

Section 1. Identification

Product Name: CS-106 Part B
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: Hardener solution for 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
Acute toxicity / inhalation – Category 4
Skin corrosion / irritation – Category 1B
Sensitization / skin – Category 1B
Eye damage / irritation – Category 1
Hazardous to the aquatic environment (Chronic) Hazard – Category 2

Hazard pictograms:



Signal word: Danger

Hazard statements:

H302 Harmful if swallowed.
H312 Harmful in contact with skin
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage
H332 Harmful if inhaled.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements:

P264 Wash hands and skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.
P501 Dispose of contents/container in accordance with local, regional, national and international regulations.

Other hazards: N/A

Section 3. Composition/Information on Ingredients

Mixture:

Component	CAS #	% by Weight
1,3-Benzenedimethanamine	1477-55-0	30 – 60
Amine Aliphatic Adduct	Trade Secret	15 – 30
Polyetheramine	Trade Secret	10 – 25
Triethylenetetramine	112-24-3	10 - 30

Section 4. First Aid Measures

First Aid Measures for Accidental:

Inhalation: Take precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment). Remove source of exposure or move to fresh air. If experiencing respiratory symptoms (e.g. coughing, shortness of breath, wheezing), call a Poison Centre or doctor. Immediately call a Poison Centre or doctor.

Skin contact: Avoid direct contact. Wear chemical protective clothing if necessary. Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Immediately rinse with lukewarm, gently flowing water for 15-20 minutes. If skin irritation occurs get medical advice/attention.

Eye contact: Avoid direct contact. Wear chemical protective gloves if necessary. Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice/attention.

Ingestion: Rinse mouth with water. Never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. Get medical advice/attention if you feel unwell or are concerned.

Most important symptoms and effects, both acute and delayed: May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Immediate medical attention and special treatment: Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.

Section 5. Fire-fighting Measures

Suitable extinguishing media: Foam, Fire-extinguishing powder, Carbon dioxide.

Specific hazards arising from the substance or mixture: May generate ammonia gas. May generate toxic nitrogen oxide gases. Burning produces noxious and toxic fumes. Downwind personnel must be evacuated.

Special protective equipment and precautions for firefighters: Wear self-contained respiratory protective device, Wear fully protective suit.

Additional information: Cool endangered receptacles with water fog or haze. Eliminate all ignition sources if safe to do so.

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. Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Increase ventilation to area or move leaking container to a well-ventilated and secure area.

Environmental precautions: Do not allow into any sewer, on the ground or into any waterway. If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas.

Methods and material for containment and cleaning up: Small spills or leaks: stop or reduce leak if safe to do so. Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal. Large spills or leaks: dike spilled product to prevent runoff. Collect using shovel/scoop or approved HEPA vacuum and place in a suitable container for disposal.

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 cool, dry place in tightly closed receptacles (60-80°F recommended). 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

Component	OSHA PEL	AIHA WEEL
	Ceiling	8 hr. TWA
Triethylenetetramine	-	1 ppm skin 6 mg/m ³

Appropriate Engineering Controls: In a confined space: general ventilation is usually adequate. For large scale use of this product: do not allow product to accumulate in the air in work or storage areas, or in confined spaces. Provide eyewash and safety shower if contact or splash hazard exists.

Personal Protective Equipment:

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. Do not inhale gases / fumes / aerosols. Avoid contact with the eyes and skin.

Respiratory protection: Not required under normal conditions of use. Use suitable respiratory protective device in case of insufficient ventilation. For spills, respiratory protection may be advisable. Use respiratory protection when grinding or cutting material.

Hand protection: Protective, impervious gloves. (Neoprene, Butyl-rubber, Nitrile rubber) The glove material has to be impermeable and resistant to the product / the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Eye protection: Face shield with safety glasses or goggles underneath. Contact lenses should not be worn.

Skin and Body protection: Protective work clothing. Where potential exposure warrants, rubber or plastic boots and chemically resistant protective suit.

Section 9. Physical and Chemical Properties

Physical Appearance: Clear liquid

Odor:	Amine
pH:	Alkaline
Flash Point:	>212 °F / >100 °C
Melting Point Range:	No data available
Boiling point:	>392 °F / >200 °C
Evaporation rate (ether=1):	No data available
Flammability (solid, gas):	Not applicable
Specific Gravity:	No data available
Viscosity:	50 – 100 cps
Water Solubility:	No data available
Solubility in other solvents:	No data available
Vapor Pressure:	No data available
Vapor density (Air=1)	No data available
Relative Density:	1.02 g/cm ³ at 20 °C
Partition coefficient (n-octanol/water):	No data available
Auto-ignition Temperature:	No data available
Decomposition Temperature:	No data available
Explosive Properties:	No data available
Oxidizing Properties:	No data available
VOC Content (%):	No data available
Flammability Limits in Air:	Not applicable

Section 10. Stability and Reactivity

Reactivity: Not reactive under normal conditions of use.

Chemical stability: Normally stable.

Possibility of hazardous reactions: Reacts with strong alkali, exothermic polymerization, reacts with strong acids and oxidizing agents, Reacts with catalysts.

Conditions to avoid: Avoid contact with strong oxidizing agents, excessive heat or flames.

Incompatible materials: Strong acids, strong bases and oxidizing agents.

Hazardous decomposition products: Nitric acid, ammonia, nitrogen oxides (NO_x), nitrogen oxide can react with water vapors to form corrosive nitric acid, carbon monoxide, carbon dioxide (CO₂), aldehydes, flammable hydrocarbon fragments.

Section 11. Toxicological Information

Information on likely routes of exposure:

Skin contact: Harmful in contact with skin. Causes skin burns.

Eye contact: Causes eye burns.

Ingestion: Harmful if swallowed. If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

Inhalation: Inhalation of vapors and/or aerosols in high concentration may cause irritation of respiratory system. Inhalation of aerosol may cause irritation to the upper respiratory tract. May cause nose, throat, and lung irritation. Can cause severe eye, skin and respiratory tract burns.

Symptoms related to physical, chemical and toxicological characteristics: Repeated and/or prolonged exposures to low concentrations of vapors or aerosols may cause sore throat, asthma, eye disease, kidney disorders, liver disorders, skin disorders and allergies.

Delayed and immediate effects as well as chronic effects from short and long-term exposure: This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1

percent or greater. May cause allergic skin reaction. This product may cause adverse reproductive effects. Asthma, eye disease, kidney disorders, liver disorders, skin disorders and allergies.

Numerical measures of toxicity: Data not available for full mixture.

Component	LD50 (oral)	LD50 (dermal)
Polyetheramine	-	2,980 mg/kg (rabbit)

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:

Polyetheramine:

Toxicity to daphnia: Acute EC50 80 mg/l OECD 202 Daphnia sp. (Acute Immobilization Test)

Toxicity to fish: Acute LC50 772 mg/l OECD 203 Fish, (Acute Toxicity Test)

Persistence and degradability: No data available.

Bioaccumulative potential: No data available.

Mobility in soil: No further relevant information available.

Other adverse effects: No further relevant information available.

Section 13. Disposal Considerations

Waste treatment methods: This product should not be allowed to enter drains, water courses or the soil. Dispose of this material in a safe manner and in accordance with federal, state and local regulations.

Uncleaned packaging: Disposal must be made in accordance with official federal, state and local regulations.

Section 14. Transport Information

DOT

UN-Number: UN2735

Proper Shipping Name: Amines, liquid, corrosive, n.o.s. (Polyamines, Polyetheramine)

Hazard Class: 8

Packing Group: II

Marine Pollutant: Yes (Only regulated in Bulk)

IATA

UN-Number: UN2735

Proper Shipping Name: Amines, liquid, corrosive, n.o.s. (Polyamines, Polyetheramine)

Hazard Class: 8

Packing Group: II

Marine Pollutant: Yes

IMDG

UN-Number: UN2735

Proper Shipping Name: Amines, liquid, corrosive, n.o.s. (Polyamines, Polyetheramine)

Hazard Class: 8
Packing Group: II
Marine Pollutant: Yes

TDG (Canada)

UN-Number: UN2735

Proper Shipping Name: Amines, liquid, corrosive, n.o.s. (Polyamines, Polyetheramine)

Hazard Class: 8

Packing Group: II

Marine Pollutant: Yes (Only regulated in Bulk)

Section 15. Regulatory Information

Safety, health and environmental regulations:

Toxic Substance Control Act (TSCA) 12(b) Component(s): None.

National e International Regulations:

USA – TSCA: Included on Inventory.

EU – EINECS: Included on EINECS inventory or polymer substance, monomers included on EINECS inventory or no longer polymer.

Canada – DSL: Included on Inventory.

Australia – AICS: Included on Inventory.

Japan – ENCS: Included on Inventory.

South Korea – ECL: Included on Inventory.

China – SEPA: Included on Inventory.

Philippines – PICCS: Included on Inventory.

SARA

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

Section 313 (Specific toxic chemical listings): Component(s) above 'de minimus' level: None

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

Proposition 65 (California):

Chemicals known to cause cancer: None

Chemical Safety assessment: A Chemical Safety Assessment has not been carried out.

Section 16. Other Information

NFPA hazard ratings:

Health hazard: 3 **Flammability:** 1 **Reactivity:** 0

Abbreviation 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 Hygienist.

EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substance
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)

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