

### Section 1. Product and Company Identification

**Product Name:** SFE-450 Part A  
**Supplier:** CSNRI | 621 Lockhaven Drive. Houston, TX 77073 | +1 281.590.8491  
**Emergency Phone Number:** 800.424.9300 (CHEMTREC)  
 +1 703.741.5970 (Outside the US)  
**Product Description:** Epoxy resin  
**Product Use:** Intended to repair pipes

### Section 2. Hazards Identification

#### Classification of the substance or mixture

Acute toxicity / oral – Category 4  
 Acute toxicity / dermal – Category 4  
 Skin Sensitization – Category 1  
 Germ cell mutagenicity – Category 2  
 STOT-RE – Category 2  
 Aquatic hazard (Chronic) – Category 2

#### Hazard Pictograms:



**Signal word:** Warning

#### Hazard statements:

H302 Harmful if swallowed.  
 H312 Harmful in contact with skin.  
 H317 May cause an allergic skin reaction.  
 H341 Suspected of causing genetic defects.  
 H373 May cause damage to organs (gastrointestinal)  
 H411 Toxic to aquatic life with long lasting effects.

#### Precautionary statements:

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.  
 P273 Avoid release to the environment.  
 P301 + P312 IF SWALLOWED: Call a Poison Center / doctor if you feel unwell.  
 P302 + P352 IF ON SKIN: Wash with plenty of water.  
 P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

**Other Hazards:** None known.

### Section 3. Composition/Information on Ingredients

#### Mixture:



Chemical Name	CAS No.	% by Weight
Oxiranemethanamine, N,N'-(methylenedi-4,1-phenylene)bis[N-(oxiranylmethyl)-	28768-32-3	30 - 60
Oxiranemethanamine, N-(4-(oxiranylmethoxy)phenyl)-N-(oxiranylmethyl)-	5026-74-4	30 - 60

#### Section 4. First Aid Measures

##### **First Aid Measures for Accidental:**

**Inhalation:** Remove source of exposure or move to fresh air.

**Skin contact:** Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. If skin irritation or a rash occurs, get medical advice/attention.

**Eye contact:** Rinse the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice/attention.

**Ingestion:** Do not induce vomiting; immediately call for medical help.

**First-aid comments:** Some of the first-aid procedures recommended here require advanced first-aid training.

**Most important symptoms and effects, both acute and delayed:** None known

#### Section 5. Fire-fighting Measures

**Suitable extinguishing media:** CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray. Use firefighting measures that suit the environment.

**Unsuitable extinguishing media:** None known.

**Special protective equipment and precautions for fire-fighters:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA). A full body encapsulating chemical protective suit with positive pressure SCBA may be necessary.

**Specific hazards arising from the chemical:** Heating increases the release of toxic vapor.

#### Section 6. Accidental Release Measures

##### **Personal precautions, protective equipment, and emergency procedures**

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Use the Personal protective equipment recommended in Section 8 of this safety data sheet.

**Environmental precautions:** If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas.

**Methods and materials for containment and cleaning up:** Contain and soak up spill with absorbent that does not react with spilled product. Dike spilled product to prevent runoff.

**Other information:** Report spills to local health, safety and environmental authorities, as required.

#### Section 7. Handling and Storage

**Precautions for safe handling:** Only use where there is adequate ventilation. Wear personal protective equipment to avoid direct contact with this chemical. Keep containers tightly closed when not in use or empty.

**Conditions for safe storage:** Store in an area that is: well-ventilated. Empty containers may contain hazardous residue. Store separately. Keep closed. Follow all precautions given on this safety data sheet.

### Section 8. Exposure Controls/Personal Protection

**Exposure Limits:** No exposure limit noted for the ingredients.

**Appropriate Engineering Controls:** Use a local exhaust ventilation and enclosure, if necessary, to control amount in the air.

**Personal Protective Equipment:**

**Respiratory protection:** Wear a NIOSH approved air-purifying respirator with an organic vapor cartridge if using in an unventilated area.

**Eye protection:** Wear chemical safety goggles.

**Skin protection:** Wear chemical protective clothing e.g. gloves, aprons, boots.

### Section 9. Physical and Chemical Properties

<b>Physical Appearance:</b>	Clear light-yellow liquid
<b>Odor:</b>	Faint
<b>pH:</b>	Neutral
<b>Flash Point:</b>	~ 228 °C (442 °F) Method: Closed cup
<b>Melting Point Range:</b>	No data available
<b>Boiling point:</b>	No data available
<b>Evaporation rate (ether=1):</b>	No data available
<b>Flammability (solid, gas):</b>	No data available
<b>Specific Gravity:</b>	No data available
<b>Viscosity:</b>	No data available
<b>Water Solubility:</b>	Practically insoluble in water
<b>Solubility in other solvents:</b>	No data available
<b>Vapor Pressure:</b>	No data available
<b>Vapor density (Air=1)</b>	No data available
<b>Relative Density:</b>	~ 1.2
<b>Partition coefficient (n-octanol/water):</b>	No data available
<b>Auto-ignition Temperature:</b>	No data available
<b>Decomposition Temperature:</b>	No data available
<b>Explosive Properties:</b>	No information available
<b>Oxidizing Properties:</b>	No information available
<b>VOC Content (%):</b>	No information available
<b>Flammability Limits in Air:</b>	No data available

### Section 10. Stability and Reactivity

**Reactivity:** Not reactive under normal conditions of use.

**Chemical stability:** Normally stable.

**Possibility of hazardous reactions:** Reacts with acids, alkalis and oxidizing agents; reacts with amines.

**Conditions to avoid:** Prolonged exposure to high temperatures. Temperatures above 60.0 °C (140.0 °F)

**Incompatible materials:** Polymerizes on contact with: amines (e.g. triethylamine), strong acids (e.g. hydrochloric acid), strong bases (e.g. sodium hydroxide), strong oxidizing agents (e.g. perchloric acid). Not corrosive to metals.

**Hazardous decomposition products:** Carbon monoxide and carbon dioxide.

### Section 11. Toxicological Information

**Likely Routes of Exposure:** Skin absorption; eye contact.

**Acute Toxicity:**

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Oxiranemethanamine, N,N'-(methylenedi-4, 1-phenylene)bis [N-(oxiranylmethyl)-	-	> 10000 mg/kg (rat)	-
Oxiranemethanamine, N-(4-(oxiranylmethoxy) phenyl)-N-(oxiranylmethyl)-	-	~ 1037 mg/kg (rat)	> 4000 mg/kg (rat)

**Skin corrosion/irritation:** Human experience and animal tests show mild irritation.

**Serious eye damage/irritation:** There is limited evidence of mild irritation.

**STOT (Specific Target Organ Toxicity) - single exposure:**

**Inhalation:** Reactive airways dysfunction syndrome (RADS).

**Skin absorption:** Symptoms may include redness, rash, swelling and itching.

**Ingestion:** Irritation of the mouth, throat and stomach.

**Aspiration hazard:** Symptoms may include coughing, choking, shortness of breath, difficult or rapid breathing, and wheezing.

**STOT (Specific Target Organ Toxicity) – repeated exposure**

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Respiratory and/or skin sensitization:** Respiratory sensitizer. Skin sensitizer. In sensitized people, exposure to a very small amount of product can cause symptoms including wheezing, difficult breathing, sneezing and runny or blocked nose. Can cause death. Symptoms can develop immediately following exposure or hours later. Repeated exposure will make the reaction worse.

**Carcinogenicity:** Not known to cause cancer.

**Reproductive Toxicity:**

**Development of offspring:** Not known to harm the unborn child.

**Sexual Function and fertility:** Not known to cause effects on sexual function or fertility.

**Effects on or via lactation:** Not known to cause effects on or via lactation.

**Germ cell mutagenicity:** Causes mutagenicity in in vitro tests.

**Interactive effects:** No information was located.

### Section 12. Ecological Information

**Ecotoxicity Effects:** Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Not readily biodegradable. This product shows a low bioaccumulation potential.

**Acute aquatic toxicity:**

Chemical Name	LC50 Fish	ErC50 Algae
Oxiranemethanamine, N,N'-(methylenedi-4,1-phenylene)bis[N-(oxiranylmethyl)-	~ 7 mg/L (96-hour)	-
Oxiranemethanamine, N-(4-(oxiranylmethoxy) phenyl)-N-(oxiranylmethyl)	~ 4.2 mg/L (96-hour)	~ 13 mg/L (72-hour)

**Chronic aquatic toxicity:**

Chemical Name	NOEC Fish	EC50 Fish	NOEC Crustacea	EC50 Crustacea
Oxiranemethanamine, N-(4-(oxiranylmethoxy) phenyl)-N-(oxiranylmethyl)	-	-	~ .42 mg/L (21-day)	-

**Persistence and degradability:** No ingredient of this product or its degradation products is known to be highly persistent.

**Mobility in soil:** No information was located.

**Other adverse effects:** There is no information available.

**Section 13. Disposal Considerations**

**Waste treatment methods:** Bury in a licensed landfill or burn in an approved incinerator according to federal, provincial/state, and local regulations.

**Uncleaned packaging:** Empty containers should be taken to an approved waste handling site for recycling or disposal. Dispose of in accordance to all local, state, national and/or international legislation/regulations.

**Section 14. Transport Information****Canadian TDG**

**Proper Shipping Name:** Not Regulated

**U.S. DOT**

**Proper Shipping Name:** Not Regulated

**IMO (Marine)**

**Proper Shipping Name:** Environmentally hazardous substance, liquid, n.o.s.( Oxiranemethanamine, N,N'-(methylenedi-4,1-phenylene)bis[N-(oxiranylmethyl)])

**UN-Number:** UN3082

**Hazard Class:** 9

**Packing Group:** III

**IATA (Air)**

**Proper Shipping Name:** Environmentally hazardous substance, liquid, n.o.s.( Oxiranemethanamine, N,N'-(methylenedi-4,1-phenylene)bis[N-(oxiranylmethyl)])

**UN-Number:** UN3082

**Hazard Class:** 9

**Packing Group:** III

**Environmental hazards:** Marine Pollutant

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable

**Section 15. Regulatory Information**

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

**Canada**

**Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL):** All ingredients are listed on the DSL or are not required to be listed.

**USA**

**Toxic Substances Control Act (TSCA) Section 8(b):** All ingredients are listed on the TSCA Inventory.

**Section 16. Other Information****NFPA hazard ratings:**

**Health hazard: 2 Flammability: 1 Instability: 0**

**Key Legend Information:**

N/A – Not Applicable

ND – Not Determined

OSHA – Occupational Safety and Health Administration

NIOSH – National Institute for Occupational Safety and Health

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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