

MATERIAL SAFETY DATA SHEET**PRODUCT NAME:** EPO-TEK H24, Part A**EPOXY TECHNOLOGY
14 FORTUNE DRIVE
BILLERICA, MA 01821*****HMIS: HEALTH- 2 FIRE-1 REACTIVITY- 0****EMERGENCY PHONE:
(978) 667 3805****Carcinogen: NTP (No) IARC (No) OSHA (No)****DATE REVISED: 1/28/02
REV: B**

* 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**

Silver flake

7440-22-4

30 – 50%

See Ingredient Sheet 310200.

Bisphenol F

28064-14-4

35 -55%

See Ingredient Sheet 110201.

Silver requires reporting per Mass RTK under Sara Title III under section 313. Bisphenol F requires reporting under OSHA's Hazardous Communication Standards.

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.

The information contained in this Material Safety Data Sheet have been compiled from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the MSDS was prepared. No warranty, guarantee or representation is made as to the correctness or sufficiency of the information. The user of this product must decide what safety measures are necessary to safely use this product, either alone or in the combination with other products, and determine its environmental regulatory compliance obligations under any applicable federal or state laws.

V. HEALTH HAZARD DATA

EPO-TEK H24, Part A

EFFECTS OF OVER EXPOSURE

INGESTION: May be moderately toxic.

INHALATION: Hot vapors can cause headaches, nausea, dizziness, and respiratory irritation.

SKIN CONTACT: Can cause dermatitis.

EYE CONTACT: Irritating to the eyes. Can cause injury.

CHRONIC EFFECTS OF OVER EXPOSURE: Can cause dermatitis and sensitization.

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 for organic vapors 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.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: EPO-TEK H24, Part B

***HMIS: HEALTH- 2 FIRE-1 REACTIVITY- 0**
Carcinogen: NTP (No) IARC (No) OSHA (No)

* HMIS CODE ratings are estimated by Epoxy Technology.

EPOXY TECHNOLOGY
14 FORTUNE DRIVE
BILLERICA, MA 01821

EMERGENCY PHONE:
(978) 667 3805

DATE REVISED: 1/28/02
REV: B

I. IDENTIFICATION & PHYSICAL DATA

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

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

II. HAZARDOUS INGREDIENTS CAS# WT % TOXICITY DATA

There are no hazardous ingredients that require reporting per OSHA's Hazardous Communication Standards or under Sara Title III.

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 oxides of nitrogen, carbon monoxide, and carbon dioxide.

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V. HEALTH HAZARD DATA

EPO-TEK H24, Part B

EFFECTS OF OVEREXPOSURE

INGESTION: Ingestion may result in severe gastric disturbances. Gastrointestinal damage may result.

INHALATION: Hot vapors can cause headaches, nausea, dizziness, and respiratory irritation, if inhaled.

SKIN CONTACT: Mildly irritating in rabbit dermal irritation studies. May cause dermatitis and skin sensitization in some individuals.

EYE CONTACT: Causes eye burns in rabbit irritation studies. Irritating to the eyes. Can cause injury.

CHRONIC EFFECTS OF OVEREXPOSURE: In a single dose this product may be toxic by ingestion. Irritation of the mouth, pharynx, and esophagus can develop following ingestion.

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 for organic vapors 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: EPO-TEK H24
DATE REVISED: 1/28/02
REV: B

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

1. TSCA Inventory Status

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

2. RCRA Status

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

3. CERCLA Status

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

4. Transportation

Part A

Not Restricted

Part B

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.

INGREDIENT SHEET**EPOXY TECHNOLOGY
14 FORTUNE DRIVE
BILLERICA, MA 01821****INGREDIENT CODE NUMBER:** 110201**EMERGENCY PHONE:**
(978) 667 – 3805***HMIS: HEALTH (2) FLAMMIBILITY (1)
REACTIVITY (0)****DATE ISSUED:** 8/18/00**CARCINOGEN: NTP (No) IARC (No) OSHA (No)**

*HMIS CODE rating are estimated by Epoxy Technology

I. IDENTIFICATION & PHYSICAL DATAColor: Clear
Odor: Slight
Physical State: Liquid
Solubility in Water: Insoluble
Vapor Pressure: <0.01 mm Hg@20°C
Specific Gravity: 1.19
Boiling Point: >200°C

II. HAZARDOUS INGREDIENTS	WT%	CAS
Bisphenol F	100%	28064-14-4

TOXICITY DATAAcute Oral Effects (LD50): Rat: > 10,000mg/kg
Acute Dermal Toxicity (LD50): Rabbit: 3,000mg
Inhalation Toxicity (LC50): LCLO=1.7mg

III. FIRE AND EXPLOSION DATA**FLASH POINT:** >200F**EXTINGUISHING MEDIA:** Carbon dioxide, foam, dry chemical, water spray.**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Decomposition and combustion products may be toxic.**FIRE FIGHTING EQUIPMENT:** Use self-contained breathing apparatus.

IV. REACTIVITY DATA**STABILITY:** Stable**CONDITIONS TO AVOID:** Avoid strong acids or bases in bulk and elevated temperatures.**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon monoxide, carbon dioxide, aldehydes.**HAZARDOUS POLYMERIZATION:** Will not occur

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V. HEALTH HAZARD DATA**EFFECTS OF OVER EXPOSURE**

INGESTION: No specific information available.

INHALATION: No specific information available.

SKIN CONTACT: May cause skin irritation, dermatitis.

EYE CONTACT: Irritating to the eyes. May cause injury.

CHRONIC EFFECTS OF OVER EXPOSURE: May cause dermatitis if it gets on your skin.

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: Avoid personal contact. Take up with absorbent material and shovel into a closed container.

WASTE DISPOSAL METHOD: Employ waste disposal procedures that are in accordance with federal, state and local regulations.

VII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Wear an approved respirator whenever exposure to air born vapors are 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 generated by heating. Keep containers closed when not in use. Remove all contaminated clothing and wash.

INGREDIENT SHEET**EPOXY TECHNOLOGY
14 FORTUNE DRIVE
BILLERICA, MA 01821****INGREDIENT CODE NUMBER:** 310200**EMERGENCY PHONE:**
(978) 667 3805***HMIS: HEALTH- 1 FIRE- 0 REACTIVITY- 0****Carcinogen: NTP (No) IARC (No) OSHA (No)****DATE ISSUED:** 12/29/99

* HMIS CODE ratings are estimated by Epoxy Technology.

I. IDENTIFICATION & PHYSICAL DATA**PERCENT VOLATILE:** <0.5 %
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**CAS#****WT %**

Silver flake

7440-22-4

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

To the best of our knowledge, the information contained herein is accurate. Epoxy Technology Inc., however, assumes no liability for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

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.