

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 (REACH)

1. PRODUCT IDENTIFICATION

Trade Name(s): Geo-Seal EFC – Part B
Product Description: Blended epoxy curing agent
Synonyms: N/A
CAS No: N/A

Supplier:
EPRO Services, Inc.
PO Box 347
Derby, KS 67037
800-882-1896 (8:00am – 5:00pm CST)

2. HAZARD(S) IDENTIFICATION

Classification

Skin Corrosion: Category 1B
Skin Sensitizer: Category 1A
Acute Toxicity (oral, dermal, inhalation): Category 1
Serious Eye Damage: Category 1
Aquatic Chronic: Category 3

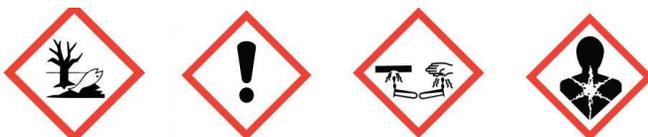
Hazard-determining components of labeling:

Methyleneoxide polymer with benzeamine, hydrogenated
4.4'-methylenebis(cyclohexylamine)
Benzyl alcohol
Cycloaliphatic amines

Label Elements (labeling according to Regulation (EC) No 1272/2008):

The product is classified and labeled according to the CLP regulation.

Pictograms:



Signal Word: Danger

Hazardous Statements: Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause damage to organs through prolonged or repeated exposure if swallowed. Harmful to aquatic life with lasting effects.

Precautionary Statements: Avoid breathing dust/fumes/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink, or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. If swallowed: Call Poison Center or doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting. If on skin: Wash with plenty of soap and water. Remove contaminated clothing. If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call Poison Center or doctor. If skin irritation or rash occurs, get medical advice/attention. Take off contaminated clothing and wash before reuse. Store locked up. Dispose of contents/containers in accordance with local/regional/national/international regulations.

Hazards Not Otherwise Classified (HNO): None

Classification system: The classification is according to EC regulation No. 1272/2008, 29CFE1910/1200, and GHS Rev 3 and amendments, and extended by company and literature data. The classification is in accordance with the latest editions of international substances lists and is supplemented by information from technical literature and by information provided by the company.

Canadian WHMIS Classification: None

NFPA ratings (scale 0 – 4)

Health = 3

Fire = 1

Reactivity = 0

HMIS ratings (scale 0 – 4)

Health = 3

Fire = 1

Reactivity = 0

HMIS Long Term Health Hazard Substances: None of the ingredients is listed.

Other Hazards – Results of PBT and vPvB assessment

PBT: Not applicable

vPvB: Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>CAS</u>	<u>Chemical Name</u>	<u>%</u>
135108-88-2	Methyleneoxide, polymer with benzeamine,hydrogenated	35%
1100-51-6	Benzyl alcohol	35%
1761-71-3	4.4'-methylenebis(cyclohexylamine)	20%
Not available	Cycloaliphatic amines	10%

4. FIRST-AID MEASURES

General: Immediately remove any clothing soiled by product. Symptoms of poisoning may occur after several hours; therefore, medical observation should occur for at least 48 hours after accident.

Inhalation: Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness place patient stably on side position for transportation.

Skin Contact: Immediately wash with water and soap and rinse thoroughly. Remove any clothing soiled by product. If irritation continues, consult a doctor.

Eye Contact: Remove contact lenses if worn. Rinse opened eye for several minutes under running water. Immediately call Poison Center or doctor.

Ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. Drink plenty of water.

Most Important Symptoms and Effects, both Acute and Delayed: Eye disease. Skin disorders. Allergies. Asthma.

Indications of any immediate medical attention and special treatment: Treat skin and mucous membrane with antihistamine and corticoid preparations. Monitor circulation. Treat symptoms and over-exposure.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Use alcohol-resistant foam, dry chemical, dry sand, limestone powder and Carbon Dioxide (CO₂).

Unsuitable Extinguishing Agents: None known.

Specific Hazards in Case of Fire: Incomplete combustion may form carbon monoxide. May generate ammonia gas. May generate nitrogen oxide gases. Burning produces noxious and toxic fumes. Downwind personnel must be evacuated.

Advice for firefighters: Wear fully protective suite. Use NIOSH-approved respiratory protection/breathing apparatus.

Additional information: Do not allow run-off from fire fighting to enter drains or water courses. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Ensure adequate ventilation. Wear protective equipment. Keep unprotected persons away.

Environmental Precautions: Should not be released into environment. Prevent from reaching drains, sewer, or waterway.

Methods and Materials for Containment and Cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust. Dispose contaminated material as waste according to Item 13.

Additional Advice: Open enclosed spaces to outside atmosphere. If possible, stop flow of product.

7. HANDLING AND STORAGE

General: Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols. Avoid contact with skin, eyes, and clothing. Follow good hygiene procedures when handling chemical materials. Follow proper disposal methods. Do not eat, drink, smoke, or use personal products when handling chemical substances. Contaminated leather items, such as shoes, belts, watchbands, should be removed and destroyed.

Storage: Store in a cool location. Do not store together with oxidizing and acidic materials. Keep containers tightly closed in a dry, cool ventilated space. Store away from foodstuffs.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters – Ingredients with limit values that require monitoring at the workplace:

100-51-6 Benzyl alcohol

WEEL (USA) 10ppm

Exposure controls

General protective and hygienic measures: Keep away from foodstuffs, beverages, and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.

Appropriate Engineering controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits.

Eye Protection: Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU). Safety glasses or goggles are appropriate eye protection.

Skin Protection: Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal (technique without touching outer surface). Avoid skin contact with used gloves. Use body protection appropriate to prevent contact (e.g. lab coat, overalls). If necessary, refer to appropriate Standards of Canada, or appropriate Standards of the EU, Australian Standards, or relevant Japanese Standards.

Respiratory Protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN143) respirator cartridges as a backup to engineering controls. When necessary, use NIOSH approved breathing equipment.

General Hygienic Measures: Perform routine housekeeping. Wash hands before breaks and at end of work. Avoid contact with skin, eyes, and clothing. Before wearing, wash contaminated clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Density at 20°C: 0.98 g/cm³

Organic solvents: No data available

Appearance: Liquid

Odor: Ammoniacal

pH value: 11.6

Flammability: N/A

Viscosity-Dynamic: No data available

Lower Explosion Level: Not determined

Self-igniting: Not determined

Relative Density: 0.98 (water = 1)

Freezing Point: Undetermined

Ignition Temp: >815°F (>435°C)

Evaporation Rate: Not determined

Vapor Pressure (mmHg): <5.17 mmHg @ 21°C

Specific Gravity 20°C: No data available

VOC (EC): No data available

Color: Brown

Odor Threshold: Not determined

Water Solubility: Fully miscible

Flash Point: >212°F (>100 °C)

Viscosity-Kinematic: No data available

Upper Explosion Level: Not determined

Danger of explosion: Does not present an explosion hazard

Vapor Density: Not determined

Boiling point/Boiling range: >392°F (>200°C)

Decomposition Temperature: No data available

Partition Coefficient (n-octanol/water): Not determined

10. STABILITY AND REACTIVITY

Reactivity: Nonreactive under normal conditions.

Chemical Stability: No decomposition if used according to specifications.

Possibility of Hazardous Reactions: Reacts with acids, alkalis, oxidizing agents, and peroxides.

Conditions to Avoid: No further relevant information is available.

Incompatible materials: CAUTION: N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrates, or atmospheres with high nitrous oxide concentrations. Other incompatible materials: Nitrous acid and other nitrosating agents, organic acids (i.e. acetic, citric acid, etc.), mineral acids, sodium hypochlorite, and oxidizing agents. Product slowly corrodes copper, aluminum, zinc, and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion.

Hazardous Decomposition Products: Nitrogen oxides (NO_x) (can react with water vapors to form corrosive nitric acid), ammonia, carbon monoxide, carbon dioxide (CO₂), and nitrosamine.

11. TOXICOLOGICAL INFORMATION

LD/LC50 values relevant for classification:

Oral LD50 1,230 mg/kg (rat) 100-51-6
Dermal LD50 2,000 mg/kg (rabbit) 100-51-6
Oral LD50 >1,200 mg/kg (rat) 1751-71-3
Dermal LD50 >2,000 mg/kg (rabbit) 1751-71-3

Primary Irritant Effect

Skin: Caustic effect on skin and mucous membrane.

EYE: Strong caustic effect.

Sensitization: May cause sensitization of susceptible persons by skin contact.

Additional Toxicological Information: No additional information.

Carcinogenic Categories: No data available.

Repeated Dose Toxicity: Harmful. Corrosive. Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12. ECOLOGICAL INFORMATION (non-mandatory)

Toxicity

1751-71-3 LC50 - Leuciscus idus (Golden orfe) - 46 mg/l - 96 h
1751-71-3 LC50 - Leuciscus idus (Golden orfe) - >100 mg/l - 48 h
1751-71-3 LC50 - Daphnia magna (Water flea) - 6.84 mg/l - 48 h
1751-71-3 LC50 - Algae - 140 200 mg/l - 72 h

Persistence and Degradability: No information available.

Bioaccumulative Potential: No information available.

Mobility in Soil: No information available.

Additional Ecological Information – General: Water hazard class 2 (German Regulation) (Self-assessment): Hazardous for water. Do not allow product to reach ground water, water course, or sewage system.

Results of PBT and vPvB assessment: No additional information.

Other Adverse Effects: No information available.

13. DISPOSAL CONSIDERATIONS (non-mandatory)

Waste Disposal: Contact a licensed professional waste disposal service to dispose of this material. Dispose of empty containers as unused product. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification.

14. TRANSPORT INFORMATION (non-mandatory)

UN-Number (DOT, IMDG, IATA, ADR, ADN): UN2735

UN-Proper Shipping Name (DOT, IMDG, IATA, ADR, ADN): Amines, Liquids, Corrosive, N.O.S. (Cycloaliphatic amine).

Transport Hazard Classes (DOT, ADR, IMDG, IATA): Class 8, Label 8 Corrosive

Packing Group (DOT, ADR, IMDG, IATA, AND): III

Environmental Hazards: This product contains a substance that is regulated as a Marine Pollutant or meets the definition of toxic to the aquatic environment.

Special precautions for user: Corrosive substances.

Danger code (Kemier): None

Segregation: None

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

Additional Information:

Transportation Category: None

Tunnel Restriction Code: Not applicable.

UN « Model Regulation » : UN2735, Amines, Liquids, Corrosive, N.O.S., (Cycloaliphatic amine), 8, III

15. REGULATORY INFORMATION (non-mandatory)

Safety, health, and environmental regulations/legislation specific for the substance or mixture

North American

SARA Section 312 (Hazard Classifications): Acute health hazard.

SARA Section 313 (Specific toxic chemical listings): None of the ingredients are listed.

SARA Section 355 (Extremely hazardous substances): None of the ingredients are listed.

CERCLA (Comprehensive Environmental Response, Clean up and Liability Act) Reportable Spill Quantity:
None of the ingredients are listed.

TSCA (Toxic Substances Control Act): Inventory: All ingredients are listed. **Rules and Orders:** None of the ingredients are listed.

NTP (National Toxicology Program): None of the ingredients are listed.

CANADA

Canadian Domestic Substance List (DSL): All ingredients are listed.

Canadian Ingredient Disclosure list (limit 0.1%): None of the ingredients are listed.

Canadian Ingredient Disclosure list (limit 1%): 100-51-6 Benzyl alcohol

Proposition 65 (California)

Chemicals known to cause cancer: None of the ingredients listed.

Chemicals known to cause reproductive toxicity for females: None of the ingredients listed.

Chemicals known to cause reproductive toxicity for males: None of the ingredients listed.

Chemicals known to cause developmental toxicity: None of the ingredients listed.

Carcinogenic Categories

EPA (Environmental Protection Agency): None of the ingredients are listed.

IARC (International Agency for Research on Cancer): None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH): None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety & Health): None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration): None of the ingredients are listed.

Chemical safety assessment: Has not been carried out.

16. OTHER INFORMATION

Abbreviations and Acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

This information provided on this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designated only as a guide for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.