



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 4:1 Slow Epoxy Hardener Part B

MSDS Number: 21

Date of Prep: 01/01/2008

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 %
Polyethylenepolyamine	*	< 5 %
Polyethylenepolyamine	*	< 5 %
Propoxylated Polyethylenepolyamines	*	> 90%

- The specific chemical identity of this component is considered trade secret information in accordance with 29 CFR 1910.1200.
- See Section 16 for the Canadian HMIRC trade secret registry number.

3. Hazards Identification

Emergency Overview

Human Health Hazards

: Severely irritating to the eyes causing pain, redness, swelling and blurred vision. Severely irritating to the skin. May cause skin sensitization. May be toxic if swallowed. May be toxic and may be harmful if absorbed through the skin.

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. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. 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

Unsuitable extinguishing media:

Water or fog may cause frothing which can be violent, especially if sprayed into containers of hot or burning liquid.

Suitable Extinguishing media:

Use water fog, "alcohol foam", dry chemical or carbon dioxide.

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.

ORCA 4:1 Slow Epoxy Hardener

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. 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 taste or swallow. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. 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 air-purifying respirator for organic vapors. Containers, even those that have been emptied, can contain hazardous product residues. Minimize skin contact. 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. **WARNING:** May cause severe irritation to the nose, throat and respiratory tract. May cause skin sensitization. May be toxic and harmful if absorbed through the skin.

ORCA 4:1 Slow Epoxy Hardener

Storage:

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.

Exposure Guidelines:

Components with workplace control parameters	Regulation	Exposure Time	Value	Remarks
Polyethylenepolyamine	ACGIH	Time Weighted Average (TWA)	1 ppm	
	ACGIH	Skin designation		Can be absorbed through the skin
	OSHA Z1A	Time Weighted Average (TWA)	1 ppm 4 mg/m ³	
	WEEL	Time Weighted Average (TWA)	1 ppm 6 mg/m ³	
	WEEL	Skin designation		Can be absorbed through the skin
	ACGIH			None established
Propoxylated Polyethylenepolyamines	ACGIH			None established

9. Physical and Chemical Properties

Form:	Liquid
Odor:	Amine
Flash Point	> 93 °C (> 199 °F) (Pensky-Martens)
Relative density:	1.02
Relative vapor density:	> 1
Solubility in water:	Insoluble

10. Stability and Reactivity

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

Materials to avoid:
Can react with strong oxidizing agents, strong Lewis or mineral and organic bases, especially primary and secondary aliphatic amines, and mercaptans. Reaction with some resins may produce considerable heat and possible violent decomposition.

Hazardous reactions:

Stable under normal use conditions

Hazardous polymerization will not occur.

11. Toxicological Information

Acute oral toxicity:	Expected to be of low toxicity, LD50 > 2000 mg/kg.
Acute dermal toxicity:	Expected to be of moderately toxic, 400 < LD50 <= 2000 mg/kg.
Acute inhalation toxicity:	Expected to be of low toxicity, LC50 > 5mg/l.

Chronic Health Hazard

Components	Concentration	Regulation	Value	Remarks
Polyethylenepolyamine	< 5 %	US. IARC Monographs on Occupational Exposures to Chemical Agents		This component has not been classified by the International Agency for Research on Cancer (IARC).

ORCA 4:1 Slow Epoxy Hardener

		US. IARC Monographs on Occupational Exposures to Chemical Agents		The component has not been classified by the International Agencet for Research on Cancer (IARC).
Propoxylated Polyethylenepolyamines	> 90 %			This component has not been classified by the International Agency for Research on Cancer (IARC).

Mutagenicity:

A component has been found to be a direct acting mutagen in the AMES assay. .

It gave positive results with and without activation.

Although the significance is unknown, a component has been found to increase the frequency of sister chromatid exchange.

It was also found to be positive in the unscheduled DNA mutagenicity assay.

Microbial tests and in vitro gene mutation assays were negative.

A lifetime skin painting study in mice did not result in carcinogenicity

Teratogenicity:

A component was fetotoxic and teratogenic when fed to rats at 0.83% and 1.67% of diet.

When applied dermally to the skin of pregnant guinea pigs, there was a 90% abortion rate or death of fetus with secondary to copper deficiency, resulting from the chelating activity of the component.

Other information:

Due to a component, histopathological effects of the kidney, liver, spleen, and adrenals were observed in the two rat lifetime feeding studies.

Potential Health Effects:

Inhalation:

Mists or vapors may be severely irritating to the nose, throat, and respiratory tract.

Skin:

Severely irritating to the skin. May cause skin sensitization. May be toxic and may be harmful if absorbed through the skin.

ORCA 4:1 Slow Epoxy Hardener

Eyes:

Severely irritating to the eyes, causing pain, redness, swelling and blurred vision. May cause blindness. Vapors may be irritating.

Ingestion:

Not likely to be a relevant route of exposure. May be toxic if swallowed. May cause severe irritation to the nose, throat and respiratory tract.

Aggravated Medical Condition:

Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product.

12. Ecological Information

Elimination Information (persistence and degradability)

Ecotoxicity effects:

Other information: 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.

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

CFR-ROAD NOT REGULATED FOR TRANSPORT

IATA_C NOT REGULATED FOR TRANSPORT

CFR-RAIL NOT REGULATED FOR TRANSPORT

Further information: Product testing has been determined that this product is not regulated.

15. Regulatory Information

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

Notification status:

TSCA All components are listed or exempt

AICS All components are listed or exempt

INV (CN) All components are listed or exempt

ORCA 4:1 Slow Epoxy Hardener

ENCS (JP)	Not all components are listed.
EINECS	Not all components are listed.
DSL	All components are listed or exempt
PICCS (PH)	Not all components are listed
KECI (KR)	All components are listed or exempt

US. EPA CERCLA Hazardous Substances (40 CFR 302)

Polyethylenepolyamine	No RQ
	No RQ
Propoxylated Polyethylenepolyamines	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

Polyethylenepolyamine	No De Minimis Concentration
	No De Minimis Concentration
Propoxylated Polyethylenepolyamines	No De Minimis Concentration

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

Polyethylenepolyamine	Threshold Planning Quantity: No TPQ
	Threshold Planning Quantity: No TPQ
Propoxylated Polyethylenepolyamines	Threshold Planning Quantity: No TPQ
Polyethylenepolyamine	Reportable quantity: No RQ
	Reportable quantity: No RQ
Propoxylated Polyethylenepolyamines	Reportable quantity: No RQ

ORCA 4:1 Slow Epoxy Hardener

New Jersey Right-To-Know Chemical List

Polyethylenepolyamine	Not Listed
	Not Listed
Propoxylated Polyethylenepolyamines	Not Listed

Pennsylvania Right-To-Know Chemical List

Polyethylenepolyamine	Not Listed
	Listed
Propoxylated Polyethylenepolyamines	Not Listed

Massachusetts Right-To-Know Chemical List

Polyethylenepolyamine	Not Listed
	Listed
Propoxylated Polyethylenepolyamines	Not Listed

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.