



MATERIAL SAFETY DATA SHEET

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DATE PREPARED: 07/15/2004

MSDS No: 400260

UVR-182E

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: UVR-182E
Product Description: UVR Legend Ink
Product Name: UVR-182E
Chemical Family: UV Curable Legend 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 #
Trimethylolpropane Triacrylate	15 - 17	15625-89-5
2-Hydroxyethyl Methacrylate	6 - 8	868-77-9
Epoxy Acrylate Resin (Trade Secret)	10 - 14	

COMMENTS:

Trimethylolpropane Triacrylate
Primary Irritation Index (PII): 4.8 - 2.2

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE:

Viscous black 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:

Swallowing large amounts of this material may be harmful.



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: Not Classified

GENERAL HAZARD:

The Uniform Fire Code flammability rating for this product is: Class III-B 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: Black viscous liquid.

Percent Volatile: 0

Vapor Pressure: <0.1 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: <20

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

Specific Gravity: 1.5 (water=1)

(VOC): 0 g/L

(VOC) Notes: VOC g/l content is a calculated value based on component data.

10. STABILITY AND REACTIVITY

STABLE: Yes

HAZARDOUS POLYMERIZATION: No

STABILITY:

This product is stable under normal operating conditions. High temperatures may cause curing or partial curing of the material.



POLYMERIZATION:

Polymerization may occur at elevated temperatures and from UV exposure. Polymerization is not considered hazardous.

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

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:

This product contains substances not included in the DSL or the NDSL, in the following concentrations in % by weight:

Polymer: 4

16. OTHER INFORMATION

Approved by: Phillip Harrison Title: Plant Manager

Approval date: 10/25/2004

Information Contact: Phillip Harrison

REVISION SUMMARY

Revision #: 4

This MSDS replaces the July 15, 2004 MSDS. Any changes in information are as follows:

In Section 1

Date Prepared

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 second 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.
