

SAFETY DATA SHEET

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

1. PRODUCT IDENTIFICATION

Trade Name(s): Geo-Seal EFC Patch – Part B

Description: 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

Reproduction – Category 2

Skin Corrosion – Category 1B

Skin Sensitizer – Category 1

Acute Toxicity – Category 4

Aquatic Chronic – Category 2

Label Elements

Pictograms



Signal Word: Danger

Hazard-determining Components of Labeling

Polyamido Amine

m-phenylenebis(methylamine)

nonylphenol

Benzyl alcohol

Hazardous Statements – Health: Harmful if inhaled. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Suspected of damaging fertility. Suspected of damaging the unborn child. Toxic to

aquatic life with long lasting effects. Contains Polyamido Amine, 3,6,9-triazaundecamethylenediamine, bisphenol A, 2-piperazin-1-ylethylamine. May produce an allergic reaction.

Precautionary Statements: Avoid breathing dust/fumes/gas/mist/vapors/spray. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Do not handle until all safety precautions have been read and understood. Avoid release to the environment. If swallowed: Rinse mouth. Do not induce vomiting. Call Poison Center/doctor if you feel unwell. If on skin: Wash with plenty of soap and water. Immediately remove all contaminated clothing. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call Poison Center/doctor if you feel unwell. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a Poison Center or doctor. If skin irritation occurs, get medical advice/attention. If skin irritation or rash occurs, get medical advice/attention. Take off contaminated clothing and wash before reuse. Collect spillage. Store locked up. Dispose of contents/containers in accordance with local/regional/national/international regulations.

NFPA ratings (scale 0 – 4)

Health = 3
Fire = 1
Reactivity = 0

HMIS ratings (scale 0 – 4)

Health = 3
Fire = 1
Reactivity = 0

Other Hazards – Results of PBT and vPvB assessment

PBT: Not applicable
vPvB: Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture of substances listed below with nonhazardous additions.

Cas No	Chemical Name	%
68953-36-6	Polyamido Amine	>25%
1477-55-0	m-phenylenebis(methylamine)	10-25%
25154-52-3	Nonylphenol	<10%
100-51-6	Benzyl alcohol	<10%
112-57-2	3,6,9-triazaundecamethylenediamine	<10%
80-05-7	bisphenol A	<10%
9046-10-0	Polyetheramine	<10%
140-31-8	2-piperazin-1-ylethylamine	<10%
102-71-6	2,2',2''-nitrilotriethanol	<10%
98-54-4	4-tert-butylphenol	<10%
90-72-2	2,4,6-tris(dimethylaminomethyl)phenol	<5%

4. FIRST-AID MEASURES

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

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

Skin Contact: Immediately wash with water and soap and rinse thoroughly. If skin irritation continues consult a doctor.

Eye Contact: Remove contact lenses if worn. Rinse opened eye for several minutes under running water. Consult a doctor.

Ingestion: Rinse mouth and drink plenty of water. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. If vomiting occurs naturally, lie on your side, in the recovery position.

Most Important Symptoms and Effects, Both Acute and Delayed: Allergic reactions. Nausea. Dizziness. Breathing difficulty. Danger of impaired breathing.

Indication of any Immediate Medical Attention and Special Treatment Needed: Treat skin and mucous membrane with antihistamine and corticoid preparations. Monitor circulation.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Use fire extinguishing methods suitable to surrounding conditions.

Specific Hazards Arising from the Substance or Mixture: Formation of toxic gases is possible during heating or in case of fire.

Special Equipment: Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Additional Information: Cool endangered receptacles with water spray.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Remove persons from danger area. Use respiratory protective device against the effects of fumes/dust/aerosol. Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation. Stay upwind of spill.

Environmental Precautions: Do not allow to enter sewers, surface, or ground water.

Methods and Materials for Containment and Cleaning up: Absorb with liquid-binding, non-combustible material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated materials waste according to Item 13. Clean the affected area carefully. Suitable cleaners are warm water and cleansing agent.

7. HANDLING AND STORAGE

General: Ensure good ventilation/exhaustion at the workplace. Avoid contact with skin, eyes, and clothing. Follow all SDS label precautions even after containers are emptied as they may retain product residues. Prevent formation of aerosols.

Information about fire and explosion protection: No special measures required.

Storage: Store away from oxidizing agents or acids. Store away from foodstuffs. Store in cool, dry conditions in well-sealed receptacles.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

· Ingredients with limit values that require monitoring at the workplace:	
1477-55-0 m-phenylenebis(methylamine)	
REL (USA)	Short-term value: C 0,1 mg/m ³ Skin
TLV (USA)	Short-term value: C 0,1 mg/m ³ Skin
EL (Canada)	Short-term value: C 0,1 mg/m ³ Skin
EV (Canada)	Short-term value: C 0,1 mg/m ³ Skin

100-51-6 Benzyl alcohol	
WEEL (USA)	10 ppm
112-57-2 3,6,9-triazaundecamethylenediamine	
WEEL (USA)	5 mg/m ³ Skin; DSEN
102-71-6 2,2',2''-nitrilotriethanol	
TLV (USA)	5 mg/m ³
EL (Canada)	5 mg/m ³
EV (Canada)	3,1 mg/m ³ , 0,5 ppm

Additional Information: The lists valid during the making were used as basis.

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.

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: Use suitable respiratory protective device in case of insufficient ventilation. Use suitable respiratory protective device when aerosol or mist is formed.

9. PHYSICAL AND CHEMICAL PROPERTIES

Density at 20°C: 0.98 g/cm

Color: Amber colored

Order Threshold: Not determined

Flash Point: 383°F (195°C)

Viscosity-Kinematic: Not determined

Upper Explosion Level: Not determined

Relative density: Not determined

Melting Point/Range: Not determine

Self-igniting: Not self-igniting

Decomposition Temperature: Not determined

Flammability (solid, gaseous): Not applicable

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

Danger of Explosion: Does not present explosion hazard

Water Solubility/Miscibility: Not miscible or difficult to mix

Form: Liquid

Odor: Ammonia-like

pH value: Not determined

Viscosity-Dynamic: Not determined

Lower Explosion Level: Not determined

Vapor Pressure: Not determined

Vapor Density: Not determined

Boiling Point/Range: >392°F (200°C)

Ignition Temperature: 698°F (370°C)

Evaporation Rate: Not determined

10. STABILITY AND REACTIVITY

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Possibility of hazardous reactions: Toxic fumes may be released if heated above the decomposition point. Strong exothermic reaction with acids. Reacts with strong acids and oxidizing agents. Exothermic polymerization.

Conditions to avoid: No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: Nitrogen oxides (NOx), ammonia, carbon monoxide, and carbon dioxide.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

LD/LC50 values relevant for classification:

Cas-No	Name	Oral LD50,mg/kg	Dermal LD50,mg/kg	Inhal.LC50 mg/l
1477-55-0	m-phenylenebis (methylamine)	1040 (rat)		4 hr. – 2,4 (rat)
25154-52-3	nonylphenol	1620 (rat)		
112-57-2	3,6,9-triazaundecamethylenediamine		660 (rabbit)	
80-05-7	bisphenol A	3250 (rat)	3000 (rabbit)	

Primary irritant effect

on the skin: Caustic effect on skin and mucous membranes.

on the eye: Strong caustic effect.

Sensitization: Sensitization possible through skin contact. Sensitizing effect through inhalation is possible by prolonged exposure.

Additional toxicological information: The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version: Harmful. Corrosive. Irritant. 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

Aquatic toxicity: The material is harmful to the environment.

Persistence and degradability: The product is partly biodegradable. Significant residuals remain.

Bioaccumulative potential: Due to the distribution coefficient n-octanol/water an accumulation in organisms is possible.

Mobility in soil: No further relevant information available.

Ecotoxicological effects: Toxic for fish

Additional ecological information - General: This statement was deduced from the properties of the single components. Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water. Do not allow product to reach ground water, water course or sewage system, even in small quantities. Also poisonous for fish and plankton in water bodies. Toxic for aquatic organisms

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects: No further relevant information available.

13. DISPOSAL CONSIDERATIONS (non-mandatory)

Waste Disposal: Always dispose of any waste in accordance with all local, state, and federal regulations.

14. TRANSPORT INFORMATION (non-mandatory)

UN-Number (DOT, ADR, IMDG, IATA): UN1760

UN Proper Shipping Name

DOT, IATA: Corrosive Liquid, N.O.S. (m-phenylenebis (methylanmine), nonylphenol)

ADR: 1760 Corrosive Liquid, N.O.S. (m-phenylenebis (methylanmine), nonylphenol). Environmentally Hazardous

IMDG: Corrosive Liquid, N.O.S. (m-phenylenebis (methylanmine), nonylphenol). Marine pollutant.

Transport Hazard Class:

DOT, ADR, IMDG, IATA: Class: 8 Corrosive substances. Label: 8

Packing Group:

DOT, ADR, IMDG, IATA: II

Environmental Hazards: Product contains environmentally hazardous substances : nonylphenol

Marine pollutant: Yes. Symbol (fish and tree).

Special marketing (ADR): Symbol (fish and tree).

Special precautions for user: Warning: Corrosive substances

Danger Code (Kemier): 80

EMS Number: F-A, S-B

Segregation groups: Alkalis

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

Additional Information

ADR – Tunnel restriction code: E

UN Model Regulation: UN1760, Corrosive Liquid, N.O.S. (m-phenylenebis (methylanmine), nonylphenol). Environmentally Hazardous, 8, II.

15. REGULATORY INFORMATION (non-mandatory)

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

North American

SARA Section 355 (extremely hazardous substances): None of the ingredients is listed.

SARA Section 313 (Specific toxic chemical listings): 80-05-7 bisphenol A

TSCA (Toxic Substances Control Act): Inventory: All ingredients are listed.

Proposition 65 (California)

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

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

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

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

Carcinogenic Categories

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

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

NIOSH-a (National Institute for Occupational Safety and Health): None of the ingredients is listed.

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

Canada

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

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

Canadian Ingredient Disclosure list (limit 1%)

1477-55-0 m-phenylenebis (methylanmine)

25154-52-3	nonylphenol
100-51-6	Benzyl alcohol
112-57-2	3,6,9-triazaundecamethylenediamine
80-05-7	bisphenol A
140-31-8	2-piperazin-1-ylethylamine
102-71-6	2,2',2''-nitrioltriethanol
98-54-4	4-tert-butylphenol

Chemical Safety Assessment: Has not been carried out.

16. OTHER INFORMATION

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (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 Labeling 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)

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.