

# Safety Data Sheet

## HARDENER XI

Revision date: 12/09/2016

### 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.	3 (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.

# Safety Data Sheet

## HARDENER XI

Revision date: 12/09/2016

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**

<b><u>Chemical name</u></b>	<b><u>CAS Number</u></b>	<b><u>Content (W/W)</u></b>
Trimethylolpropane tris[poly(propylene glycol), amine terminated] ether	39423-51-3	25 – 75 %
Para-Nonylphenol	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

# Safety Data Sheet

## HARDENER XI

---

Revision date: 12/09/2016

should pay attention to their own safety. If the patient is likely to become unconscious, place and 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.

# Safety Data Sheet

## HARDENER XI

---

Revision date: 12/09/2016

### **Environmental precautions**

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**

### **Components with workplace control parameters**

Contains no substances with established exposure limit values.

### **Appropriate Engineering Controls**

Good general ventilation (typically 10 changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Ensure adequate ventilation, especially in confined areas. Ventilation should be sufficient to effectively remove, and prevent buildup of any vapors, dusts, or fumes that may be generated during handling or thermal processing.

### **Personal protective equipment**

#### **Respiratory protection:**

Do not breathe dust/fume/gas/mist/vapors/spray. If engineering controls do not maintain airborne concentrations to an acceptable level, an approved respirator must be worn. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose 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).

#### **Hand protection:**

# Safety Data Sheet

## HARDENER XI

---

Revision date: 12/09/2016

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 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/cm <sup>3</sup>	( 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.

# Safety Data Sheet

## HARDENER XI

---

Revision date: 12/09/2016

**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**

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

# Safety Data Sheet

## HARDENER XI

---

Revision date: 12/09/2016

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

### 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

# Safety Data Sheet

## HARDENER XI

---

Revision date: 12/09/2016

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 a known or anticipated carcinogen by NTP.

OSHA: 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)



# Safety Data Sheet

## HARDENER XI

---

Revision date: 12/09/2016

### 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

< 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
------------	--------------

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

# Safety Data Sheet

## HARDENER XI

---

Revision date: 12/09/2016

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

USDOT

Hazard class: 8  
Packing group: III  
ID number: UN 2735  
Hazard label: 8  
Proper shippingname: 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 shippingname: 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 shippingname: 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.

# Safety Data Sheet

## HARDENER XI

Revision date: 12/09/2016

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):

Met. Corr.	1	Corrosive to metals
Acute Tox.	3 (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 - acute
Aquatic Chronic	1	Hazardous to the aquatic environment - chronic

## 16. Other Information

### SDS Prepared by:

B.D. Classic Enterprises

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.