,3,5-Triazine-2,4,6-(1H,3H,5H)-trione, 1,3,5-tris(oxiranylmethyl)-	= 188 mg/kg (Rat) = 302 mg/kg (Rat)	-	> 0.65 mg/L (Rat) 4 h = 0.65 mg/L (Rat) 4 h
Barium sulfate	= 307000 mg/kg (Rat)	-	-
Dipropylene glycol monomethyl ether	= 5400 µL/kg (Rat)	= 9500 mg/kg (Rabbit)	-
Naphtha (petroleum), heavy aromatic	> 5000 mg/kg (Rat)	> 2 mL/kg (Rabbit)	> 590 mg/m ³ (Rat) 4 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Itching. Rash Hives. Causes serious eye damage.

Delayed and immediate effects and also chronic effects from short and long term exposure

Eye damage/irritation Risk of serious damage to eyes.
Respiratory or Skin Sensitization May cause sensitization of susceptible persons. May cause sensitization by skin contact.

Germ Cell Mutagenicity Contains a known or suspected mutagen. May cause genetic defects.
Carcinogenicity Contains no ingredients above reportable quantities listed as a carcinogen.

Reproductive Toxicity Based on available data, the classification criteria are not met.
STOT - single exposure Based on available data, the classification criteria are not met
STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure.
Target Organ Effects Respiratory system. Eyes. Central nervous system (CNS).
Aspiration Hazard Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Not classified

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Dipropylene glycol monomethyl ether 34590-94-8		LC50 96 h: > 10000 mg/L static (Pimephales promelas)		LC50 48 h: = 1919 mg/L (Daphnia magna)
Naphtha (petroleum), heavy aromatic 64742-94-5	EC50 72 h: = 2.5 mg/L (Skeletonema costatum)	LC50 96 h: = 19 mg/L static (Pimephales promelas) LC50 96 h: = 2.34 mg/L (Oncorhynchus mykiss) LC50 96 h: = 1740 mg/L static (Lepomis macrochirus) LC50 96 h: = 45 mg/L flow-through (Pimephales promelas) LC50 96 h: = 41 mg/L (Pimephales promelas)		EC50 48 h: = 0.95 mg/L (Daphnia magna)

Persistence and Degradability No information available

Bioaccumulation

Chemical Name	Log Pow
Dipropylene glycol monomethyl ether	-0.064
Naphtha (petroleum), heavy aromatic	2.9 - 6.1

Mobility No information available

Other Adverse Effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Dispose of in accordance with local regulations.

Contaminated Packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

Note: According to 49 CFR §173.150(f)(1), this material should be reclassified as NA1993, Combustible Liquid, NOS if it is shipped in bulk.

DOT Not regulated

TDG Not regulated

<u>MEX</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG/IMO</u>	Not regulated

15. REGULATORY INFORMATION

International Regulations

Ozone depleting substances	Not applicable
Persistent Organic Pollutants	Not applicable
Hazardous Waste	Not applicable
The Rotterdam Convention (Prior Informed Consent)	Not applicable
International Convention for the Prevention of Pollution from Ships (MARPOL)	Not applicable

International Inventories

TSCA	Complies
DSL	Complies
European Union	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Diethylene glycol monoethyl ether acetate	112-15-2	1-5	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

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.

U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical Name	CAS-No	California Prop. 65
Naphthalene	91-20-3	Carcinogen

U.S. State Right-to-Know Regulations

"X" designates that the ingredients are listed on the state right to know list.

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Illinois	Rhode Island
1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(oxiranylmethyl)-	X				
Barium sulfate	X	X	X		
Dipropylene glycol monomethyl ether	X	X	X	X	X
Diethylene glycol monoethyl ether acetate	X		X	X	
Naphthalene	X	X	X	X	

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

NFPA Health Hazard 3 Flammability 2 Instability 0 Physical and Chemical Hazards -

HMIS Health Hazard 3* Flammability 2 Physical Hazard 0 Personal Protection X

*Indicates a chronic health hazard.

Prepared By Product Stewardship
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General Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of Safety Data Sheet