1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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

MANUFACTURER:
Taiyo America, Inc.
2575 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

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>wt.%</th>
<th>CAS Registry #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dipropylene Glycol Methyl Ether</td>
<td>&lt;14</td>
<td>34590-94-8</td>
</tr>
<tr>
<td>Diethylene Glycol Ethyl Ether Acetate</td>
<td>&lt;8</td>
<td>112-15-2</td>
</tr>
<tr>
<td>Epoxy Resin</td>
<td>&lt;25</td>
<td></td>
</tr>
</tbody>
</table>

(Trade Secret)

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

EXPOSURE LIMITS

<table>
<thead>
<tr>
<th>Component</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>Supplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dipropylene Glycol Methyl Ether</td>
<td>100 ppm</td>
<td>100 ppm Skin</td>
<td>Supplier</td>
</tr>
</tbody>
</table>

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

INGESTION:
This product may be slightly toxic. Swallowing may cause nervous system damage, based on animal studies of one ingredient.

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 overexposure may cause toxic effects to the testes, possible liver and lung effects and possible male reproductive effects. The impact on humans has not been fully established.

ROUTES OF ENTRY:
Inhalation, dermal, ingestion.

TARGET ORGANS:
Skin, eyes at high concentrations.

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.

INHALATION:
If breathing becomes difficult, remove to fresh air.
If symptoms persist give oxygen and seek medical attention.

5. FIRE FIGHTING MEASURES

Flashpoint and Method: ~165°F 74°C SETA Flash 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.

6. ACCIDENTAL RELEASE MEASURES

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

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 to maintain shelf life.

8. EXPOSURE CONTROLS/PERSOANL 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.
9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Odor: Slight mild organic solvent odor.
Appearance: White viscous liquid.
Percent Volatile: 17-20
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

COMMENTS:
Percent Volatile: Listed as percent weight.

10. STABILITY AND REACTIVITY

STABLE: Yes

HAZARDOUS POLYMERIZATION: No

CONDITIONS TO AVOID:
Avoid high temperatures, sunlight.

HAZARDOUS DECOMPOSITION:
Normal combustion products.

INCOMPATIBLE MATERIALS:
Strong oxidizers. Amines and active epoxy curing agents.

11. TOXICOLOGICAL INFORMATION

GENERAL COMMENTS:
No specific toxicological data is available for this product.

12. ECOLOGICAL INFORMATION

GENERAL COMMENTS:
No specific environmental data is available.
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.

14. TRANSPORT INFORMATION

SPECIAL SHIPPING NOTES:
Not DOT regulated.

15. REGULATORY INFORMATION

UNITED STATES
SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)
313 Reportable Ingredients: Diethylene Glycol Monoethyl Ether Acetate (2-(2-ethoxyethoxy) ethyl acetate)

TSCA (TOXIC SUBSTANCE CONTROL ACT)
TSCA Regulatory: Components TSCA listed.

RCRA STATUS:
Not a RCRA hazardous waste.

16. OTHER INFORMATION

Approved by: Phillip Harrison   Title: Plant Manager
Approval date: 09/15/2000
Information Contact: Phillip Harrison

REVISION SUMMARY
New MSDS

HMIS CODES
Fire: 1   Health: 2   Reactivity: 2

GENERAL STATEMENTS:
This MSDS is a new format for Taiyo America, Inc. The content has also been reviewed and revised for increased accuracy. This copy supplants the last update of 8/24/99.