

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Epo-Tek H31
INGREDIENT CODE NUMBER: Not applicable

***HMIS: HEALTH- 3 FIRE-1 REACTIVITY- 1**
***ANSI CODE:** 5,6

EPOXY TECHNOLOGY
14 FORTUNE DRIVE
BILLERICA, MA 01821

EMERGENCY PHONE:
(978) 667 - 3805
DATE ISSUED: 11/3/99

* HMIS and ANSI CODE ratings are estimated by Epoxy Technology.

I. IDENTIFICATION & PHYSICAL DATA

PERCENT VOLATILE: <0.5
BOILING POINT: NA
VAPOR DENSITY: >Air
APPEARANCE: Silver Paste
ODOR: Mild

VAPOR PRESSURE: NA
SOLUBILITY IN WATER: Low
EVAPORATION RATE: <BUAC
SPECIFIC GRAVITY: NA

II. HAZARDOUS INGREDIENTS**CAS#****WT%****TOXICITY DATA**

Resorcinol Diglycidyl Ether (RDGE)
Silver Flake

101-90-6
7440-22-4

<20
65

See Ingredient 110309 MSDS
See Ingredient 310200 MSDS

The supplier of Resorcinol Diglycidyl Ether classifies it as a suspected carcinogen in animals.
Resorcinol Diglycidyl Ether and silver are the only Epo Tek H31 ingredients that require MSDS reporting per Mass. RTK.

III. FIRE & EXPLOSION DATA

FLASH POINT: >200F

EXTINGUISHING MEDIA: Dry chemical, foam, carbon dioxide.

UNUSUAL FIRE & EXPLOSION HAZARDS: Avoid fumes liberated by heat.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self contained breathing apparatus and complete personal protective equipment. Remove all ignition sources. Use a water spray to cool fire exposed containers.

IV. REACTIVITY DATA

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Excessive heat.

MATERIALS TO AVOID: Strong oxidizing and reducing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Fumes produced when heated to decomposition may include carbon monoxide, carbon dioxide and oxides of nitrogen.

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V. HEALTH HAZARD DATA

Epo Tek H31

EFFECTS OF OVER EXPOSURE

INGESTION: Slightly toxic. Ingestion may cause severe gastric disturbances.

INHALATION: Can be severely irritating to the respiratory tract. This type of exposure is avoidable with local exhaust ventilation.

SKIN CONTACT: Contains Resorcinol diglycidyl ether. Skin contact can result in severe irritation.

EYE CONTACT: Contains Resorcinol diglycidyl ether. Eye contact can result in severe irritation. Swelling and corneal clouding may result.

CHRONIC EFFECTS OF OVER EXPOSURE: Specific information not available. Resorcinol diglycidyl ether gave positive Ames Test (Mutagenic). No clear evidence of carcinogenicity in painting studies. Listed by IARC, NTP and OSHA as a potential animal carcinogen. See MSDS for ingredients 110309 and 310200.

EMERGENCY & FIRST AID PROCEDURES

EYE CONTACT: In case of eye contact, flush with water for at least 15 minutes. Get medical attention immediately.

SKIN CONTACT: In case of skin contact, clean with soap and water. Do not use solvents. Remove contaminated clothing.

INGESTION: Get medical attention immediately.

INHALATION: Remove employee to fresh air. If discomfort persists, get medical attention.

VI. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS SPILLED: Eliminate ignition sources. Use eye and skin protection. Place leaking containers in a well ventilated area. Absorb spillage with inert material and dispose.

WASTE DISPOSAL METHOD: Incinerate or use hazardous waste treatment procedures that are in accordance with federal, state and local regulations.

VII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Wear an NIOSH approved respirator whenever high level exposure to vapors or mist is anticipated.

VENTILATION: Local exhaust recommended for exposure control.

PROTECTIVE GLOVES: Impervious gloves - neoprene or equivalent. A combination of barrier cream and gloves is recommended.

EYE PROTECTION: Chemical splash goggles recommended.

OTHER PROTECTIVE EQUIPMENT: For operations where contact can occur, use a face shield and impervious apron. A safety shower and eye wash facility should be available.

VIII. SPECIAL PRECAUTIONS: Avoid contact with skin and eyes. Avoid breathing vapors. Keep containers closed when not in use. Remove all contaminated clothing immediately and wash. Wash skin thoroughly with soap and water after handling. Solvents should not be used to clean skin because of increased penetration potential - protective skin oils can be dissolved by solvents.

REGULATORY INFORMATION

**EPOXY TECHNOLOGY
14 FORTUNE DRIVE
BILLERICA, MA 01821
TEL: (978) 667 - 3805**

**PRODUCT NAME: H31
DATE ISSUED: 11/3/99**

1. SARA TITLE III SECTION 313 SUPPLIER NOTIFICATION

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right To Know Act of 1986 (40 CFR 372): None

2. TSCA Inventory Status

All the components of this product are listed on the TSCA Inventory.

3. RCRA Status

This product contains the following chemicals listed on the 40 CFR Part 261.33: None

4. CERCLA Status

This product contains the following chemicals listed on the 40 CFR Part 302.4: None

5. Transportation

Not Restricted

The information contained herein is given in good faith. However, no guarantee or warranty of any kind expressed or implied is made with respect to this information.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Not applicable
INGREDIENT CODE NUMBER: 110309

*HMIS: HEALTH-3 FIRE-1 REACTIVITY-1
*ANSI CODE: 5,6
Carcinogen: NTP (Yes) IARC (Yes) OSHA (Yes)

EPOXY TECHNOLOGY
14 FORTUNE DRIVE
BILLERICA, MA 01821

EMERGENCY PHONE:
(978) 667 3805

DATE ISSUED: 12/29/99

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I. IDENTIFICATION & PHYSICAL DATA

PERCENT VOLATILE: NA
BOILING POINT: NA
VAPOR DENSITY: >Air
APPEARANCE: Amber liquid
ODOR: Mild

VAPOR PRESSURE: NA
SOLUBILITY IN WATER: Low
EVAPORATION RATE: <BUAC
SPECIFIC GRAVITY: 1.17

II. HAZARDOUS INGREDIENTS**CAS#****WT %****TOXICITY DATA**

Resorcinol Diglycidyl Ether

101-90-6

100

ACGIH TLV - Not established
OSHA PEL - Not established
Oral LD50 = 2570, 980, &
1240 (mg/kg) for Rats, Mice,
& Rabbits.

Resorcinol Diglycidyl Ether appears in the Mass. RTK substance list.

III. FIRE & EXPLOSION DATA

FLASH POINT: >200F

EXTINGUISHING MEDIA: Dry chemical, foam, carbon dioxide.

UNUSUAL FIRE & EXPLOSION HAZARDS: Avoid fumes liberated by heat.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self contained breathing apparatus and complete personal protective equipment. Remove all ignition sources. Use a water spray to cool fire exposed containers.

IV. REACTIVITY DATA

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Excessive heat.

MATERIALS TO AVOID: Strong oxidizing and reducing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Fumes produced when heated to decomposition may include carbon monoxide, and carbon dioxide.

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V. HEALTH HAZARD DATA

Ingredient 110309

EFFECTS OF OVER EXPOSURE

INGESTION: Ingestion can cause severe irritation and gastric system disturbances. If conscious, have employee drink water. Do not induce vomiting. Considered to be moderately toxic.

INHALATION: Inhalation of vapors can cause severe respiratory irritation. This type of exposure can be avoided with effective, local exhaust ventilation.

SKIN CONTACT: Can cause severe irritation and sensitivity. This type of exposure can be minimized by complying with the recommended controls outlined in Section VII.

EYE CONTACT: Severe Irritant to the eyes. Can cause injury. This type of contact can be eliminated through the use of chemical splash goggles.

CHRONIC EFFECTS OF OVER EXPOSURE: Can cause dermatitis and sensitization. Resorcinol Diglycidyl Ether is a suspected carcinogen.

EMERGENCY & FIRST AID PROCEDURES

EYE CONTACT: In case of eye contact, flush well with water. Get medical attention immediately.

SKIN CONTACT: In case of skin contact, clean with soap and water. Do not use solvents.

INGESTION: If swallowed, get medical attention immediately.

INHALATION: Can be severely irritating to respiratory tract. Get medical attention if discomfort persists.

VI. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS SPILLED: Eliminate ignition sources. Employ adequate eye, skin, and respiratory protection. Place leaking containers in a well ventilated area. Absorb spillage with inert material and dispose.

WASTE DISPOSAL METHOD: Incinerate or use hazardous waste treatment procedures that are in accordance with federal, state and local regulations.

VII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Wear a NIOSH approved respirator whenever excessively high level of exposure to vapors is anticipated.

VENTILATION: Effective local exhaust ventilation is essential for exposure control.

PROTECTIVE GLOVES: Impervious gloves - neoprene or equivalent. A combination of barrier cream and gloves is strongly recommended.

EYE PROTECTION: Chemical splash goggles are strongly recommended.

OTHER PROTECTIVE EQUIPMENT: For operations where contact is likely, use a face shield, protective gloves, and impervious apron. A safety shower and eye wash facility must be in close proximity to work areas.

VIII. SPECIAL PRECAUTIONS: Avoid contact with skin and eyes. Avoid breathing vapors. Keep containers closed when not in use. Remove all contaminated clothing immediately and wash. Wash skin thoroughly with soap and water after handling. Solvents should not be used to clean skin because of increased penetration potential - protective skin oils can be dissolved by solvents.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Not applicable
INGREDIENT CODE NUMBER: 310200

EPOXY TECHNOLOGY
14 FORTUNE DRIVE
BILLERICA, MA 01821

EMERGENCY PHONE:
(978) 667 3805

*HMIS: HEALTH- 1 FIRE- 0 REACTIVITY- 0

Carcinogen: NTP (No) IARC (No) OSHA (No)

DATE ISSUED: 12/29/99

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I. IDENTIFICATION & PHYSICAL DATA

PERCENT VOLATILE: NA
BOILING POINT: NA
VAPOR DENSITY: >Air
APPEARANCE: Fine powder - Silver color
ODOR: Mild

VAPOR PRESSURE: NA
SOLUBILITY IN WATER: Nil
EVAPORATION RATE: NA
SPECIFIC GRAVITY: 10.5

II. HAZARDOUS INGREDIENTS

Silver flake

CAS#

7440-22-4

WT %

100

TOXICITY DATA

ACGIH TLV (TWA) = 0.10 mg/M3
OSHA PEL (TWA) = 0.01 mg/M3

Silver appears in the Mass. RTK Hazardous substance list.

III. FIRE & EXPLOSION DATA

FLASH POINT: >200F
EXTINGUISHING MEDIA: Non Flammable
UNUSUAL FIRE & EXPLOSION HAZARDS: None
SPECIAL FIRE FIGHTING PROCEDURES: None

IV. REACTIVITY DATA

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: NA

MATERIALS TO AVOID: NA

HAZARDOUS DECOMPOSITION PRODUCTS: NA

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V. HEALTH HAZARD DATA

Ingredient 310200 *

EFFECTS OF OVER EXPOSURE

INGESTION: No specific information available.

INHALATION: Prolonged or severe exposure to dust may produce respiratory irritation. The use of NIOSH approved respirators and effective, local exhaust ventilation can minimize this type of exposure.

SKIN CONTACT: Prolonged or repeated contact may result in irritation.

EYE CONTACT: Irritating to the eyes. The use of chemical splash goggles will prevent this form of contact.

CHRONIC EFFECTS OF OVER EXPOSURE: Prolonged or repeated exposure to silver dust can result in Pneumoconiosis and/or permanent skin pigmentation (Argyria).

EMERGENCY & FIRST AID PROCEDURES

EYE CONTACT: In case of eye contact, flush well with water. Get medical attention immediately.

SKIN CONTACT: In case of skin contact, clean with soap and water. Do not use solvents. Remove contaminated clothing.

INGESTION: Get medical attention immediately.

INHALATION: Remove employee to fresh air. If discomfort persists, get medical attention.

VI. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS SPILLED: Vacuum or sweep up dust. Follow good housekeeping procedures.

WASTE DISPOSAL METHOD: Use hazardous waste treatment procedures that are in accordance with federal, state and local regulations.

VII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Wear a NIOSH approved respirator whenever high level exposure to air born particles is anticipated.

VENTILATION: Local exhaust recommended for exposure control.

PROTECTIVE GLOVES: Impervious gloves - neoprene or equivalent. A combination of barrier cream and gloves is recommended.

EYE PROTECTION: Chemical splash goggles recommended.

OTHER PROTECTIVE EQUIPMENT: For operations where contact can occur, use a face shield and impervious apron. A safety shower and eye wash facility should be available.

VIII. SPECIAL PRECAUTIONS: Avoid contact with skin and eyes. Avoid breathing air born particles. Keep containers closed when not in use. Remove all contaminated clothing and wash.