SAFETY DATA SHEET

Issuing Date 24-May-2015 **Revision Date** 15-Jun-2015 **Revision Number** 1

Section 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code(s) 400446

Product Name **CA-40 HF**

Contains Biphenyl, 4,4`-bis-3,3,5,5-tetramethyl-, 1,3,5-tris-[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione, Trimethylolpropane triacrylate

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Solder mask part B

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

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

For further information, please contact

E-mail Address No information available.

1.4. Emergency telephone number

Emergency Telephone Number 775-885-9959

Europe	112

Section 2. Hazards identification

2.1. - Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Serious Eye Damage/Eye Irritation	Category 1
Skin Sensitization	Category 1
Germ Cell Mutagenicity	Category 1B
Carcinogenicity	Category 2
Chronic Aquatic Toxicity	Category 3

Physical Hazards

None

2.2. Label Elements

Signal Word **Danger**

Hazard Statements
H303 - May be harmful if swallowed
H316 - Causes mild skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H340 - May cause genetic defects
H351 - Suspected of causing cancer
H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/ physician
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P201 - Obtain special instructions before use
P308 + P313 - IF exposed or concerned: Get medical advice/ attention
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection

2.3. Other information

Section 3. Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

Chemical Name	EC-No	CAS-No	Weight %	EU - GHS Substance Classification	REACH No.
Dipropylene glycol monomethyl ether	252-104-2	34590-94-8	5-10		No data available
Biphenyl, 4,4`-bis-3,3,5,5-tetramethyl-	413-900-7	85954-11-6	5-10	Carc. 2 (H351) Skin Sens. 1 (H317)	No data available
1,3,5-tris-[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione	Present	59653-74-6	5-10	Acute Tox. 4 (H302) STOT RE 2 (H373) Muta. 1B (H340) Acute Tox. 3 (H331) Eye Dam. 1 (H318) Skin Sens. 1 (H317)	No data available
Trimethylolpropane triacrylate	Present	15625-89-5	1-5	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1 (H317)	No data available
Naphtha (petroleum), heavy aromatic	Present	64742-94-5	0.1-1	Asp. Tox. 1 (H304) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	No data available

For the full text of the H-Statements mentioned in this Section, see Section 16

Section 4. First aid measures

4.1. Description of first-aid measures

General Advice If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.

Eye Contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.
Skin Contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
Ingestion	Rinse mouth. Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist, call a physician.
Protection of First-aiders	Use personal protective equipment.

4.2. Most important symptoms and effects, both acute and delayed

Most Important Symptoms/Effects No information available.

4.3. Indication of immediate medical attention and special treatment needed

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

Section 5. Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media
Carbon dioxide (CO_2). Foam. Dry chemical.

Extinguishing media which must not be used for safety reasons
No information available.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases
Combustible material. Vapors may travel to source of ignition and flash back. Thermal decomposition can lead to release of irritating gases and vapors.

5.3. Advice for firefighters

Special protective equipment for fire-fighters
As in any fire, wear self-contained breathing apparatus and full protective gear.

Section 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Avoid contact with skin, eyes and clothing. 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. Pay attention to flashback. Take precautionary measures against static discharges.

6.2. Environmental precautions
Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Avoid release to the environment.

6.3. Methods and materials for containment and cleaning up
Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

6.4. Reference to other sections
See Section 12 for additional information.

Section 7. Handling and storage

7.1. 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. Keep away from heat, sparks and open flame. No smoking. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).

Hygiene Measures

When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end use(s)

Exposure Scenario

No information available.

Other Guidelines

No information available.

Section 8. Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical Name	EU	The United Kingdom	France	Spain	Germany
Dipropylene glycol monomethyl ether 34590-94-8	S* TWA 50 ppm TWA 308 mg/m³	STEL: 150 ppm STEL: 924 mg/m³ TWA: 50 ppm TWA: 308 mg/m³ Skin	VME: 50 ppm VME: 308 mg/m³	S* VLA-ED: 50 ppm VLA-ED: 308 mg/m³	MAK: 50 ppm MAK: 310 mg/m³ Ceiling / Peak: 50 ppm Ceiling / Peak: 310 mg/m³ TWA: 50 ppm TWA: 310 mg/m³
Component	**Italy**	**Portugal**	**The Netherlands**	**Finland**	**Denmark**
Dipropylene glycol monomethyl ether 34590-94-8 (5-10)	TWA: 50 ppm TWA: 308 mg/m³ Skin	STEL: 150 ppm TWA: 100 ppm	TWA: 300 mg/m³	TWA: 50 ppm TWA: 310 mg/m³ Skin	TWA: 50 ppm TWA: 300 mg/m³ Skin
Chemical Name	**Austria**	**Switzerland**	**Poland**	**Norway**	**Ireland**
Dipropylene glycol monomethyl ether 34590-94-8	Skin STEL 100 ppm STEL 614 mg/m³ MAK: 50 ppm MAK: 307 mg/m³	STEL: 50 ppm STEL: 300 mg/m³ MAK: 50 ppm MAK: 300 mg/m³	NDSCh: 480 mg/m³ NDS: 240 mg/m³	TWA: 50 ppm TWA: 300 mg/m³ Skin STEL: 75 ppm STEL: 375 mg/m³	TWA: 50 ppm TWA: 308 mg/m³ Skin

Derived No Effect Level No information available

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye Protection Tightly fitting safety goggles.

Skin and Body Protection Lightweight protective clothing. Impervious gloves.

Hand Protection Protective 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.

Environmental Exposure Controls Do not allow material to contaminate ground water system.

Section 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State	Viscous liquid	**Appearance**	Off-white
Odor	Mild Solvent		

Property	Values	Remarks/ - Method
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
Vapor Pressure	No data available	None known
Vapor Density	No data available	None known
Relative Density	1.50	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	

9.2. Other information

VOC Content (%)	13
VOC (g/l)	190
Flammability Limits in Air	No data available

Section 10. Stability and reactivity

10.1. Reactivity
No data available.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
None under normal processing.

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

10.5. Incompatible materials
Oxidizing agents.

10.6. Hazardous decomposition products
Carbon dioxide (CO_2). Carbon monoxide (CO). Sulfur oxides.

Section 11. Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Product Information

Inhalation There is no data available for this product.
Eye Contact Causes serious eye damage.
Skin Contact Causes mild skin irritation May cause allergic skin reaction
Ingestion May be harmful if swallowed.

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^3 (Rat) 4 h

Sensitization May cause sensitization of susceptible persons. May cause sensitization by skin contact. May cause an allergic skin reaction.
Mutagenic Effects Contains a known or suspected mutagen. May cause genetic defects.
Carcinogenic Effects Contains a known or suspected carcinogen. May cause cancer.

Reproductive Toxicity No information available.
Developmental Toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Target Organ Effects Central nervous system (CNS). Eyes. Respiratory system.
Aspiration Hazard No information available.

Section 12. Ecological information

12.1. Toxicity

Ecotoxicity Effects
Harmful to aquatic life with long lasting effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Dipropylene glycol monomethyl ether		LC50 96 h: > 10000 mg/L static (Pimephales promelas)		LC50 48 h: = 1919 mg/L (Daphnia magna)
Naphtha (petroleum), heavy aromatic	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)

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential.

No information available.

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

12.4. Mobility in soil

Adsorbs on soil.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects

Chemical Name	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
1,3,5-tris-[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione	Group III Chemical		

Section 13. Disposal considerations

13.1. Waste treatment methods

Waste from Residues / Unused Products Dispose of in accordance with local regulations.

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

Other Information According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

Section 14. Transport information

IMDG/IMO

14.1. UN-Number Not regulated.
14.2. Proper Shipping Name Not regulated.
14.3. Hazard Class Not regulated.
14.4. Packing Group Not regulated.
Description Not applicable.
14.5. Marine Pollutant None.
14.6. Special Provisions None.
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available.

RID

14.1. UN-Number Not regulated.
14.2. Proper Shipping Name Not regulated.
14.3. Hazard Class Not regulated.
14.4. Packing Group Not regulated.
Description Not applicable.
14.5. Environmental hazard None.
14.6. Special Provisions None.

ADR

14.1. UN-Number Not regulated.
14.2. Proper Shipping Name Not regulated.
14.3. Hazard Class Not regulated.
14.4. Packing Group Not regulated.
Description Not applicable.

14.5. Environmental hazard	None.
14.6. Special Provisions	None.

ICAO

14.1. UN-Number	Not regulated.
14.2. Proper shipping name	Not regulated.
14.3. Hazard Class	Not regulated.
14.4. Packing Group	Not regulated.
Description	Not applicable.
14.5. Environmental hazard	None.
14.6. Special Provisions	None.

IATA

14.1. UN-Number	Not regulated.
14.2. Proper Shipping Name	Not regulated.
14.3. Hazard Class	Not regulated.
14.4. Packing Group	Not regulated.
Description	Not applicable.
14.5. Environmental hazard	None.
14.6. Special Provisions	None.

Section 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

TSCA	Complies
EINECS/ELINCS	Complies
DSL/NDSL	-
PICCS	-
ENCS	-
IECSC	-
AICS	-
KECL	-

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
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

15.2. Chemical Safety Assessment
No information available

Section 16. Other information

Full text of H-Statements referred to under sections 2 and 3
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H317 - May cause an allergic skin reaction
H302 - Harmful if swallowed
H340 - May cause genetic defects if inhaled
H331 - Toxic if inhaled
H318 - Causes serious eye damage
H303 - May be harmful if swallowed
H316 - Causes mild skin irritation
H373 - May cause damage to organs through prolonged or repeated exposure
H351 - Suspected of causing cancer
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H304 - May be fatal if swallowed and enters airways
H412 - Harmful to aquatic life with long lasting effects

Key literature references and sources for data
www.ChemADVISOR.com/

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Revision Note (M)SDS sections updated: 3.

This safety data sheet complies with the requirements of Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No. 1907/2006

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End of Safety Data Sheet