



# MATERIAL SAFETY DATA SHEET

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DATE PREPARED: 03/07/2007

MSDS No: ca40bn07

CA-40 BN

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: CA-40 BN  
Product Description: Solder Mask Hardener  
Product Name: CA-40BN  
Chemical Family: Epoxy Hardener

### MANUFACTURER:

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

### 24 HR. EMERGENCY TELEPHONE NUMBERS:

Emergency Contact: Phillip Harrison  
Emergency Phone: 775-885-9959

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

	wt. %	CAS Registry #
Dipropylene Glycol Methyl Ether	13 - 14	34590-94-8
Diethylene Glycol Mono Ethyl Ether Acetate	2 - 3	112-15-2
Epoxy Resin (Trade Secret)	19 - 22	

### OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

	EXPOSURE LIMITS		Supplier
	OSHA PEL	ACGIH TLV	
Dipropylene Glycol Methyl Ether	100 ppm	100 ppm Skin	

### COMMENTS:

Dipropylene Glycol Methyl Ether STEL: 150 ppm

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

#### PHYSICAL APPEARANCE:

White, viscous liquid (paste) with very mild odor.

### POTENTIAL HEALTH EFFECTS

#### EYES:

May cause irritation of the eyes.



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**SKIN:**

May cause skin irritation.

May cause skin sensitization, an allergic reaction, which becomes evident on re-exposure to this material.

**INGESTION:**

Harmful if swallowed.

**INHALATION:**

May cause respiratory tract irritation.

High vapor concentrations may cause headaches, dizziness and nausea.

**ACUTE EFFECTS:**

Symptoms of overexposure (ingestion, inhalation, skin contact) include: stomach or intestinal upset (vomiting, nausea, diarrhea), irritation (nose, throat, airways)

**SUBCHRONIC/CHRONIC TOXICITY**

**CHRONIC:**

Prolonged or repeated contact can result in drying of the skin which may result in skin irritation and dermatitis (rash).

**CARCINOGENICITY:**

NTP, IARC, and OSHA sources checked: Not Listed.

**MUTAGENICITY:**

Animal studies of one component in the soldermask have shown mixed results, indicating over-exposure may cause toxic effects to the testes, possible liver and lung effects and possible male reproductive effects. The impact on humans has not been established.

**ROUTES OF ENTRY:**

Inhalation, dermal, ingestion.

**TARGET ORGANS:**

Skin, eyes at high concentrations.

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**4. FIRST AID MEASURES**

**EYES:**

Immediately flush eyes with plenty of water for 15 minutes. Get medical attention, if irritation persists.

**SKIN:**

Wash skin with soap and plenty of water.

**INGESTION:**

Do not induce vomiting. Give milk or water.

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**INHALATION:**

If breathing becomes difficult, remove to fresh air.

If symptoms persist give oxygen and seek medical attention.

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**5. FIRE FIGHTING MEASURES**

Flashpoint and Method: ~165°F 74°C Penskey-Marten CC

Autoignition Temperature: Not Established

**FLAMMABLE CLASS:**

OSHA: Combustible

DOT: Combustible

**GENERAL HAZARD:**

The Uniform Fire Code flammability rating for this product is: Class III-A Combustible Liquid.  
If burning, this material may produce hazardous fumes or hazardous decomposition products.

**EXTINGUISHING MEDIA:**

Use carbon dioxide, foam, dry chemical or water spray when fighting fires involving this material.

**HAZARDOUS COMBUSTION PRODUCTS:**

Combustion products may be toxic. May produce various carbon oxides and hydrocarbons.

**EXPLOSION HAZARDS:**

Sealed containers may build up pressure and rupture when exposed to high heat (fire).

**FIRE FIGHTING PROCEDURES:**

Remove sealed containers from the vicinity of the fire.

Use normal fire fighting procedures for burning liquids.

**FIRE FIGHTING EQUIPMENT:**

Use self-contained breathing apparatus with full facepiece operated in the positive pressure demand mode with appropriate turn-out gear.

**COMMENTS:**

Flash Point listed based upon component data

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**6. ACCIDENTAL RELEASE MEASURES**

**SMALL SPILL:**

Absorb the spilled material with inert material. Scrub the area with detergent and water.

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**ENVIRONMENTAL PRECAUTIONS:**

**WATER SPILL:**

Contain, minimize dispersion and collect as soon as possible.

**LAND SPILL:**

Prevent from entering drain, sewer, stream or other bodies of water. Transfer absorbent, soil and other materials to containers for disposal.

**SPECIAL PROTECTIVE EQUIPMENT:**

Protective eyewear, impervious gloves, air purifying respirator recommended.

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**7. HANDLING AND STORAGE**

**HANDLING:**

Avoid contact with skin, eyes and clothing. Use only with adequate ventilation.

**STORAGE:**

Store in a cool place in original sealed container away from sunlight and heat.  
Recommended storage below 68 F (20 C) to maintain shelf life.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**ENGINEERING CONTROLS:**

Good general mechanical ventilation recommended.

**PERSONAL PROTECTION**

**EYES AND FACE:**

Wear safety glasses with side shields, goggles or face shield to prevent splashes into the eyes.

**SKIN:**

In general avoid skin contact, wear impervious gloves.

**RESPIRATORY:**

Not necessary for adequately ventilated work area.

**PROTECTIVE CLOTHING:**

As necessary to avoid contact with skin.

**WORK HYGIENIC PRACTICES:**

Wash hands with soap and water after using material. Do not use solvent to remove product from skin.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid  
Odor: Slight mild organic solvent odor.  
Appearance: White viscous liquid.  
Percent Volatile: 15 - 17  
Vapor Pressure: <0.2 mmHg at 20°C  
Vapor Density: <4.7-6.1 (Air = 1)  
Boiling Point: Not Established  
Freezing Point: Not Established  
Melting Point: None  
Solubility in Water: <15 at 20°C  
Evaporation Rate: <0.1 (n-Butyl Acetate=1)  
Specific Gravity: ~1.7 (water=1) at 20°C  
(VOC): 268 to 278

### COMMENTS:

Percent Volatile: Listed as percent weight.

### COMMENTS:

VOC g/l is a calculated value based on component data.

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## 10. STABILITY AND REACTIVITY

STABLE: Yes

HAZARDOUS POLYMERIZATION: No

### CONDITIONS TO AVOID:

Avoid high temperatures, sunlight.

### HAZARDOUS DECOMPOSITION:

Normal combustion products.

### INCOMPATIBLE MATERIALS:

Oxidizers, peroxides, strong acids and bases, amines and active epoxy curing agents.

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## 11. TOXICOLOGICAL INFORMATION

### GENERAL COMMENTS:

No specific toxicological data is available for this product.

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## 12. ECOLOGICAL INFORMATION

### GENERAL COMMENTS:

No specific environmental data is available.

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## 13. DISPOSAL CONSIDERATIONS

### PRODUCT DISPOSAL:

Dispose of in accordance with all Federal, State and Local regulations. Keep out of sewers and waterways.

### RCRA/USPA WASTE INFORMATION:

Not a RCRA waste material.

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## 14. TRANSPORT INFORMATION

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## 15. REGULATORY INFORMATION

### UNITED STATES

#### TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA Regulatory: This product complies with all applicable rules or orders under TSCA.

### RCRA STATUS:

Not a RCRA hazardous waste.

### CANADA

#### CANADIAN ENVIRONMENTAL PROTECTION ACT:

All intentional components of this product are listed on the DSL or NDSL.

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## 16. OTHER INFORMATION

Approved by: Phillip Harrison Title: Plant Manager

Approval date: 03/07/2007

Information Contact: Phillip Harrison

### REVISION SUMMARY

New MSDS

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DATE PREPARED: 03/07/2007

MSDS No: ca40bn07

**CA-40 BN**

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**HMIS CODES**

Fire: 1    Health: 2    Reactivity: 2

**MANUFACTURER SUPPLEMENTAL NOTES:**

This product contains no environmentally restricted substances as listed in Sony Technical Standard SS-00259 fifth edition.

**MANUFACTURER DISCLAIMER:**

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of the data or the results to be obtained from the use thereof.

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