



# MATERIAL SAFETY DATA SHEET

Chemtrec 24-Hour Emergency Telephone

Domestic North America  
International

(800)424-9300  
(800)527-3887

## 1. Product and Supplier Identification

**Product Name:** Orca 2:1 Fast Epoxy Hardener Part B

**MSDS Number:**

**Date of Prep:** 06/01/2008

**Product Type:** Curing Agent

**Supplier:** Fiberlay Inc.  
24 S. Idaho St  
Seattle, Wa 98134  
(206)782-0660

## 2. Composition/Information On Ingredients

Chemical Name	CAS-No.	Weight %
Aliphatic Amine	*	
Alkyl Phenol	*	
Polyethylenepolyamine	*	
1,3-Propanediamine, N-[3-(tridecyloxy)propyl]-, branched	68479-04-9	>11
Isopropylidenebisphenol	50-05-7	>8
Polyoxypropylenediamine	9046-10-0	>8

\* The specific chemical identity of this component is considered trade secret information in accordance with 29 CFR 1910.1200.

## 3. Hazards Identification

### Emergency Overview

Human Health Hazards : Corrosive to the eyes. Corrosive to the skin. Vapors/mists may be corrosive to upper respiratory tract. Corrosive and may cause severe and permanent damage to mouth, throat and stomach. May be toxic if absorbed through skin. May be moderately toxic if swallowed. May be toxic if inhaled. May cause skin sensitization.

## ORCA 2:1 Fast Epoxy Hardener

Safety hazards : Material will not burn unless preheated

### 4. First Aid Measures

**INHALATION:** Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.

**SKIN CONTACT:** Immediately remove contaminated clothing or shoes, wipe excess from skin and flush with plenty of water for at least 15 minutes. Follow by washing with soap and water. Do not reuse clothing until thoroughly cleaned. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed to prevent reuse.

**EYE CONTACT:** Immediately flush eyes with plenty of water for 15 minutes while holding eyelids open. Rinse continuously with water while on way to get medical attention.

**INGESTION:** Do not induce vomiting. Have victim rinse out mouth with water then drink sips of water to remove taste from mouth. Do not give liquids to a drowsy, convulsing or unconscious person. Get medical attention.

#### Notes to physician

Symptoms: : Irritation as noted above. Skin sensitization (allergy) may be evidenced by rashes, especially hives. Lung damage (scarring, bronchitis, emphysema) may be evidenced by wheezing with shortness of breath, especially on exertion, and may be accompanied by chronic cough.

### 5. Fire Fighting Measures

**Suitable Extinguishing media:** Use water fog, "alcohol foam", dry chemical or carbon dioxide. Do not use water in a jet. Product will float. Water fog may cause frothing which can be violent, especially if sprayed into containers of hot or burning liquid.

**Specific hazards during fire:** Material will not burn unless preheated. Delayed lung damage (pulmonary edema) can be experienced after exposure to combustion products, sometimes hours after the exposure. Nitrogen oxides and other potentially hazardous nitrogen containing compounds may be released upon combustion.

Cool fire exposed containers with water. Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure buildup which could result in container rupture. Container areas exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure.

**Special protective equipment for fire-fighters:**

Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots). Including a positive pressure NIOSH approved self-contained breathing apparatus.

## 6. Accidental Release Measures

### Personal precautions:

May burn although not readily ignitable. Prevent all bodily contact with spilled material. Use Cautious judgment when cleaning up large spills. Shut off leaks, if possible without personal risk. Remove ignition sources.

### Environmental Precautions:

Dike and contain. Contain run-off and dispose of properly. Remove contaminated soil to remove contaminated trace residues. Prevent from entering into drains, ditches or rivers.

### Clean-up methods – small spillage:

Take up with an absorbent material and place in non-leaking containers. Seal tightly for proper disposal.

### Clean-up methods –large spillage:

Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material; place in non-leaking containers for proper disposal. Flush area with water to remove trace residue.

### Additional advice:

Polyethylenepolyamine is resistant to biodegradation in biological waste water treatment plants. It could be toxic to the biomass in a treatment plant and could be toxic to fish.

Alkyl Polyamine is resistant to biodegradation in biological waste water treatment plants.

It could be toxic to the biomass in a treatment plant and could be toxic to fish.

Notify authorities

Notify authorities if any exposures to the general public or environment occurs or is likely to occur. See Section 13 for information on disposal.

## 7. Handling and Storage

### Handling:

#### Advice on safe handling:

Do not get in eyes, on skin or on clothing. Do not breathe vapor, mists Do not pressurize drum containers to empty them. Heating this curing agent above 300 Deg. F in the presence of air may cause slow oxidative decomposition; above 500 Deg. F, polymerization may occur. Some epoxy resins can produce exothermic reactions which in large masses can cause runaway polymerization and charring of the reactants. Fumes and vapors from these thermal and chemical decompositions vary widely in composition and toxicity. Do not breathe fumes. Use a NIOSH-approved respirator as required to prevent overexposure. In accord with 29 CFR.1910.134, use either an atmosphere-supplying respirator or an airpurifying respirator for organic vapors. DANGER. Corrosive to skin and eyes. May be corrosive to respiratory tract. Corrosive to the digestive tract. May be toxic and harmful if absorbed through skin. May be toxic and harmful if inhaled. May be moderately toxic if swallowed. May cause skin sensitization. Containers, even those that have been emptied, can contain hazardous product residues. Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Launder contaminated clothing before reuse. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed to prevent reuse.

### Storage:

## ORCA 2:1 Fast Epoxy Hardener

Requirements for storage areas and containers:

Store in a cool, dry place with adequate ventilation. Keep away from open flames and high temperatures. Keep containers closed when not in use.

### 8. Exposure Controls, Personal Protection

Protective measures:

Wear appropriate respirator and full-body protective clothing.

Engineering Measures:

Adequate ventilation to control airborne concentrations. Eye wash fountains and safety showers should be available for emergency use.

Eye protection:

Do not get in eyes. Wear chemical goggles and face shield.

Skin and body protection:

Do not get on skin, on clothing. Wear chemical-resistant protective clothing such as gloves, outer clothing or apron, overshoes and a face-shield suitable to potential exposure.

Respiratory protection:

Do not breathe vapors or mists. Use a NIOSH-approved respirator as required to prevent overexposure. In accord with 29 CFR 1910.134 the types of respirator (s) to be considered include: Supplied-Air Respirator. Air-Purifying Respirator for Organic Vapors. Avoid breathing aerosols and mists which may be formed by various methods of application.

#### Exposure Guidelines:

Components with workplace control parameters	Regulation	Exposure Time	Value	Remarks
Polyethylenepolyamine	WEEL	Time weighted average (TWA):	1 ppm 6 mg/m3	
	WEEL	Skin designation:		Can be absorbed through skin
	ACGIH			None established
Alkyl Phenol	ACGIH			None established
Aliphatic Amine	ACGIH			None established
ALKYLPHENOL	ACGIH			None established
Polyoxypropylenediamine	ACGIH			None established
Isopropylidenebisphenol	ACGIH			None established
1,3-Propanediamine, N-[3-(tridecyloxy)propyl]-, branched	ACGIH			None established

### 9. Physical and Chemical Properties

## ORCA 2:1 Fast Epoxy Hardener

<b>Form:</b>	Viscous Liquid
<b>Odor:</b>	Ammonia
<b>Flash Point</b>	> 93 °C (> 199 °F) (Setaflash)
<b>Relative density:</b>	.98
<b>Relative vapor density:</b>	> 1
<b>Solubility in water:</b>	Partially soluble
<b>Color:</b>	Light
<b>Lower explosion limit:</b>	0.8 %(V)
<b>Other physico-chemical Properties :</b>	The above properties are typical values only and do not constitute a specification (refer to supplier for supply specification).

## 10. Stability and Reactivity

Conditions to avoid:  
Avoid high temperatures. Heat, flames and sparks.

Materials to avoid:  
Avoid contact with strong oxidizing agents  
Hazardous reactions:

Stable under normal use conditions

Hazardous polymerization will not occur.

Hazardous decomposition products: Nitrogen oxides, carbon monoxide and unidentified organic compounds may be formed during combustion.

## 11. Toxicological Information

Acute oral toxicity : Expected to be moderately toxic, 200 < LD50 <= 2000 mg/kg.

Acute dermal toxicity : Expected to be moderately toxic, 200 < LD50 <= 2000 mg/kg.

### Chronic Health Hazard

## ORCA 2:1 Fast Epoxy Hardener

Components	Concentration	Regulation	Value	Remarks
Polyethylenepolyamine		US. IARC Monographs on Occupational Exposures to Chemical Agents		This component has not been classified by the International Agency for Research on Cancer (IARC).
Alkylphenol		US. IARC Monographs on Occupational Exposures to Chemical Agents		The component has not been classified by the International Agency for Research on Cancer (IARC).
Polyoxypropylenediamine		US. IARC Monographs on Occupational Exposures to Chemical Agents		This component has not been classified by the International Agency for Research on Cancer (IARC).
Isopropylidenebisphenol		US. IARC Monographs on Occupational Exposures to Chemical Agents		This component has not been classified by the International Agency for Research on Cancer (IARC).
1,3-Propanediamine, N-[3-(tridecyloxy)propyl]-, branched		US. IARC Monographs on Occupational Exposures to Chemical Agents		This component has not been classified by the International Agency for Research on Cancer (IARC).

### Potential Health Effects:

Inhalation : Vapors/mists may be corrosive to upper respiratory tract. Repeated or prolonged exposure can result in lung damage.  
May be toxic if inhaled.

Skin : Corrosive to the skin.  
May be toxic if absorbed through skin.  
May cause skin sensitization.

Eyes : Corrosive to the eyes and may cause severe damage including blindness.  
Vapors may be irritating.

Ingestion : Not expected to be a relevant route of exposure, however, corrosive and may cause severe and permanent damage to mouth, throat, and stomach.  
May be moderately toxic if swallowed.

Aggravated Medical Condition  
: Preexisting eye, skin and respiratory disorders may be aggravated by exposure to this product.

## 12. Ecological Information

### Elimination Information (persistence and degradability)

Biodegradability : This section will be updated as ecological reviews are completed.

### Ecotoxicity effects

Toxicity to fish : This section will be updated as ecological reviews are completed.

## 13. Disposal Considerations

Product disposal:

If this material becomes a waste, it would not be a hazardous waste by RCRA criteria (40 CFR 261). Place in an appropriate disposal facility in compliance with local and federal regulations.

## 14. Transport Information

**DOT** : UN/NA-No 2735

Class 8

Packing group III

ERG No. 153

Proper shipping name POLYAMINES, LIQUID, CORROSIVE, N.O.S.  
contains POLYALKYLAMINES

**IMDG** : UN-Number 2735

Class 8

Packaging group III

EmS F-A S-B

Description of the goods POLYAMINES, LIQUID, CORROSIVE, N.O.S.  
contains POLYALKYLAMINES

### IATA Cargo

: UN-Number 2735

Class 8

Packaging group III

ERG No. 153

Description of the goods POLYAMINES, LIQUID, CORROSIVE, N.O.S.  
contains POLYALKYLAMINES

**IMDG** : UN-Number 2735

Class 8

Packaging group III

EmS F-A S-B

Description of the goods POLYAMINES, LIQUID, CORROSIVE, N.O.S.  
contains TRIDECYLOXYPROPYL-1,3-PROPANEDIAMINE,  
BRANCHED, POLYOXYPROPYLENEDIAMINE

### IATA Cargo

: UN-Number 2735

Class 8

Packaging group III

## ORCA 2:1 Fast Epoxy Hardener

ERG No. 153

Description of the goods POLYAMINES, LIQUID, CORROSIVE, N.O.S.  
contains TRIDECYLOXYPROPYL-1,3-PROPANEDIAMINE,  
BRANCHED, POLYOXYPROPYLENEDIAMINE

### 15. Regulatory Information

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

#### Notification status:

AICS : All components listed.

DSL : All components listed.

INV (CN) : All components listed.

TSCA : All components listed.

ENCS (JP) : All components listed.

TSCA : All components listed.

EINECS : All components listed or polymer exempt.

KECI (KR) : All components listed.

ENCS (JP) : Not all components listed.

PICCS (PH) : All components listed.

#### US. EPA CERCLA Hazardous Substances (40 CFR 302)

Aliphatic Amine No RQ

Alkyl Phenol No RQ

Polyethylenepolyamine No RQ

Alkylphenol No RQ

#### SARA 311/312 Hazards

Acute Health Hazard

Chronic Health Hazard

#### US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) – Supplier Notification Required

Aliphatic Amine No De minimis Concentration

Alkyl Phenol No De minimis Concentration

Polyethylenepolyamine No De minimis Concentration

1,3-Propanediamine,

N-[3-(tridecyloxy)propyl]-, branched No De minimis Concentration

POLYOXYPROPYLENEDIAMINE No De minimis Concentration

4,4'-Isopropylidenebisphenol De minimis concentration: 1.0 %

#### US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)

## ORCA 2:1 Fast Epoxy Hardener

1,3-Propanediamine, N-[3-(tridecyloxy)propyl]-, branched	No RQ
POLYOXYPROPYLENEDIAMINE	No RQ
4,4'-Isopropylidenebisphenol	No RQ
Aliphatic Amine Threshold Planning Quantity:	No TPQ
Alkyl Phenol Threshold Planning Quantity:	No TPQ
Polyethylenepolyamine Threshold Planning Quantity:	No TPQ
Alkylphenol Threshold Planning Quantity:	No TPQ
Aliphatic Amine Reportable quantity:	No RQ
Alkyl Phenol Reportable quantity:	No RQ
Polyethylenepolyamine Reportable quantity:	No RQ
Alkylphenol Reportable quantity:	No RQ

### New Jersey Right-To-Know Chemical List

1,3-Propanediamine,N-[3-(tridecyloxy)propyl]-, branched	Not Listed
POLYOXYPROPYLENEDIAMINE	Not Listed
4,4'-Isopropylidenebisphenol	Listed.
Aliphatic Amine	Not Listed
Alkyl Phenol	Not Listed
Polyethylenepolyamine	Not Listed
Alkylphenol	Not Listed

### Additional Components Not Found In Section 2:

Components	CAS-No.	Concentration Remarks
DIETHYLENETRIAMINE	111-40-0	< 1 % Listed.
Phenol	108-95-2	< 0.07 % Listed.

### Pennsylvania Right-To-Know Chemical List

Aliphatic Amine	Not Listed
Alkyl Phenol	Not Listed
Polyethylenepolyamine	Listed.

## ORCA 2:1 Fast Epoxy Hardener

Alkylphenol	Not Listed
1,3-Propanediamine,N-[3-(tridecyloxy)propyl]-, branched	Not Listed
POLYOXYPROPYLENEDIAMINE	Not Listed
4,4'-Isopropylidenebisphenol	Environmental hazard.

### Additional Components Not Found In Section 2:

Components	CAS-No.	Concentration Remarks
DIETHYLENETRIAMINE	111-40-0	< 1 % Listed.
Phenol 108-95-2	< 0.07 %	Environmental hazard.

### Massachusetts Right-To-Know Chemical List

Aliphatic Amine	Listed
Alkyl Phenol	Not Listed
Polyethylenepolyamine	Listed
Alkylphenol	Not Listed
1,3-Propanediamine,N-[3-(tridecyloxy)propyl]-, branched	Not Listed
POLYOXYPROPYLENEDIAMINE	Not Listed
4,4'-Isopropylidenebisphenol	Not Listed

Components	CAS-No.	Concentration Remarks
DIETHYLENETRIAMINE	111-40-0	< 1 % Listed.
Phenol	108-95-2	< 0.07 % Extraordinarily hazardous.

**HMIS Rating**            Health: 3  
                                  Fire: 1  
                                  Reactivity: 0

## 16. Other Information

**Reference:**                Prepared in accordance with 29 CFR 1910.1200.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information related only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.