

Safety Data Sheet
Steel Wrap Epoxy Hardener - Part B

1. Product and Company Identification

Product Name:	Steel Wrap Epoxy Hardener - Part B
Supplier:	NRI 3875 Fiscal Court, Ste #100 Riviera Beach, FL 33404 (561) 683-6992
Emergency Phone Number:	800-535-5053
Product Description:	Curing agent for epoxy resins
Product Use:	Intended to repair pipes
Chemical Name or Synonym:	Polyamine mixture

2. Hazards Identification

Classification of the substance or mixture:

Acute toxicity/oral – Category 4
Acute toxicity/inhalation – Category 4
Acute toxicity/dermal – Category 4
Sensitization/skin – Category 1
Skin corrosion/irritation – Category 1B Eye damage/irritation, Category 1
Reproductive toxicity, Category 2
Acute aquatic toxicity, Category 1
Chronic aquatic toxicity, Category 1

Label Elements:



Hazard Statements:

H302 Harmful if swallowed
H312 Harmful in contact with skin
H332 Harmful if inhaled
H314 Causes severe skin burns and eye damage
H317 May cause an allergic skin reaction
H318 Causes serious eye damage
H361 Suspected of damaging fertility or the unborn child
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects

Signal Word: Danger

Precautionary Statement:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood
P260 Do not breathe dust/fume/gas/mist/vapors/spray
P264 Wash hands thoroughly after handling
P272 Contaminated work clothing should not be allowed out of the workplace
P273 Avoid release to the environment
P280 Wear protective gloves/protective clothing/eye protection/face protection
P301 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse or wash skin with soap and water (or 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.
P310 Immediately call a POISON CENTER or doctor
P313 + P333 If irritation or rash occurs: Get medical attention/advice P362 + P364 Take of contaminated clothing and wash it before reuse P391 Collect spillage
P405 Store locked up.
P501 Dispose of contents and container according to local, state, national and International regulations

Other hazards: None known

Safety Data Sheet
Steel Wrap Epoxy Hardener - Part B

Hazardous Materials Identification System (HMIS):

Health: 3
Flammability: 1
Physical Hazard: 0

3. Composition/ Information on Ingredients

Chemical Name	CAS-No	Weight %
Aminoethylpiperazine	140-31-8	10 - 30
Benzene-1,3-dimethanamine	1477-55-0	10 - 25
Paratertiarybutylphenol	98-54-4	10 - 20
Trimethylhexamethylenediamine	25620-58-0	10 - 20
N,N'-Bis(3-aminopropyl)ethylenediamine	10563-26-5	1 - 10
Reaction products of benzene-1,3-dimethanamine with phenol and formaldehyde	57214-10-5	
4-Nonylphenol, branched	84852-15-3	10 - 20

4. First Aid Measures

First Aid Measures for Accidental:

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Skin Contact: Remove contaminated clothing. Wipe excess from skin. Lather with waterless skin cleaner and then wash with warm soap and water. If irritation occurs, get medical attention.

Ingestion: Do not induce vomiting. Rinse mouth with water. If vomiting should occur spontaneously, keep airway clear. Get medical attention.

Inhalation: Move to fresh air. If symptoms persist, call a physician.

Most important symptoms/effects, acute and delayed:

Inhalation: Can cause respiratory irritation, shortness of breath or cough.

Skin contact: Causes skin burns, redness and irritation. May cause allergic skin reaction and sensitization. Eye contact: Causes eye burns and eye damage.

Ingestion: May cause gastrointestinal irritation or ulceration. May cause burns of the mouth and throat.

Symptoms of overexposure: No data available.

Medical conditions aggravated by exposure: No data available.

Indication of immediate medical attention and special treatment needed: No data available

5. Fire Fighting Measures

Suitable Extinguishing Media: Carbon dioxide, foam or dry chemical.

Unsuitable Extinguishing Media: Direct water stream.

Special Protective Equipment and Precautions for Fire-fighters: Use of water may generate toxic aqueous solutions. Do not allow water run-off from fighting fire to enter drains or other water courses. Use personal protective equipment. Wear complete fire fighting gear and self-contained breathing apparatus. When mixed with sawdust, wood chips, or other cellulosic material, spontaneous combustion can occur under certain conditions. Heat is generated as the air oxidizes the amine. If the heat is not dissipated quickly enough, it can ignite the sawdust.

Safety Data Sheet

Steel Wrap Epoxy Hardener - Part B

Specific Hazards Arising from the Chemical (Under Fire Conditions): During a fire, smoke may contain the original materials in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include, but are not limited to: oxides of nitrogen, carbon monoxide, carbon dioxide, volatile amines, ammonia, nitric acid, cyanides, aldehydes, nitrosamines.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Methods and Materials for Containment and Cleaning Up: Stop leak without additional risk. Dike and absorb with inert material (*e.g.*, sand) and collect in a suitable, closed container. Warm, soapy water or non-flammable, safe solvent may be used to clean residual.

7. Handling and Storage

Precautions for Safe Handling: Ventilate work area. Avoid skin contact. Wash skin thoroughly after handling. Launder contaminated clothing before reuse or discard. Precautionary steps should be taken when curing product in large quantities. When mixed with epoxy curing agents this product causes an exothermic, which in large masses, can produce enough heat to damage or ignite surrounding materials and emit fumes and vapors that vary widely in composition and toxicity.

Conditions for safe storage including any incompatibilities: Store between 40°F (4°C) - 90°F (32°C). Store in tightly closed containers to prevent moisture absorption and loss of volatiles. Store away from heat and open flame.

8. Exposure Controls / Personal Protection

Control Parameters (Exposure Limits):

Chemical Name	Exposure Limits Information
Benzene-1,3-dimethanamine (1477-55-0)	0.1 mg/m ³ Skin. Ceiling NIOSH; OSHA Z1A. Remarks: potential for skin absorption. ethanamine (1477-55-0)

Appropriate Engineering Controls: Ventilation must be adequate for most operations.

Personal Protective Equipment:

Respiratory Protection: When ventilation cannot be made adequate enough to keep exposures below established limits, use a NIOSH approved respirator with an organic vapor cartridge, organic vapor cartridge or a multi-contaminant cartridge, depending on specific workplace conditions. Consult with your respirator and cartridge supplier to ensure proper selection of respirator and cartridge based on ingredients listed in Section 3 and specific workplace conditions. Use and select a respirator according the guidelines established in OSHA 1910.134 or other applicable respiratory protection standard.

Eye / Face Protection: Wear safety glasses with side shields or chemical splash goggles when exposure is more likely.

Skin Protection: Wear liquid-proof, chemical resistant gloves (nitrile-butyl rubber, neoprene, butyl rubber or natural rubber) and full body-covering clothing.

Additional protective measures: Wash thoroughly after handling. Avoid breathing vapors from heated material. Protective skin cream barriers can be applied to hands in addition to gloves for added protection. Generally speaking, working cleanly and following basic precautionary measures will greatly minimize the potential for harmful exposure to this product under normal use conditions.

9. Physical and Chemical Properties

Physical State: Liquid

Safety Data Sheet
Steel Wrap Epoxy Hardener - Part B

Colour:	Blue
Odor:	Ammonia like
Melting Point Range:	No data available
Boiling point:	> 400 °F (204 °C). (Estimated based on similar products)
Flammability (solid, gas):	No data available
Lower and Upper Explosion limits/ Flammability limits:	No data available
Flash Point:	> 200 °F (93 °C) (Estimated based on similar products)
Auto-ignition Temperature:	No data available
Decomposition Temperature:	No data available
pH:	12.2
Viscosity:	75 (mm ² /s @ 20 °C)
Solubility:	Appreciable in water
Partition coefficient (n-octanol/water):	No data available
Vapor Pressure:	< 1mmHg @ 20 °C (Estimated based on ingredient data)
Relative Density:	No data available
Bulk Density:	8.34 lbs./gal. (1.00 kg/L)
Relative Vapour Density (Air=1):	Heavier than air
Particle Characteristics:	No data available
Specific Gravity:	1.00

10. Stability and Reactivity

Reactivity: Product will not react by itself

Chemical Stability: Stable under standard normal conditions.

Possibility of Hazardous reactions: None under normal processing. Hazardous polymerization will not occur by itself, but a mass of more than one pound of product plus an epoxy resin will cause irreversible polymerization with significant heat buildup and pressure.

Conditions to Avoid: To avoid thermal decomposition, do not overheat. Incompatible products.

Incompatible Materials / Chemicals: Avoid acids, oxidizing materials, halogenated organic compounds (e.g., methylene chloride). External heating or self-heating could result in rapid temperature increase and pressure build up. If such a condition were to occur in a drum, the drum could expand and rupture violently.

Hazardous Decomposition Products: Very toxic fumes and gases when burned or otherwise heated to thermal decomposition. Decomposition products may include, but not limited to: oxides of nitrogen, volatile amines, ammonia, nitric acid, cyanides, nitrosamines, phenolics.

11. Toxicological Information

Numerical measures of toxicity:

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Aminoethylpiperazine	2097 mg/kg	866 mg/kg	No data
Benzene-1,3-dimethanamine	980 mg/kg	2000 mg/kg	1.34mg/l - 4h/mist/aerosol
Paratertiarybutylphenol	>2000 mg/kg	No data	5.6 mg/l
Trimethylhexamethylenediamine	910 mg/kg	No data	No data

Safety Data Sheet
Steel Wrap Epoxy Hardener - Part B

N,N'-Bis(3-aminopropyl)ethylenediamine	No data	No data	No data
Reaction products of benzene-1,3-dimethanamine with phenol and formaldehyde	1200 mg/kg	190-210 mg/kg	No data
4-Nonylphenol, branched	1412 mg/kg	No data	No data

Acute Toxicity: No specific toxicity data exists for this mixture. Classification is based on acute toxicity estimation methods using ingredient data.

Oral: Not classified. Does not meet classification criteria.

Dermal: Significant exposure can result in absorption causing headache and nausea.

Inhalation: Repeated or prolonged exposures to mist or aerosol, or concentrated vapors may cause cough, shortness of breath, lung irritation and lung damage.

Symptoms related to the physical, chemical and toxicological characteristics:

Skin corrosion / Irritation: Effects may be immediate. May cause persistent irritation or dermatitis.

Serious eye damage / Irritation: May cause blurred vision. May cause corneal damage resulting in vision impairment or even blindness.

Respiratory Sensitization: No data available.

Skin Sensitization: May cause allergic skin reaction.

Reproductive Toxicity: Suspected of damaging fertility or the unborn child. Rat studies to nonylphenol indicate physical effects on newborns with reduced weight gain.

Mutagenicity: Not classified. Does not meet classification criteria.

Carcinogenicity: Not classified. Does not meet classification criteria.

Specific Target Organ Toxicity (Single Exposure): Not classified. Does not meet classification criteria.

Specific Target Organ Toxicity (Repeated Exposure): Not classified. Does not meet classification criteria. Aspiration Hazard: Not classified. Does not meet classification criteria.

Other Health Hazard Information: None known

Delayed and immediate effects and also chronic effects from short and long term exposure:

Short term exposure: No specific data.

Long term exposure: No specific data.

12. Ecological Information

Ecotoxicity Effects: No specific test data available for the mixture. Calculated Estimate: Aquatic Acute Category 1. Toxic to aquatic life. Avoid release to the environment.

Persistence and degradability: No specific test data available for the mixture.

Bioaccumulative potential: No specific test data available for the mixture.

Mobility in soil: No specific test data available for the mixture.

Other adverse effects: Prevent entry into sewers and natural waters. In the liquid, uncured state, this product may be harmful to aquatic life with long lasting effects. Prevent release to the environment, sewers and natural waters.

13. Disposal Considerations

Waste treatment methods: Evaluation of this product using RCRA criteria shows that it is not a hazardous waste, either by listing or characteristics, in its purchased form. It is the responsibility of the user to determine proper disposal methods. Incinerate, recycle (fuel blending) or reclaim may be preferred methods when conducted in accordance with federal, state and local regulations.

Uncleaned packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.

Safety Data Sheet
Steel Wrap Epoxy Hardener - Part B

14. Transport Information

DOT

Shipping Name: Polyamines, liquid, corrosive, n.o.s.
Technical shipping name: Epoxy resin.
U.N. number: UN 2735
Hazard class: Class 8.
Packing group: II
Marine pollutant: No

TDG

Shipping Name: Polyamines, liquid, corrosive, n.o.s.
Technical shipping name: Epoxy resin.
U.N. number: UN 2735
Hazard class: Class 8.
Packing group: II
Marine pollutant: No

IMDG

Shipping Name: Polyamines, liquid, corrosive, n.o.s.
Technical shipping name: Epoxy resin.
U.N. number: UN 2735
Hazard class: Class 8.
Packing group: II
EmS Number: F-A, S-B
Marine pollutant: Yes

ICAO/IATA

Shipping Name: Polyamines, liquid, corrosive, n.o.s.
Technical shipping name: Epoxy resin.
U.N. number: UN 2735
Hazard class: Class 8.
Packing group: II
Marine pollutant: Yes

15. Regulatory Information

USA - TSCA Status: All components are listed on TSCA Inventory or otherwise comply with TSCA requirements.
Europe - EINECS or ELINCS: All components are listed on TSCA Inventory or otherwise comply with TSCA requirements.
Canada - CEPA (DSL/NDL): All components are listed on TSCA Inventory or otherwise comply with TSCA requirements.
OSHA Status: Corrosive; toxic by inhalation; target organ effects; possible sensitizer.
WHMIS Classification: D1B, D2B, E
SARA Title III: Section 313 Toxic chemicals: None

State Regulatory Information:

The following chemicals are specifically listed or otherwise regulated by individual states. For details on your regulatory requirements you should contact the appropriate agency in your state.

Safety Data Sheet
Steel Wrap Epoxy Hardener - Part B

Chemical Name	State Code
4-Nonylphenol, branched (84852-15-3)	PA, NJ
Paratertiarybutylphenol (98-54-4)	PA, NJ
Benzene-1,3-dimethanamine (1477-55-0)	PA, NJ, MA
Aminoethylepiperazine (140-31-8)	PA, NJ, MA
N,N'-Bis(3-aminopropyl)ethylenediamine (10563-26-5)	PA, NJ

16. Other Information

Key Legend Information:

N/A - Not Applicable

ND - Not Determined

OSHA - Occupational Safety and Health Administration

NIOSH - National Institute for Occupational Safety and Health

The information contained herein is based on the data available to us and is believed to be accurate. The data is offered in good faith as typical values and not as product specification. The information in this data sheet was compiled from information supplied by the vendors of the components of this compound. NRI makes no warranty either expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. The recommended industrial hygiene and safe handling procedures are believed to be genuinely applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate. NRI assumes no responsibility for injury from the use of the product described herein. The information is intended only to assist in the safe handling of this material.

(R2) Revision date: 01.07.16