

# SAFETY DATA SHEET

Issuing Date 24-May-2015

Revision Date 10-Jan-2023

Revision Number 2

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

### GHS product identifier

Product Name CA-40 HF, CA-40 HF DI

### Other means of identification

Product Code(s) 400446, 800117

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 (M-F 8-4 PDT)

Email SDSinfo@taiyo-america.com

### Emergency telephone number

Emergency Telephone Number 1-800-255-3924 (USA) 1-813-248-0585 (International)

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200)

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

### GHS Label elements, including precautionary statements

#### Emergency Overview

Signal Word Danger

**Hazard Statements**

- Causes serious eye damage
- May cause an allergic skin reaction
- May cause genetic defects
- Suspected of causing cancer
- May cause damage to organs through prolonged or repeated exposure
- 
- Combustible liquid.

**Appearance** Off-white**Physical State** Viscous liquid.**Odor** Mild Solvent**Precautionary Statements****Prevention**

- 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.

**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.

**Hazard Not Otherwise Classified (HNOC)**

Not applicable

**Other information**

20.49% of the mixture consists of ingredient(s) of unknown toxicity.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade secret
Barium sulfate	7727-43-7	15-40	*
Dipropylene glycol monomethyl ether	34590-94-8	5-10	*
4,4'-Bis(2,3-epoxypropoxy)-3,3',5,5'-tetramethyl (1,1'-biphenyl)	85954-11-6	5-10	*
1,3,5-tris-[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione	59653-74-6	5-10	*
Trimethylolpropane triacrylate	15625-89-5	1-5	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

### 4. FIRST AID MEASURES

#### Description of necessary first-aid measures

<b>Eye Contact</b>	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.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
<b>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist, call a physician.
<b>Ingestion</b>	Rinse mouth. Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician.

#### Most important symptoms/effects, acute and delayed

**Most Important Symptoms/Effects** No information available.

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

**Notes to Physician** Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

#### Suitable Extinguishing Media

Carbon dioxide (CO<sub>2</sub>). Foam. Dry chemical.

**Unsuitable Extinguishing Media** No information available.

#### Specific Hazards Arising from the Chemical

Combustible liquid. Vapors may travel to source of ignition and flash back. Risk of ignition In the event of fire and/or explosion do not breathe fumes. Keep product and empty container away from heat and sources of ignition. Thermal decomposition can lead to release of irritating and toxic gases and vapors. Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact.

#### Explosion Data

<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	Yes.

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

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

### Environmental Precautions

**Environmental Precautions** Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Avoid release to the environment. See Section 12 for additional Ecological Information. 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** Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Use only in area provided with appropriate exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Do not take internally. Wash thoroughly after handling. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from heat, sparks and open flame. No smoking.

### Conditions for safe storage, including any incompatibilities

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

**Incompatible Products** Strong oxidizing agents.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

#### Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Barium sulfate 7727-43-7	TWA: 5 mg/m <sup>3</sup> inhalable fraction, particulate matter containing no asbestos and <1% crystalline silica	TWA: 15 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 10 mg/m <sup>3</sup> total dust (vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction	TWA: 10 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable dust

Dipropylene glycol monomethyl ether 34590-94-8	STEL: 150 ppm TWA: 100 ppm S*	TWA: 100 ppm TWA: 600 mg/m <sup>3</sup> (vacated) TWA: 100 ppm (vacated) TWA: 600 mg/m <sup>3</sup> (vacated) STEL: 150 ppm (vacated) STEL: 900 mg/m <sup>3</sup> (vacated) S*	IDLH: 600 ppm TWA: 100 ppm TWA: 600 mg/m <sup>3</sup> STEL: 150 ppm STEL: 900 mg/m <sup>3</sup>
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**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**                    In case of inadequate ventilation wear respiratory protection. If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.

**Hygiene Measures**                            Handle in accordance with good industrial hygiene and safety practice.

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

<b>Physical State</b>	Viscous liquid.	<b>Appearance</b>	Off-white.
<b>Odor</b>	Mild Solvent.	<b>Odor Threshold</b>	No information available.

<u>Property</u>	<u>Values</u>	<u>Remarks/ - Method</u>
<b>pH</b>	No data available	None known
<b>Melting Point/Range</b>	No data available	None known
<b>Boiling Point/Boiling Range</b>	No data available	None known
<b>Flash Point</b>	78 °C	None known
<b>Evaporation rate</b>	No data available	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limits in Air</b>		
upper flammability limit	No data available	
lower flammability limit	No data available	
<b>Vapor Pressure</b>	No data available	None known
<b>Vapor Density</b>	No data available	None known
<b>Specific Gravity</b>	1.50	None known
<b>Water Solubility</b>	No data available	None known
<b>Solubility in other solvents</b>	No data available	None known
<b>Partition coefficient: n-octanol/water</b>	No data available	None known
<b>Autoignition Temperature</b>	No data available	None known
<b>Decomposition Temperature</b>	No data available	None known
<b>Viscosity</b>	No data available	None known
<b>Flammable Properties</b>	Combustible material: may burn but does not ignite readily.	
<b>Explosive Properties</b>	No data available	
<b>Oxidizing Properties</b>	No data available	

**Other information**

<b>VOC Content (%)</b>	13
<b>VOC (g/l)</b>	190

**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**

Incompatible products. Heat, flames and sparks.

**Incompatible materials**

Strong oxidizing agents.

**Hazardous decomposition products**

Thermal decomposition can lead to release of irritating and toxic gases and vapors: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO). Sulfur oxides.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	There is no data available for this product.
<b>Eye Contact</b>	Causes serious eye damage.
<b>Skin Contact</b>	Causes mild skin irritation Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
<b>Ingestion</b>	There is no data available for this product.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Dipropylene glycol monomethyl ether	= 5230 mg/kg ( Rat )	= 9500 mg/kg ( Rabbit )	-
Trimethylolpropane triacrylate	> 5000 mg/kg ( Rat )	= 5000 mg/kg ( Rabbit )	-
Naphtha (petroleum), heavy aromatic	> 5000 mg/kg ( Rat )	> 2 mL/kg ( Rabbit )	> 590 mg/m <sup>3</sup> ( Rat ) 4 h

**Symptoms related to the physical, chemical and toxicological characteristics**

**Symptoms** No information available.

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

<b>Sensitization</b>	May cause sensitization of susceptible persons. May cause sensitization by skin contact.
<b>Mutagenic Effects</b>	Suspected of causing genetic defects.
<b>Carcinogenicity</b>	Contains a known or suspected carcinogen.
<b>Reproductive Toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	May cause damage to organs through prolonged or repeated exposure.
<b>Aspiration Hazard</b>	No information available.

**Numerical measures of toxicity - Product**

**Acute Toxicity** 20.49% of the mixture consists of ingredient(s) of unknown toxicity.

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

**LD50 Oral** 5002 mg/kg; Acute toxicity estimate  
**LD50 Dermal** 53055 mg/kg; Acute toxicity estimate

<b>Inhalation</b>	
<b>gas</b>	9276
<b>dust/mist</b>	6.6 mg/L; Acute toxicity estimate
<b>Vapor</b>	39.8 mg/L; Acute toxicity estimate

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

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

### Other Adverse Effects

No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** Dispose of in accordance with federal, state, and local regulations

**Contaminated Packaging** Do not re-use empty containers.

## 14. TRANSPORT INFORMATION

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

**DOT** Not regulated

**IATA** Not regulated

**IMDG/IMO** Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

TSCA	Complies
EINECS	Complies
ELINCS	Complies

### Legend

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

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	5-10	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 does not contain any Proposition 65 chemicals.

### 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
Barium sulfate	X	X	X		
Dipropylene glycol monomethyl ether	X	X	X	X	X

### U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

## 16. OTHER INFORMATION

<u>NFPA</u>	Health Hazard	3	Flammability	2	Instability	0	Physical and Chemical Hazards	-
<u>HMIS</u>	Health Hazard	3*	Flammability	2	Physical Hazard	0	Personal Protection	X

\*Indicates a chronic health hazard.

Prepared By	Product Stewardship 23 British American Blvd. Latham, NY 12110 1-800-572-6501
Issuing Date	24-May-2015
Revision Date	10-Jan-2023
Revision Note	Updated Contact Information



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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**