



MATERIAL SAFETY DATA SHEET

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DATE PREPARED: 03/15/2004

MSDS No: 400220

S-222NA (402 LV)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: S-222NA (402 LV)

Product Description: Soldermask Ink

Product Name: S-222NA (402 LV)

Chemical Family: Epoxy Based Ink

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 # |
|--|---------|----------------|
| Diethylene Glycol Mono Ethyl Ether Acetate | 5 - 6 | 112-15-2 |
| Heavy Aromatic Naphtha (petroleum) | <3 | 64742-94-5 |
| Epoxy Acrylate Resin (Trade Secret) | 55 - 58 | |

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE:

Viscous green 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.

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: 149°F 65°C Penskey-Marten 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Odor: Slight mild organic solvent odor.

Appearance: Green viscous liquid.

Percent Volatile: 7-9

Vapor Pressure: <2 mmHg at 20°C

Boiling Point: Not Established

Freezing Point: Not Established

Melting Point: None

Solubility in Water: <10

Evaporation Rate: <0.1 (n-Butyl Acetate=1)

Specific Gravity: 1.4 to 1.5 (water=1)

(VOC): 120 to 125 g/L

COMMENTS:

Percent Volatile: Listed as percent weight.

COMMENTS:

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

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.

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)

Fire: Yes

313 Reportable Ingredients: Diethylene Glycol Monoethyl Ether Acetate (2-(2-ethoxyethoxy) ethyl acetate)



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.

16. OTHER INFORMATION

Approved by: Phillip Harrison Title: Plant Manager

Approval date: 07/09/2004

Information Contact: Phillip Harrison

REVISION SUMMARY

Revision #: 1

This MSDS replaces the September 15, 2000 MSDS. Any changes in information are as follows:

In Section 1

Date Prepared

In Section 9

Specific Gravity (from) Specific Gravity (to) VOC (unit) Percent Volatile VOC (from) VOC (to)
Section 9 Footnotes

In Section 15

CEPA

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Manufacturer Disclaimer

HMIS CODES

Fire: 2 Health: 2 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 8/24/99.

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.
