

MATERIAL SAFETY DATA SHEET

FORTRESS STABILIZATION SYSTEMS
184 West 64th Street, Holland MI 49423
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PRODUCT NAME: FORTRESS 526 LOW MODULUS EPOXY RESIN PART A **DATE:** 08/03/05
REVIEWED: 02/02/09

I. HAZARDOUS INGREDIENTS

OSHA – ACGIH

	C.A.S NO.	TLV - TWA		STEL	
		ppm	mg/m3	ppm	mg/m3
Modified Epoxy Resin	TRADE SECRET	N/E	N/E	N/E	N/E

* N/E = Not Established

II. EMERGENCY OVERVIEW

HMIS HEALTH 2 FLAMMABILITY 1 REACTIVITY 0

PHYSICAL FORM: Mobile liquid
COLOR: Light yellow liquid
HUMAN HAZARDS: May be irritating to the eyes and skin. Contact with hot material can cause thermal burns. May cause skin sensitization.
SAFETY HAZARDS: Material will not burn unless preheated.
EXTINGUISHING MEDIA: Water spray, carbon dioxide, dry chemical, foam.

III. PHYSICAL DATA

Form:.....Liquid
Color:.....Colorless to a pale yellow.
Boiling Point:.....> 200°C
Solubility in Water..... Negligible
Vapour Pressure..... < 1 MMGH
Relative Density.....> 1.13-1.15

IV. FIRE & EXPLOSION DATA

Flash Point:.....> 93°C (>200°F)
Flammable Limits - LEL:.....N/D
Flammable Limits - UEL:.....N/D
Autoignition Temperature:.....N/D
Fire Hazard Classification: N/D

(OSHA/NFPA)

Extinguishing Media

Water fog or fine spray, carbon dioxide, dry chemical, foam. Do not use direct water stream. May spread fire. 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 blanket for fire extinguishment. Material will not burn unless preheated. Personnel in vicinity and downwind should be evacuated.

Special Equipment for Fire-Fighters

Do not enter confined space without bunker gear (helmet with face shield, bunker coats, gloves and rubber boots), including a positive pressure NIOSH approved self-contained breathing apparatus.

V. STABILITY/REACTIVITY/TOXICOLOGICAL PROPERTIES

CHEMICAL STABILITY: Stable

CONDITIONS TO AVOID (if unstable): Avoid high temperatures.

INCOMPATIBILITY (Materials to Avoid): Can react vigorously with strong oxidizing agents, strong lewis or mineral acid, and strong mineral and organic bases. Avoid contact with water or liquids. Do not allow molten product to contact water or other liquids. This can cause violent eruptions, splatter hot material or ignite flammable material. Reaction with some curing agents may produce considerable heat and possible violent decomposition.

HAZARDOUS DECOMPOSITION PRODUCTS: Hazardous decomposition products depend on temperature, air supply and the presence of other materials. Uncontrolled exothermic reaction of epoxy resins release phenolics, carbon monoxide and water.

HAZARDOUS POLYMERIZATION: Will not occur by itself. Masses of more than one pound (0.5 kg) of product plus an aliphatic amine will cause irreversible polymerization with considerable heat build-up.

CONDITIONS TO AVOID (if polymerization may occur): Not applicable

ACUTE ORAL TOXICITY (LD50, RAT): >5000.00 mg/kg

ACUTE DERMAL TOXICITY (LD50, RABBIT): >4000.00 mg/kg

OTHER DATA: Toxicity data from similar products. Industrial chemicals such as this material with acute toxicity values shown above and whose vapors or mists are not likely to be encountered by humans when used in any reasonably foreseeable manner would not require a toxic label according to U.S. domestic and international transport regulations.

ADDITIONAL DATA:

Eye Irritation: Mild irritation [rabbit] (material tested- Alkyl(C12-C14) Glycidyl Ether).

Skin Irritation: Draize – 3.4-5.7 [rabbit, 24 hour(s)] (material tested- Alkyl(C12-C14) Glycidyl Ether).

Carcinogenicity: Recent 2-year bioassays in rats and mice exposed by the dermal route to the diglycidyl ether of bisphenol A (BADGE) yielded no evidence of carcinogenicity to the skin or other organs. This study clarifies prior equivocal results from a 2-year mouse skin painting study, which were suggestive but not conclusive, for weak carcinogenic activity. Note: BADGE is a component in all BPA/ECH based liquid epoxy resins.

VI. ACCIDENTAL RELEASE MEASURES AND DISPOSAL CONSIDERATIONS

CONTAINMENT TECHNIQUES (REMOVAL OF IGNITION SOURCES, DIKING ETC): Dike and contain. Contain run-off and dispose of properly. Remove contaminated soil to remove contaminated trace residues.

CLEAN-UP PROCEDURES: Absorb with material such as sand, or polypropylene or polyethylene fiber products. Collect in suitable and properly label containers. Remove residual using hot soapy water. Residual can be removed with solvent. Solvents are not recommended for clean-up unless recommended exposure guidelines and safe handling practices for the specific solvent are followed. Consult appropriate solvent MSDS for handling instructions.

OTHER EMERGENCY ADVICE: Notify authorities if any exposures to the general public or environment occurs or is likely to occur.

WASTE DISPOSAL: If this product becomes a waste, it would not be a hazardous waste by RCRA criteria (40 CFR 261). Place in an appropriate disposal facility in compliance with local and federal regulations.

VII. HEALTH HAZARDS

ROUTES OF EXPOSURE: Eye Contact, Skin Contact, Ingestion, Inhalation, Skin Absorption, Exposure Standards, No standards established for the product. Maintain air contaminant concentrations in the workplace at the lowest feasible levels.

HEALTH HAZARDS: May be irritating to the eyes and skin. Contact with hot material can cause thermal burns. May cause skin sensitization.

TARGET ORGANS: Eye Skin Respiratory system

POTENTIAL HEALTH EFFECTS:

Inhalation- Not expected to be a relevant route of exposure, however, under conditions where exposure to vapors or mists is possible could cause respiratory tract infection. Skin- May be mildly irritating to the skin. Contact with hot material can cause thermal burns which may result in permanent damage. May cause skin sensitization. Eyes- May be mildly irritating to the eyes. Contact with hot material can cause thermal burns which may result in permanent damage or blindness. Ingestion- Not likely to be a relevant route of exposure.

SIGNS AND SYMPTOMS OF EXPOSURE (Possible Longer Term Effects): Repeated and/or prolonged exposure may cause skin sensitization, repeated exposures to low molecular weight epoxy resins of this type are not anticipated to cause any significant adverse effects. Many studies have been conducted to assess the potential carcinogenicity of diglycidyl ether of bisphenol A (DGEBA). Although some weak evidence of carcinogenicity has been reported in animals, when all of the data are considered, the weight of the evidence does not show that DGEBA is carcinogenic. Indeed, the most recent review of the available data by the International Agency for Research on Cancer (IARC) has concluded that DGEBA is not classified as a carcinogen. DGEBA did not cause birth defects or other adverse effects on the fetus when pregnant rabbits were exposed by skin contact, the most likely route of exposure, or when pregnant rats or rabbits were exposed orally. In animal studies, this product has not been shown to interfere with reproduction.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Asthma, Chronic Respiratory Disease (e.g. Bronchitis, Emphysema), Eye disease, Skin disorders and Allergies.

CARCINOGENS UNDER OSHA, ACGIH, NTP, IARC, OTHER: N/A

VIII. FIRST AID**EYE CONTACT**

Flush eyes with water. Rest eyes for 30 minutes. If redness, burning, blurred vision or swelling persist, consult a physician.

SKIN CONTACT

In case of contact with hot product, immediately flood the affected area with cold water. Wipe excess material from exposed area. Flush exposed skin with water and follow by washing with soap if available. Carefully remove clothing; if clothing is stuck to a burn area, do not pull it off, but cut around it. Cover burn area with clean material. Transport to nearest medical facility for additional treatment.

INHALATION

Move patient to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.

INGESTION

Single dose oral toxicity is considered to be extremely low. No hazards anticipated from swallowing small amounts of incidental to normal handling operations.

IX. PERSONAL PROTECTION/EXPOSURE CONTROLS

EYE PROTECTION: Avoid contact with eyes. Wear chemical goggles if there is potential contact with eyes. Safety Spectacles.

HAND PROTECTION: Butyl; EVAL-Laminate.

RESPIRATORY PROTECTION: No respiratory protection is usually required under normal conditions of use.

PROTECTIVE CLOTHING: Wear appropriate respirator and protective clothing.

ENGINEERING CONTROLS: No specific controls needed.

IX. PERSONAL PROTECTION/EXPOSURE CONTROLS (CONTINUED)

WORK AND HYGIENIC PRACTICES: Provide readily accessible eye wash stations and safety showers. Wash at the end of each work shift and before eating, smoking or using the toilet. Promptly remove clothing that becomes contaminated. Use appropriate hand and skin lotions to protect the skin. Discard contaminated leather articles.

X. REGULATORY INFORMATION**US FEDERAL REGULATIONS**

Resource Conservation and Recovery Act (RCRA): Not a hazardous waste under RCRA (40 CFR 261).

SARA Title III: Section 304 - CERCLA: Not listed.

SARA Title III: Section 313 Toxic Chemical List (TCL): This product does not contain a toxic chemical for routine annual 'Toxic Chemical Release Reporting' under Sec. 313 (40 CFR 372).

TSCA Section 8(b) - Inventory Status: Chemical components listed on TSCA Inventory.

TSCA Section 12(b) - Export Notification: This product contains chemical(s) which is (are) regulated by TSCA 12(b) Regulation and it is required that proper export notification shall be sent to the EPA prior to shipping out of the United States of America.
Bisphenol A Diglycidyl Ether
Oxraïne, mono[(C-12-C-14-alkoxy)methyl] derives.

INTERNATIONAL REGULATIONS

Canadian Inventory Status: All components included on the Domestic Substances List (DSL).

STATE REGULATIONS

PROPOSITION 65 SUBSTANCES (component(s) known to the State of California to cause cancer and/or reproductive toxicity and subject to warning and discharge requirements under the "Safe Drinking Water and Toxic Enforcement Act of 1986")

Epichlorohydrin (< 2 ppm) Carcinogenic.

NEW JERSEY TRADE SECRET REGISTRY NUMBER(S) The following is required composition information.

Phenol, 4, 4'-(-1methylethylidene)bis-, polymer with (chloromethyl)oxirane.
Oxraïne, mono[(C-12-C-14-alkoxy)methyl] derives.

PENNSYLVANIA TRADE SECRET REGISTRY NUMBER(S) The following is required composition information. Not on the Pennsylvania Hazardous Substance List.

Phenol, 4, 4'-(-1methylethylidene)bis-, polymer with (chloromethyl)oxirane.
Oxraïne, mono[(C-12-C-14-alkoxy)methyl] derives.

XI. TRANSPORT INFORMATION**DOT NON-BULK SHIPPING NAME**

Not regulated.

DOT BULK SHIPPING NAME

Not regulated.

IMO SHIPPING DATA

Not regulated.

ICAO/IATA SHIPPING DATA

Not regulated.

D.O.T CLASS: Not regulated.**HAZARDOUS INGREDIENT(S):** Not regulated.**D.O.T. LABELS:** Not regulated

CAUTION: Misuse of empty containers can be hazardous. Empty containers can be hazardous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers might cause fire, explosion or fumes from residues. Do not pressurize or expose to open flame or heat. Keep container closed and drum bungs in place.

The information on this data sheet represents our current data and best opinion as to the proper use and handling of this product under normal conditions. Any use of the product which is not in conformance with this data sheet or which involves using the product in combination with any other product or any other process is the responsibility of the user.