

Section 1 Identification of the substance/mixture and of the company/undertaking

1.1 Product Identifier: EPN-580

1.2 Relevant identified uses of the mixture and uses advised against:

1.2.1 Relevant identified uses: Reinforcement for pipe repair

1.2.2 Uses advised against: Do not use for any other purpose.

1.3 Details of the supplier of the safety data sheet: CSNRI | 621 Lockhaven Drive. Houston, TX 77073
+1 281.590.8491 (US)
Unit 11 Premier Park, Acheson Way, Trafford Park.
Manchester, England. M17 1GA. +44 161 710 3485 (EU)

1.4 Emergency telephone number: CHEMTREC – 24 hours Emergency Telephone
US and Canada 800.424.9300
Outside US and Canada +1 703.741.5970

Section 2 Hazards Identification
2.1. Classification of the substance or mixture

Classification according to Regulation (EC) no. 1272/2008 [CLP/GHS]

Acute toxicity, oral – Category 4

Acute toxicity, inhalation – Category 4

Sensitization / Skin – Category 1

Eye Damage / irritation – Category 1

Skin Irritation – Category 2

Specific Target Organ Toxicity (Single Exposure) – Category 3

Carcinogenicity – Category 2

Toxic to reproduction – Category 2

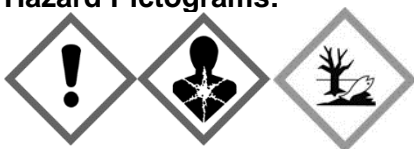
Specific Target Organ Toxicity (Repeated Exposure) – Category 2

Hazardous to the aquatic environment (Acute) – Category 1

Hazardous to the Aquatic Environment (Chronic) – Category 1

2.2 Label elements:

Hazard Pictograms:



Signal word: Danger

Hazard statements:

H302 Harmful if swallowed.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer

H361 Suspected of damaging fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects

Precautionary statement:

P260 Do not breathe breathing dust/fume/gas/mist/vapours/spray.

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves, clothing, and eye/face protection.

P301+P330 +P312 IF SWALLOWED: Rinse mouth. POISON CENTER or doctor/physician if you feel unwell.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

P304+P340+P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

P391 Collect spillage.

P403+P233 Store in well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents and containers in accordance with local, regional and international regulations.

2.3 Other Hazards: N/A

Section 3 Composition/ Information on Ingredients

3.1 Substances: N/A

3.2 Mixtures:

Component	EC No.	CAS No.	% Weight	Classification according to Regulation (EC) No. 1272/2008(CLP)	REACH Registration Number
Barium sulfate	231-784-4	7727-43-7	20 – 50	Not classified	No data available
Polyphenol Cyanate Resin	618-010-4	87397-54-4	20 – 30	H317 Skin Sens. 1 H400 Aquatic Acute 1 H410 Aquatic Chronic1	No data available
Glass oxide	266-046-0	65997-17-3	10 – 20	H351 Carcinogenicity 2	No data available
4,4'-Ethylidenediphenyl Dicyanate	405-740-1	47073-92-7	5 – 10	H302 Acute Tox. 4 H332 Acute Tox. 4 H373 STOT RE 2 H400 Aquatic Acute 1 H410 Aquatic Chronic 1	No data available
4,4'-Bis(o-propenyl-phenoxy)-benzophenone	626-132-4	109423-33-8	0.3 – 3.4	H315 Skin Irrit. 2 H319 Eye Irrit. 2 H335 STOT SE 3	No data available



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Nonylphenol	284-325-5	84852-15-3	0.2 – 0.3	H302 Acute Tox. 4 H314 Skin Irrit. 1A H318 Eye Dam. 1 H361 Reprod. Tox. 1 H400 Aquatic Acute 1 H410 Aquatic Chronic 1	No data available
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Section 4 First Aid Measures

4.1 Description of first aid measures:

Inhalation: If affected, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.

Skin: Immediately remove contaminated clothing and shoes. Wash the affected area with plenty of soap and water

until no evidence of the chemical remains (at least 15-20 minutes). Launder clothing before reuse. Consult a physician.

Eyes: Immediately flush eyes with plenty of clean water for an extended time, for at least fifteen (15) minutes. Remove contact lenses, if present and easy to do. Flush longer if there is any indication of residual chemical in the eye. Ensure adequate flushing of the eyes by separating the eyelids with fingers and roll eyes in a circular motion. Get medical attention immediately.

Ingestion: Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse out the mouth with water and drink afterwards plenty of water. Get medical attention immediately.

4.2 Most important symptoms/effects, both acute and delayed:

Irritation. Pre-existing skin problems may be aggravated by prolonged or repeated contact. Persons with sensitive airways (e.g., asthmatics) may react to vapors. See section 11 for additional information.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Section 5 Firefighting Measures

5.1 Extinguishing media: Use water spray, foam, dry chemical or carbon dioxide.

5.2 Special hazard arising from the substance or mixture:

Unusual fire & explosion hazards: Heating or fire can release toxic gas. Closed container may rupture (due to build up in pressure) when exposed to extreme heat.

Hazardous decomposition materials (Under fire conditions): Irritating or toxic substances may be emitted upon burning, combustion or decomposition. See Section 10 Hazardous decomposition products for additional information.

5.3 Advice for firefighters: Wear self-contained breathing apparatus (SCBA) equipped with a full-face piece and operated in a pressure-demand mode (or other positive pressure mode) and approved protective clothing. Personnel without suitable respiratory protection must leave the area to prevent significant exposure to hazardous gases from combustion, burning or decomposition. In an enclosed or poorly ventilated area, wear SCBA during cleanup immediately after a fire as well as during the attack phase of firefighting operations. See section 9 for additional information.

**Section 6 Accidental Release Measures**

6.1 Personal Precautions, Protective Equipment and Emergency Procedures: Keep unnecessary personnel away from spill/leak. See Section 8 for recommendations on the use of personal protective equipment. If spilled in an enclosed area, ventilate. Eliminate ignition sources. Personal Protective Equipment must be worn.

6.2 Environmental Precautions: Do not flush product into public sewer, water systems or surface waters.

6.3 Methods and material for containment and cleaning up

Stop leak if without risk. Move containers from spill area. Contain by diking with sand, earth or other non-combustible material. Wear proper personal protective clothing and equipment. Absorb spill with an inert material. Place into labeled, closed container; store in safe location to await disposal. Change contaminated clothing and launder before reuse.

6.4. Reference to other sections: See Section 13 for Disposal Considerations.

Section 7 Handling and Storage

7.1 Precautions for safe handling: Keep unnecessary personnel away from spill/leak. See Section 8 for recommendations on the use of personal protective equipment. If spilled in an enclosed area, ventilate. Eliminate ignition sources. Personal Protective Equipment must be worn.

7.2 Conditions for safe storage including any incompatibilities: Keep away from heat, sparks and open flames. Do not store in direct sunlight. For ideal shelf life, store at 2-8°C in a dry, well-ventilated place. It can be stored at ambient temperatures (75 0F) for a maximum of 6 months without compromising the properties of the material. Do not expose to temperatures above 110 0F. These installation instructions are intended as a guide for standard products. Consult your representative for specific projects or unique applications. Store this material away from incompatible substances (see section 10). Do not store in open, unlabeled or mislabeled containers. Keep container tightly closed when not in use. Empty container contains residual product which may exhibit hazards of product. Do not reuse empty container without commercial cleaning or reconditioning.

7.3 Specific end use: Observe instructions for use.

Section 8 Exposure Controls / Personal Protection

8.1 Control parameters: No information available

8.2 Exposure controls:

Appropriate Engineering Controls: Always provide effective general and, when necessary, local exhaust ventilation to draw spray, aerosol, fume, mist and vapor away from workers to prevent routine inhalation. Ventilation must be adequate to maintain air concentrations below occupational exposure standards. When necessary use mechanical handling to reduce human contact with materials.

8.2.2 Personal Protective Equipment:

Eye protection: Full face shield with safety glasses or tightly fitting splash-proof chemical goggles.

Skin and body protection: Wear chemical resistant (impervious) gloves; PVC, neoprene, nitrile rubber, EVAL, butyl rubber. Wear chemical resistant protective clothing. Use good laboratory/ workplace procedures including



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personal protective clothing: lab coat and protective gloves.

Respiratory protection: Wear an approved respirator (e.g., an organic vapor respirator, a full face air purifying respirator for organic vapors, or a self-contained breathing apparatus) whenever when performing operations involving potential exposure to aerosol, mist, spray, fume or vapor of the product.

Hand protection: Wear gloves. Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of gloves are dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, and dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced.

Environmental exposure controls: Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Section 9 Physical and Chemical Properties

9.1 Information on basic physical and chemical properties:

a) Appearance:	Beige Putty
b) Odor:	Mild
c) Odor Threshold:	No data available
d) pH:	No data available
e) Melting Point/freezing point:	No data available
f) Initial boiling point and boiling range:	No data available
g) Flash Point:	No data available
h) Evaporation rate:	No data available
i) Flammability (solid, gas):	No data available
j) Upper/lower flammability or explosive Limits:	Lower: N/A Upper: N/A
k) Vapor Pressure:	No data available
l) Vapor Density:	No data available
m) Relative Density:	1.31 g/cm ³ (Density Cup Method)
n) Solubility:	Negligible
o) Partition coefficient (n-octanol/water):	No data available
p) Auto-ignition Temperature:	No data available
q) Decomposition Temperature:	No data available
r) Viscosity:	96,000, cP (at 50 °C / 122 °F)
s) Explosive Properties:	No data available
t) Oxidizing Properties:	No data available

9.2 Other information: No additional information relevant to safe use of the substance.

Section 10 Stability and Reactivity

10.1 Reactivity: No reactive under normal conditions.

10.2 Chemical Stability: Stable under standard use and storage conditions.

10.3 Possibility of Hazardous reactions: For uncured material, exothermic reactions including polymerization may occur in contact with strong acids, strong bases, alkalis, amines, water, transitional metal compounds and excessive heat.



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10.4 Conditions to Avoid: Incompatible materials.

10.5 Incompatible Materials / Chemicals: Strong acids, strong bases, alkalis, amines, water and transitional metal compounds for uncured material.

10.6 Hazardous Decomposition Products: Thermal decomposition may produce smoke, carbon monoxide, carbon dioxide, aldehydes, oxides of nitrogen, phenol and other products of incomplete combustion.

Section 11 Toxicological Information

11.1 Information on Toxicological Effects

a) Acute toxicity:

Component	LD ₅₀ Oral (rat)	LD ₅₀ Dermal (rabbit)
Polyphenol Cyanate Resin	>2,000 mg/kg	>2,000 mg/kg
4,4'-Ethylidenediphenyl Dicyanate	500-1,000, mg/kg	N/A
Nonylphenol	1,300 mg/kg	N/A
Silica oxide	2,000 – 5,000 mg/kg	>5,000 mg/kg

b) Skin Corrosion/Irritation: Causes skin irritation. May cause an allergic skin reaction.

c) Serious Eye Damage/Irritation: Causes serious eye damage.

d) Inhalation: Harmful if inhaled. May cause respiratory irritation.

e) Ingestion: Harmful if swallowed.

f) Germ Cell Mutagenicity: Information is not available.

g) Carcinogenicity:

US. National Toxicology Program (NTP) Report on Carcinogens

Silica Oxide (CAS 65997-17-3) Reasonably Anticipated to be a Human Carcinogen.

h) Reproductive Toxicity:

Nonylphenol – Reproductive toxicity – Category 2

i) STOT-Single Exposure: Category 3. May cause respiratory irritation.

j) STOT-Repeated Exposure: Category 2. May cause damage to organs.

k) Aspiration Hazard: Information is not available.

11.1.2 Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: May cause respiratory irritation.

Skin Contact: Repeated or prolonged contact may cause skin irritation and dermatitis.

Section 12 Ecological Information

12.1 Toxicity

Ecotoxicity: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.



According to Regulation (EU) 2015/830

Component	Test	Species	Result
Polyphenol Cyanate Resin	LC50 (96 hrs)	Rainbow Trout	0.76 mg/L
	EC50 (48 hrs)	Daphnia magna	15.5 mg/L
	EC50 (3 hrs)	Activated sludge	>100 mg/L
4,4'-Ethylidenediphenyl Dicyanate	EC50 (48 hrs)	Daphnia magna	1.911 mg/L
	EbC50 (72 hrs)	Algae	0.65 mg/L
	ErC50 (72 hrs)	Algae	>1.10 mg/L est.
Nonylphenol	NOEC (96 hrs)	Fathead Minnow	0.083 mg/L
	LOEC (96 hrs)	Lepomis	0.211 mg/L
	LC50 (96 hrs)	Macrochirus	0.135mg/L

12.2 Persistence and degradability:

Component	Test	Period	Result
Polyphenol Cyanate Resin	OECD 301B	28 days	Ca. 10%
4,4'-Ethylidenediphenyl Dicyanate	OECD 301D	28 days	15%

12.3 Bioaccumulative potential: No additional information available.**12.4 Mobility in soil:** No additional information available.**12.5 Results of PBT and vPvB Assessment:** No additional information available.**12.6 Other adverse effects:** No additional information available.**Section 13 Disposal Considerations**

13.1 Waste treatment methods: Under RCRA it is the responsibility of the user of the product to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state and local laws. Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse. Avoid release to the environment. Do not flush to sewer, watershed, or waterway.

Section 14 Transport Information**14.1 UN number (DOT, ADR, ADN, IMDG, IATA):** UN 3082**14.2 UN proper shipping name (DOT, ADR, ADN, IMDG, IATA):** Environmentally hazardous substance, liquid, n.o.s. (Polyphenol Cyanate Resin)**14.3 Transport hazard class (DOT, ADR, ADN, IMDG, IATA):** 9**14.4 Packing group (DOT, ADR, MDG, IATA):** III**14.5 Environmental hazard:** Yes**14.6 Special precaution for users:** Not Applicable**14.7 Transport in bulk:** Not Applicable**Section 15 Regulatory Information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**



According to Regulation (EU) 2015/830

EU Regulation (EC) No. 1907/2006 (REACH) Annex XIV – List of substances subject to authorization, Substances of very high concern: None of the components are listed.

Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles: Nonylphenol (CAS 84852-15-3)

15.2 Chemical Safety Assessment: No Chemical Safety Assessment under Regulation (EC) 1907/2006 is required and has not been carried out

Section 16 Other Information

Abbreviation and Acronyms:

CAS: Chemical Abstracts Service

DOT: Department of Transportation

GHS: Globally Harmonized System

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

IMDG: International Maritime Dangerous Goods

OSHA: Occupational Safety and Health Administration

PVC: Polyvinyl Chloride

RCRA: Resource Conservation and Recovery Act

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