1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: PSR-4000BN CLEAR
Product Description: Epoxy Soldermask
Product Name: PSR-4000BN CLEAR

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

Diethylene Glycol Ethyl Ether Acetate
Dipropylene Glycol Methyl Ether

<table>
<thead>
<tr>
<th>wt.%</th>
<th>CAS Registry #</th>
</tr>
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<tbody>
<tr>
<td>&lt;26</td>
<td>112-15-2</td>
</tr>
<tr>
<td>&lt;5</td>
<td>34590-94-8</td>
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OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

EXPOSURE LIMITS
OSHA PEL ACGIH TLV Supplier

Dipropylene Glycol Methyl Ether
100 ppm 100 ppm
Skin

COMMENTS:
Dipropylene Glycol Methyl Ether
STEL: 150 ppm

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
PHYSICAL APPEARANCE:
  Viscous clear ink. Slight 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.

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.

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. Get medical attention.

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

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 / 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.

OTHER USE PRECAUTIONS:
This product contains inorganic fillers. In normal use as a liquid soldermask the inorganic fillers are not hazardous. Dust from sanding, drilling or routing of the cured soldermask may pose an inhalation hazard.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Odor: Slight mild organic solvent odor.
Appearance: Clear viscous liquid.
Percent Volatile: 25-30
Vapor Pressure: <0.2 mmHg
Vapor Density: ~4.7-6.1 (Air = 1)
Solubility in Water: <20
Evaporation Rate: <0.1 (n-Butyl Acetate=1)
Specific Gravity: ~1.3 to 1.5 (water=1)

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: 2 Health: 1 Reactivity: 0

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 9/29/99.