

EMS CATALOG NO: 13000
EMS PRODUCT: DER 736 Epoxy Resin
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MATERIAL SAFETY DATA SHEET

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof.

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FOR PRODUCT AND SALES INFORMATION

CONTACT ELECTRON MICROSCOPY SCIENCES OFFICE ABOVE.

PRODUCT IDENTIFICATION

PRODUCT NAME: D.E.R. (R) 736 Epoxy Resin
INGREDIENTS: Polymer of epichlorohydrin-polyglycol
CAS NUMBER: 041638-13-5
PERCENT: 100

HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Clear liquid. Ether odor. Causes eye irritation. May cause allergic skin reaction.

POTENTIAL HEALTH EFFECTS (See section labeled TOXICOLOGICAL DATA.)

EYE: May cause moderate irritation with corneal injury.

SKIN:

Short single exposure not likely to cause significant skin irritation. Prolonged exposure may cause skin irritation. Repeated exposure may cause skin burns. May cause more severe response if confined to skin or skin is abraded (scratched or cut). May cause allergic skin reaction in susceptible individuals. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

INGESTION:

Single dose oral toxicity is considered to be low. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury.

INHALATION:

Elevated temperatures may generate vapor levels sufficient to cause respiratory irritation and other effects.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: No relevant information found.

FIRST AID

EYES:

Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel.

SKIN: Wash off in flowing water or shower.

INGESTION:

If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

INHALATION:

Remove to fresh air if effects occur. Consult a physician.

NOTE TO PHYSICIAN:

If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: 320oF
METHOD USED: PMCC, ASTM D-93
AUTOIGNITION TEMPERATURE: Not available.

FLAMMABILITY LIMITS

LFL: Not available
UFL: Not available

HAZARDOUS COMBUSTION PRODUCTS:

Under fire conditions polymers decompose. The smoke may contain polymer fragments of varying compositions in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to: carbon monoxide, carbon dioxide.

OTHER FLAMMABILITY INFORMATION:

Dense smoke is emitted when burned without sufficient oxygen. Violent steam generation or eruption may occur upon application of direct water stream to hot liquid.

EXTINGUISHING MEDIA:

Water fog or fine spray, carbon dioxide, dry chemical, foam. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively. Water fog, applied gently may be used as a blanket for fire extinguishments. Do not use direct water stream. Will spread fire.

MEDIA TO BE AVOIDED: Do not use direct water stream.

FIRE FIGHTING INSTRUCTIONS:

Keep people away. Isolate fire area and deny unnecessary entry. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Water for, applied gently may be used as a blanket for fire extinguishments. Do not use direct water stream. Will spread fire.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS:

Wear positive-pressure, self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

ACCIDENTAL RELEASE MEASURES

PROTECT PEOPLE: Clear non-emergency personnel from area.

PROTECT THE ENVIRONMENT:

Contain material to prevent contamination of soil, surface water or ground water.

CLEANUP:

Absorb with material such as sand. Collect material in suitable containers. Residual can be removed using steam or hot soapy water. Solvents are not recommended for cleanup unless the recommended exposure guidelines and safe handling practices for the specific solvent are followed. Consult appropriate solvent MSDS for handling information and

exposure guidelines.

HANDLING AND STORAGE

STORAGE: Keep containers tightly closed when not in use.

EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: Use chemical goggles.

SKIN PROTECTION:

When prolonged or frequently repeated contact could occur, use protective clothing impervious to the material. Selection of specific items such as face shield, gloves, boots, apron or full-body suit will depend on operation. If hands are cut or scratched, use gloves impervious to this material even for brief exposures.

RESPIRATORY PROTECTION: If respiratory irritation is experienced, use an approved air-purifying respirator.

EXPOSURE GUIDELINE: None established.

PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Near water white liquid.

ODOR: Slight ethereal.

VAP. PRESS: 5-6 mmHg @ 20C

VAP. DENSITY: Not applicable

BOILING POINT: Greater than 225C @ 760 mmHg

SP. GRAVITY: 1.14

VISCOSITY: 30-60 cps @ 25C

STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.

CONDITIONS TO AVOID: None known.

INCOMPATIBILITY WITH OTHER MATERIALS:

Avoid contact with amines, acids, bases. Avoid contact with oxidizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS:

Refer to section labeled FIRE FIGHTING MEASURES for hazardous combustion products.

HAZARDOUS POLYMERIZATION:

Will not occur by itself, but masses of more than 1 pound of product plus and aliphatic amine will cause irreversible polymerization with considerable heat buildup.

TOXICOLOGICAL INFORMATION

SKIN: The LD50 for skin absorption in rabbits is >2000 mg/kg.

INGESTION: The oral LD50 for rats is >2000 mg/kg.

MUTAGENICITY: In vitro mutagenicity tests have been positive.

ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE

DEGREDDATION & PERSISTENCE:

Based on the stringent test guidelines, the material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

Biodegradation reached in CO2 Evolution Test (Modified Sturm Test, OECD Test No. 301B) after 28 day: 8-27%.

Biodegradation reached in Modified Zahn-Wellens/EMPA Test (OECD Test No. 302B) after 28 days: 7%.

ECOTOXICITY:

Material is slightly toxic to fish on an acute basis (LC50 between 10 and 100 mg/L). Material is slightly toxic to aquatic invertebrates on an acute basis (LC50 between 10 and 100 mg/L).

DISPOSAL CONSIDERATIONS

DISPOSAL: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

ELECTRON MICROSCOPY SCIENCES HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION LABELED COMPOSITION/INFORMATION ON INGREDIENTS

FOR UNUSED AND UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator or other thermal destruction device.

TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT):

This product is not regulated when shipped domestically by land.

CANADIAN TDG INFORMATION:

This product is not regulated by TDG when shipped domestically by land.

REGULATORY INFORMATION

U.S. REGULATIONS

SARA 313 INFORMATION:

To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

SARA HAZARD CATEGORY:

This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Not to have met any hazard category

TOXIC SUBSTANCES CONTROL ACT (TSCA):

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

CANADIAN REGULATIONS

WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:

D2B - eye or skin irritant

D2B - skin sensitizer

Refer elsewhere in the MSDS for specific warnings and safe handling information. Refer to the employer's workplace education program.

CPR STATEMENT:

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

HAZARDOUS PRODUCTS ACT INFORMATION:

This product contains the following ingredients which are Controlled Products and/or on the Ingredient Disclosure List (Canadian HPA section 13 and 14):

COMPONENT: POLYMER OF EPICHLOROHYDRIN-POLYGLYCOL

CAS#: 041638-13-5

AMOUNT (%w/w): 100%