

# SAFETY DATA SHEET

Issuing Date 04-Oct-2017

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Revision Number 1

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 BW01DI

### Other means of identification

**Product Code(s)** 800127

**Synonyms** None

### Recommended use of the chemical and restrictions on use

**Recommended Use** Solder Mask Component

**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.

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Skin Sensitization	Category 1
Reproductive Toxicity	Category 2
Flammable liquids	Category 4

### Label Elements

#### **Signal Word**

Warning

**Hazard Statements**

Causes skin irritation  
Causes serious eye irritation  
May cause an allergic skin reaction  
Suspected of damaging fertility or the unborn child  
Combustible liquid.

**Physical and Health Hazards Not Otherwise Classified**

Not applicable.

**Precautionary Statements****Prevention**

- Wash face, hands and any exposed skin thoroughly after handling.
- Avoid breathing dust/fume/gas/mist/vapors/spray.
- Contaminated work clothing should not be allowed out of the workplace.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Use personal protective equipment as required.
- 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.
- If eye irritation persists: Get medical advice/attention.

**Skin**

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

**Fire**

- In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish.

**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**

Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

**Unknown acute toxicity**

49.516% 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)
Bisphenol A - Epichlorohydrin polymer	25068-38-6	5-10	-	-
Naphtha (petroleum), heavy aromatic	64742-94-5	1-5	-	-
Titanium, bis(.eta.5-2,4-cyclopentadien-1-yl)bis[2,6-difluoro-3-(1H-pyrrol-1-yl)phenyl]-	125051-32-3	< 1	-	-

#### 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** Eye irritation/reactions. Skin irritation. May cause allergic skin reaction.

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

**Notes to Physician** Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

<b><u>Suitable Extinguishing Media</u></b>	Carbon dioxide (CO <sub>2</sub> ). Foam. Dry chemical.
<b><u>Unsuitable Extinguishing Media</u></b>	No information available.
<b><u>Specific Hazards Arising from the Chemical</u></b>	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 skin contact.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	Yes.
<b><u>Protective Equipment and Precautions for Firefighters</u></b>	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.

### **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**

<b>Chemical Name</b>	<b>ACGIH TLV</b>	<b>OSHA PEL</b>	<b>NIOSH IDLH</b>
Barium sulfate 7727-43-7	TWA: 5 mg/m <sup>3</sup> inhalable particulate matter, 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* S*	IDLH: 600 ppm TWA: 100 ppm TWA: 600 mg/m <sup>3</sup> STEL: 150 ppm STEL: 900 mg/m <sup>3</sup>

### **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>	Cream.
<b>Odor</b>	Mild Solvent.	<b>Odor Threshold</b>	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	80 °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

<b>Flammable Properties</b>	Not flammable
<b>Explosive Properties</b>	No data available
<b>Oxidizing Properties</b>	No data available

**Other information**

VOC Content (%)	10.73%
VOC (g/l)	156.2 g/l

## 10. STABILITY AND REACTIVITY

<b><u>Reactivity</u></b>	No data available.
<b><u>Chemical stability</u></b>	Stable under recommended storage conditions.
<b><u>Possibility of hazardous reactions</u></b>	None under normal processing.
<b><u>Hazardous Polymerization</u></b>	Hazardous polymerization does not occur.
<b><u>Conditions to avoid</u></b>	Incompatible products. Heat, flames and sparks.
<b><u>Incompatible materials</u></b>	Strong oxidizing agents.
<b><u>Hazardous decomposition products</u></b>	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>	Avoid breathing vapors or mists.
<b>Eye Contact</b>	Causes serious eye irritation.
<b>Skin Contact</b>	Causes skin irritation. May cause allergic skin reaction.
<b>Ingestion</b>	No known hazard by swallowing.

**Numerical measures of toxicity - Product**

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

<b>LD50 Oral</b>	21351 mg/kg; Acute toxicity estimate
<b>LD50 Dermal</b>	16743 mg/kg; Acute toxicity estimate
<b>Unknown acute toxicity</b>	49.516% of the mixture consists of ingredient(s) of unknown toxicity.
Acute Oral Toxicity	49.204% of the mixture consists of ingredient(s) of unknown acute oral toxicity
Acute Dermal Toxicity	49.516% of the mixture consists of ingredient(s) of unknown acute dermal toxicity

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Diethylene glycol monoethyl ether acetate	= 11 g/kg ( Rat )	= 15100 µL/kg ( Rabbit )	-
Bisphenol A - Epichlorohydrin polymer	11400 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 <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**

**Skin corrosion/irritation** Irritating to skin.  
**Eye damage/irritation** Irritating to eyes.  
**Respiratory or Skin Sensitization** May cause sensitization of susceptible persons. May cause sensitization by skin contact.  
**Germ Cell Mutagenicity** No information available.  
**Carcinogenicity** Contains no ingredients above reportable quantities listed as a carcinogen.

**Reproductive Toxicity** Contains a known or suspected reproductive toxin. Suspected of damaging fertility or the unborn child.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration Hazard** No information available.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

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 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)		EC50 48 h: = 0.95 mg/L (Daphnia magna)

		promelas) LC50 96 h: = 41 mg/L (Pimephales promelas)		
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**Persistence and Degradability** No information available.

**Bioaccumulation**

Chemical Name	Log Pow
Naphtha (petroleum), heavy aromatic	2.9 - 6.1

**Mobility** No information available.

**Other Adverse Effects** No information available.

### 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** Should not be released into the environment. Dispose of in accordance with federal, state, and local regulations.

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

### 14. TRANSPORT INFORMATION

**DOT** Not regulated

**TDG** Not regulated

**MEX** 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** Not determined

**Legend**

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

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**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	No
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
Barium sulfate	X	X	X		
Diethylene glycol monoethyl ether acetate	X		X	X	
Melamine	X	X	X		
Dipropylene glycol monomethyl ether	X	X	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 2 Flammability 2 Instability 0 Physical and Chemical Hazards -

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

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**