

Safety Data Sheet

HARDENER XI

Revision date: 11/13/2015

1. Identification

Product identifier used on the label

Hardener XI

Recommended use of the chemical and restriction on use: Epoxy Hardener

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

B.D. Classic Enterprises
P.O. 2445
Santa Fe Springs, CA 90670

562-944-6177

Emergency telephone number

CHEMTREC: 1-800-424-9300

Other means of identification

Chemical family: mixed amine
Synonyms: mixed amine

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard: 29 CFR Part 1910.1200

Classification of the product

Met. Corr.	1	Corrosive to metals
Acute Tox.	2 (oral)	Acute toxicity
Skin Corr./Irrit.	1B	Skin corrosion/irritation
Eye Dam./Irrit.	1	Serious eye damage/eye irritation
Aquatic Acute	1	Hazardous to the aquatic environment -
Aquatic Chronic	1	Hazardous to the aquatic environment -

Pictogram:



Signal Word: Danger

Hazard Statement:

May be corrosive to metals.
Causes serious eye damage.
Causes severe skin burns and eye damage.

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Causes skin irritation.
Suspected of damaging fertility or the unborn child.
Toxic if swallowed.
Very toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/ eye protection/face protection.
Avoid release to the environment.
Wash skin thoroughly after handling.
Keep only in original container.
Use personal protective equipment as required.

Precautionary Statements (Response):

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
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/physician.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse.
Absorb spillage to prevent material damage.

Precautionary Statements (Storage):

Store locked up.
Store in corrosive resistant container with a resistant innerliner.

Precautionary Statements (Disposal):

Dispose of contents/container to hazardous or special waste collection point.

Hazards not otherwise classified - None

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard: 29 CFR Part 1910.1200

<u>Chemical name</u>	<u>CAS Number</u>	<u>Content (W/W)</u>
Polyetheramine	39423-51-3	25 – 75 %
Nonyl Phenol	84852-15-3	25 – 75 %
Proprietary		< 20 %

4. First-Aid Measures

Description of first aid measures

General advice:

Consult a physician. Show this safety data sheet to the doctor in attendance. First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and

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transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

If on skin:

Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist.

If in eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed: The most important known symptoms and effects are described in the labelling. (see section 2 and 11)

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

Note to physician

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media:
Water spray, dry powder, carbon dioxide, foam

Special hazards arising from the substance or mixture

Hazards during fire-fighting: No particular hazards known.

Advice for firefighters

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Impact Sensitivity:

Remarks: No data available.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist, or gas. Use personal protective clothing. Ensure adequate ventilation.

Environmental precautions

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Dispose in accordance with all applicable regulations. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). 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. This material may satisfy the criteria of a synthetic oil per 40 CFR 279.

Methods and material for containment and cleaning up

Spills should be contained, solidified, and placed in suitable containers for disposal.

7. Handling and Storage

Precautions for safe handling

Containers should be opened carefully in well-ventilated areas to avoid static discharge.

Protection against fire and explosion:

Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Segregate from acids and acid forming substances.

Further information on storage conditions: Containers should be stored tightly sealed in a dry place. Keep container tightly closed and in a well-ventilated place. Keep away from sources of ignition - No smoking. Keep container tightly closed.

Storage stability:

Keep container dry because product takes up the humidity of air.

8. Exposure Controls/Personal Protection

Advice on system design:

Provide local exhaust ventilation to control vapors/mists.

Personal protective equipment Respiratory protection:

Wear a NIOSH-certified (or equivalent) organic vapor/particulate respirator. Do not exceed the maximum use concentration for the respirator facepiece/cartridge combination. For emergency or non-routine, high exposure situations, use a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:

Chemical resistant protective gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection:

Wear face shield or tightly fitting safety goggles (chemical goggles) if splashing hazard exists.

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:

Eye wash fountains and safety showers must be easily accessible. Wear protective clothing as

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necessary to prevent contact. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Hands and/or face should be washed before breaks and at the end of the shift. When using, do not eat, drink or smoke. Remove contaminated clothing.

Respiratory Protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government Standards such as NIOSH (US) or CEN (EU).

9. Physical and Chemical Properties

Form:	liquid
Odor:	amine-like
Color:	Clear
pH value:	12 (100 g/l)
Melting point:	< -10 °C
Boiling point:	> 250 °C
Flash point:	> 200 °F (ASTM D93)
Flammability:	not flammable (other)
Lower explosion limit:	For liquids not relevant for classification and labelling. The lower explosion point may be 5 - 15 °C below the flash point.
Upper explosion limit:	For liquids not relevant for classification and labelling.
Autoignition:	> 200 °C
Vapor pressure:	1.6 mbar (20 °C) 10.5 mbar (55 °C)
Density:	0.987 g/cm3 (20 °C)
Thermal decomposition:	315 °C, > 340 kJ/kg (DSC (DIN 51007)) Thermal decomposition above the indicated temperature is possible. self-accelerating reaction
Viscosity, dynamic:	1500 – 2000 CPS
Solubility in water:	Not very soluble [<1%]
Evaporation rate:	< Ether.

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals: Corrosive effect on metals.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

The product is chemically stable.

Conditions to avoid

No conditions known that should be avoided.

Incompatible materials

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Acids, oxidizing agents

Hazardous decomposition products

Decomposition products:

Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Thermal decomposition: 145 °C (DSC (DIN51007))

315 °C (DSC (DIN51007))

Thermal decomposition above the indicated temperature is possible. self-accelerating reaction

11. Toxicological information

For Polyetheramine:

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Of high toxicity after single ingestion. Virtually nontoxic after a single skin contact. The inhalation of a highly enriched/saturated vapor-air-mixture represents an unlikely acute hazard.

Oral

Type of value: LD50 Species: rat

Value: > 50 - < 200 mg/kg (OECD Guideline 423)

Inhalation Value: (IRT)

Exposure time: 8 h

No mortality within the stated exposition time as shown in animal studies. Literature data.

Dermal

Type of value: LD50 Species: rat

Value: > 2,000 mg/kg (OECD Guideline 402)

Assessment other acute effects Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Irritation / corrosion

Assessment of irritating effects: An in vitro test did not indicate the potential to cause skin corrosion. An in vitro test indicated the potential to cause serious damage to the eyes.

Skin

Result: Non corrosive.

Method: Epiderm Corrosivity Test

Eye

Result: Risk of serious damage to eyes. Method: HET-CAM test in vitro

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Sensitization

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Chronic Toxicity/Effects

Genetic toxicity

Assessment of mutagenicity: The substance was not mutagenic in bacteria.

Carcinogenicity

Assessment of carcinogenicity: No data available.

Reproductive toxicity

Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect. The results were determined in a Screening test (OECD 421/422).

Teratogenicity

Assessment of teratogenicity: In animal studies the substance did not cause malformations. The results were determined in a Screening test (OECD 421/422).

Symptoms of Exposure

Medical conditions aggravated by overexposure

Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product. See MSDS section 11 - Toxicological information.

For Nonyl-Phenol

Acute toxicity

LD50 Oral-Rat-male and female-1,412 mg/kg

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Skin-Rabbit

Result: Causes burns.-4 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes-Rabbit

Result: Corrosive-72 h

(OECD Test Guideline 405)

Respiratory or skin sensitisation

Maximisation Test (GPMT)-Guinea pig

Result: Does not cause skin sensitisation.

(OECD Test Guideline 406)

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as

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OSHA: a known or anticipated carcinogen by NTP.
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

Suspected human reproductive toxicant

Reproductive toxicity-Rat-Oral

Effects on Newborn: Growth statistics (e.g., reduced weight gain). Effects on Newborn: Physical.

Suspected human reproductive toxicant

Specific target organ toxicity-single exposure

No data available

Specific target organ toxicity-repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

Repeated dose toxicity-Rat-male and female-No observed adverse effect level-10 mg/kg-Lowest observed adverse effect level-50 mg/kg

RTECS: Not available

Cough, Shortness of breath, Headache, Nausea, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Aquatic invertebrates

EC50 (48 h) 13.0 mg/l, Daphnia magna (OECD Guideline 202, part 1, static) Nominal values (confirmed by concentration control analytics)

Microorganisms/Effect on activated sludge

Toxicity to microorganisms OECD Guideline 209 aerobic activated sludge, domestic/EC20 (30 min): approx. 130 mg/l. The details of the toxic effect relate to the nominal concentration.

Persistence and degradability

Assessment biodegradation and elimination (H2O)

Not readily biodegradable (by OECD criteria). Poorly biodegradable. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Elimination information

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< 10 % DOC reduction (28 d) (OECD 301 A (new version)) (aerobic, activated sludge, domestic). The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Bioaccumulative potential

Bioaccumulation potential

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Ecotoxicological data

Components	Test Results
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PARA-NONYLPHENOL (84852-15-3)

EC50 Daphnia: 0.035 mg/l 48 hours

LC50 Algae: 0.0563 mg/l 72 hours

LC50 Fathead minnow (Pimephales promelas): 0.1383 mg/l 96 hours

LC50 Rainbow trout, donaldson trout (Oncorhynchus mykiss):

0.14 - 0.23 mg/l 96 hours

Mobility The product is essentially insoluble in water.

Persistence and degradability

NONYLPHENOL: Terrestrial Fate: low: volatilization, mobility. Aquatic Fate: may adsorb to suspended solids & sediments; low volatilization; biodegrades [BOD28 ~78%]. Atmospheric Fate: photochemically degrades [half-life ~2.5 hours].

Environmental effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal

Partition coefficient 4.8

Mobility in environmental media - The product is essentially insoluble in water.

Additional information

Absorbable organically-bound halogen (AOX):

This product contains no organically-bound halogen.

13. Disposal Considerations

Dispose of in a licensed facility. Do not discharge into waterways or sewer systems without proper authorization. Dispose in accordance with all applicable regulations. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). 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. This material may satisfy the criteria of a synthetic oil per 40 CFR 279.

Container disposal:

Dispose of in a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport Information

Land transport

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USDOT

Hazard class: 8
Packing group: III
ID number: UN 2735
Hazard label: 8
Proper shipping name: Amines, liquid, corrosive, n.o.s., (Polyoxypropylenediamine)

Sea transport

IMDG

Hazard class: 8
Packing group: III
ID number: UN 2735
Hazard label: 8
Marine pollutant: YES (para-nonylphenol)
Proper shipping name: Amines, liquid, corrosive, n.o.s., (Polyoxypropylenediamine)

Air transport

IATA/ICAO

Hazard class: 8
Packing group: III
ID number: UN 2735
Hazard label: 8
Proper shipping name: Amines, liquid, corrosive, n.o.s., (Polyoxypropylenediamine)

15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US released /listed

Sara 302, 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (de minimus) reporting levels established by SARA Title III, Section 302, 313

EPCRA 311/312 (Hazard categories): Acute Health Hazard; Chronic Health Hazard

California Prop 65 Components:

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

MA, PA, NJ Right-To-Know

Chemical	CAS	%
4-Nonylphenol, branched	84852-15-3	25-75%

NFPA Hazard codes:

Health : 3 Fire: 1 Reactivity: 0 Special:

HMIS III rating

Health: 3 Flammability: 1 Physical hazard:0

Assessment of the hazard classes according to UN GHS criteria (most recent version):

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Skin Corr./Irrit.	1B	Skin corrosion/irritation
Eye Dam./Irrit.	1	Serious eye damage/eye irritation
Aquatic Acute	1	Hazardous to the aquatic environment - acute
Aquatic Chronic	1	Hazardous to the aquatic environment - chronic

16. Other Information

SDS Prepared by:

B.D. Classic Enterprises

SDS Prepared on: 2015/11/13

The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication as part of B. D. Classic Enterprises, Inc. Product Safety Program. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information obtained herein. Data sheets are available for all B. D. Classic products. You are urged to obtain data sheets for all B.D. Classic products you buy, process, use or distribute and you are encouraged and requested to advise those who may come in contact with such products of the information contained therein.

To determine applicability or effects of any law or regulation with respect to the product, user should consult his legal advisor or the appropriate government agency. B. D. Classic does not undertake to furnish advice on such matters.