PRO GLAS
PREMIUM EPOXY RESIN SYSTEMS

Date: 10/13/09

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

PRODUCT NAME: PRO GLAS 3400 B Hardener

PART #: 100440207, 100440208, 100440209, 100440210, 100440013, 100440113

CHEMICAL NAME: Amine/Polyamide Blend

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

2. Chemtrec 24-Hour Emergency Telephone

Domestic North America (800)424-9300 International (800)527-3887

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Materials Information System (United States)

Health	**2**
Flammability	**1**
Physical Hazard	**0**

Hazard Codes: *=Chronic Hazard 0=Minimal Hazard, 1=Slight Hazard, 2=Moderate Hazard, 3=Serious Hazard, 4=Severe Hazard

Material Composition

Component	CAS.NO	EINECS/ELINCS No.	Percent
Tetraethylenepentamine (TEPA)	112-57-2	203-986-2	3% - 5%
Triethylenetetramine (TETA)	112-24-3	203-950-6	1% - 3%
Polymer of C18 Unsaturated Fatty Acid Dimers w/TETA and TOFA	68082-29-1	Not Available	7% - 10%
TOFA, Reaction Products with TETA	68953-36-6	Not Available	7% - 10%
Benzyl Alcohol	100-51-6	202-859-9	15% - 20%
Amorphous Fumed Silica	67762-90-7	Exempt	3% - 5%
4,4'-Methylenebiscyclohexanamine	1761-71-3	217-168-8	2% - 5%
Cycloaliphatic Amine	Not Available	Not Available	20% – 30%
Acids, Proprietary Component	Not Available	Not Available	1% - 3%
Borosilicate Glass	65997-17-3	Not Available	5% - 10%
Iron Oxide	1309-37-1	215-168-2	0.5%

Hazardous Materials are listed if present in concentrations of 1.0% or higher. Materials posing a possible Chronic Health Risk are listed at concentrations of 0.1% or higher. Materials listed in section 2 are not necessarily hazardous. See section 8-Exposure Controls/Personal Protection, and section 11-Toxicological Information for complete hazard/exposure limit information

3. HAZARDS IDENTIFICATION

****Emergency Overview****

Moderate skin irritant. May cause eye irritation. May cause skin sensitization.

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EC Classification(s): Xn-Harmful

Risk Phrases: R20/22: Harmful by inhalation and if swallowed
R36/38: Irritating to eyes and skin
R43: May cause sensitization by skin contact

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

(See Section 15-REGULATORY INFORMATION for complete risk and safety phrases.)

ROUTES OF EXPOSURE

Eye Contact
Skin Contact
Ingestion
Inhalation
Skin Absorption

EXPOSURE STANDARDS

No standards established for the product. Maintain air contaminant concentrations in the workplace at the lowest feasible levels.

HEALTH HAZARDS

Harmful if swallowed.
Moderate eye irritant.
Moderate respiratory tract irritant.
Moderate skin irritant.
May cause skin sensitization.

TARGET ORGANS

Eye
Skin
Respiratory system

SIGNS AND SYMPTOMS OF EXPOSURE (Acute effects)

Product vapor in low concentrations can cause lacrimation, conjunctivitis and corneal edema when absorbed into the tissue of the eye from the atmosphere. Corneal edema may give rise to a perception of "blue haze" or "fog" around lights. The effect is transient and has no known residual effect. Contact with the skin may cause dryness (defatting), itching and/or rash. Inhalation of mists may cause irritation in the respiratory tract. Inhalation of vapors may cause irritation in the respiratory tract. Contact with the skin or eyes causes moderate eye and skin irritation, redness and discomfort which is transient. Coughing and chest pain may result. Product is absorbed through the skin and may cause nausea, headache and general discomfort.

SIGNS AND SYMPTOMS OF EXPOSURE (Possible Longer Term Effects)

Repeated and/or prolonged exposure may cause allergic reaction/sensitization. Repeated and/or prolonged exposures may result in: adverse respiratory effects (such as cough, tightness of chest or shortness of breath), adverse eye effects (such as conjunctivitis or corneal damage), adverse skin effects (such as defatting, rash, or irritation), adverse skin effects (such as rash, irritation or corrosion). Effects from inhalation of vapors may be delayed. Dryness of nasal passages may be experienced when
material is inhaled over a long period of time. Repeated and/or prolonged exposure to low concentrations of vapor may cause: sore throat, eye irritation which are transient.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

Asthma
Chronic respiratory disease (e.g. Bronchitis, Emphysema)
Eye disease
Skin disorders and Allergies

CARCINOGENS UNDER OSHA, ACGIH, NTP, IARC

This product contains no listed carcinogens in concentrations of 0.1 percent or greater.

See section 8-EXPOSURE CONTROLS/PERSONAL PROTECTION for exposure limits and recommended protective equipment. See section 11-TOXICOLOGICAL INFORMATION for any further information.

4. FIRST AID MEASURES

EYE CONTACT

Hold eyelids apart and immediately flush eyes with plenty of water for at least 15 minutes. Seek medical advice.

SKIN CONTACT

Remove contaminated clothing and shoes. Remove product and immediately flush affected area with water for at least 15 minutes. Cover the affected area with a sterile dressing or clean sheeting and transport for medical care. Do not apply greases or ointments. Control shock, if present.

INHALATION

Move patient to fresh air. If breathing has stopped or is labored give assisted respiration (e.g. mouth-to-mouth). Supplemental oxygen may be indicated. Seek medical advice. Prevent aspiration of vomit. Turn victim's head to the side.

INGESTION

In the event of ingestion, administer 3-4 glasses of milk or water. Do not induce vomiting. Seek medical advice.

5. FIRE FIGHTING PRECAUTIONS

FLASH POINT (closed cup)	96.67º C (206º F)
UPPER EXPLOSION LIMIT (UEL)	No Data
LOWER EXPLOSION LIMIT (LEL)	No Data
AUTOIGNITION TEMPERATURE	No Data
FIRE HAZARD CLASSIFICATION (OSHA/NFPA)	Class IIIB
EXTINGUISHING MEDIA	Ignition will give rise to a Class B fire. In case of large fire use: water spray, alcohol foam. In case of small fire use: carbon dioxide (CO_2), dry chemical, dry sand or limestone.

SPECIAL FIRE FIGHTING PROCEDURES

A face shield should be worn. Firefighters should wear butyl rubber boots, gloves, and body suit and a self-contained breathing apparatus. Retain expended liquids from fire fighting for later disposal.

UNUSUAL FIRE AND EXPLOSION HAZARDS

May generate toxic or irritating combustion products.
Contact of liquid with skin must be prevented.
Sudden reaction and fire may result if product is mixed with an oxidizing agent.
May generate carbon monoxide gas. May generate toxic nitrogen oxide gases. May generate ammonia gas.
Personnel in vicinity and downwind should be evacuated.

6. ACCIDENTAL RELEASE MEASURES

CONTAINMENT TECHNIQUES (Removal of ignition sources, diking etc)

Stop the leak, if possible. Ventilate the space involved. Reduce vapor spreading with a water spray. Shut off or remove all ignition sources. Construct a dike to prevent spreading (includes molten liquids until they freeze).

CLEAN-UP PROCEDURES

If recovery is not feasible, admix with dry soil, sand or non-reactive absorbent and place in an appropriate chemical waste container. Transfer to containers by suction, preparatory for later disposal. Place in metal containers for recovery or disposal. Flush area with water spray. Clean-up personnel must be equipped with self contained breathing apparatus and butyl rubber protective clothing..

OTHER EMERGENCY ADVICE

Open enclosed spaces to outside atmosphere. Wear protective clothing, boots, gloves, and eye protection. At elevated temperatures a cartridge mask National Institute for Occupational Safety and Health (NIOSH) approved for ammonia may be appropriate.

7. HANDLING AND STORAGE

STORAGE

Keep away from: acids, oxidizers. Keep in cool, dry, ventilated storage areas and in closed containers. Do not store in reactive metal containers.

HANDLING

Avoid contact with skin or eyes. Avoid breathing of vapors. Handle in well-ventilated workspace. When handling, do not eat, drink, or smoke.

OTHER PRECAUTIONS

Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations (e.g. OSHA). Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Cancer-causing nitrosamines could be formed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Hazardous Component Control Parameters –

Component	CAS. No.	EINECS	Percent	Exposure Limits	Source
Amorphous Silica	7631-86-9	231-545-4	<1%	2.4 mg/m^3 TWA respirable dust, 10 mg/m^3 TWA total inhalable dust	OES/EH40 ACGIH

EYE PROTECTION

Chemical Safety Glasses with Side-Shields. A full-face shield and vapor respirator is recommended for operations involving spraying or other operations placing this material under pressurized conditions.

HAND PROTECTION

Neoprene rubber gloves. Impermeable gloves. Cuffed butyl rubber gloves. Nitrile rubber gloves. Polyvinyl chloride gloves. Rubber Gloves. The breakthrough time of the selected glove(s) must be greater than the intended use period. The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all requisite workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), as well as the instructions/specifications provided by the glove supplier.

RESPIRATORY PROTECTION

Not required under normal conditions in a well-ventilated workplace. An organic vapor respirator National Institute for Occupational Safety and Health (NIOSH) approved for organic vapors is recommended under emergency conditions. At elevated temperatures a cartridge mask National Institute for Occupational Safety and Health (NIOSH) approved for ammonia may be appropriate.

PROTECTIVE CLOTHING

Long sleeved clothing.

ENGINEERING CONTROLS

No specific controls needed.

WORK AND HYGIENIC PRACTICES

Provide readily accessible eye wash stations and safety showers. Wash at the end of each work shift and before eating, smoking or using the toilet. Promptly remove clothing that becomes contaminated.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance :	Thixotropic Paste
Color :	Brown
Odor :	Amine Odor
Specific gravity :	0.85 - 0.90
Vapor pressure :	not determined
Boiling point/range :	Not Determined
Freezing point/range :	Not Determined
Water solubility :	Liquid Components are Slightly Soluble in Water (0.1 - 1%)
pH :	Basic
Flash point :	Not Determined
Auto-ignition temp. :	Not Determined
Flammability-LFL :	Not Determined
Flammability-UFL :	Not Determined
Volatile Organic Carbons:	0.0% (0.0 g/L)

10. STABILITY AND REACTIVITY

Chemical Stability

Stable under normal handling and storage conditions, see Section 7,Handling and Storage.

Materials to Avoid

Mineral acids, Organic acids, Oxidizing Agents, Reactive metals, Sodium or Calcium Hypochlorite. CAUTION! N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when this product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Materials reactive with hydroxyl compounds. Nitrites, nitrosating agents. A reaction accompanied by large heat release occurs when the product is mixed with acids. Heat generated may be sufficient to cause vigorous boiling creating a hazard due to splashing or splattering of hot material.

HAZARDOUS DECOMPOSITION PRODUCTS (from burning, heating, or reaction with other materials).

Nitrogen oxide can react with water vapors to form corrosive nitric acid (TLV=2 ppm). Carbon Monoxide in a fire. Carbon Dioxide in a fire. Ammonia when heated. Nitrogen Oxides in a fire. Irritating and toxic fumes at elevated Temperatures. Nitric acid in a fire. Nitrosamines. The oxides of nitrogen gases (except nitrous oxide) emitted on decomposition are highly toxic.

HAZARDOUS POLYMERIZATION

Will not occur

CONDITIONS TO AVOID (if polymerization may occur)

Not applicable

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

This finished product has not been tested to determine individual toxicological/ecological limits. Individual components of this product have been independently tested by the raw material manufacturers and any known results have been presented below. The results for the individual components may not be representative of the toxicity of this finished product.

Ingredient Name	CAS No.	%	Test	Result	Route	Species
Benzyl Alcohol	100-51-6	15% - 20%	LD50	>1230 mg/kg	Oral	Rat
Triethylenetetramine	112-24-3	1% - 3%	LD50	2500 mg/kg	Oral	Rat

-No Further Data Available-

Ingestion

Ingestion may cause gastrointestinal irritation or ulceration. Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

Skin Contact

Prolonged or widespread skin contact is not likely to result in absorption of toxic amounts.

Irritation

Skin

Brief contact may cause skin irritation. Symptoms may include pain, severe local redness and tissue damage. Skin contact has caused allergic skin reactions in certain sensitized individuals.

Eyes

May cause pain disproportionate to the level of irritation to eye tissues. May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur if left untreated.

Inhalation

May cause allergic respiratory response. Excessive exposure may cause irritation to upper respiratory tract (nose and throat).

Chronic Exposure

Carcinogen

This product contains no known or suspected human carcinogens in concentrations above 0.1%

Mutagen

Results from a battery of short term genotoxicity tests on components of this product indicate mutagenic activity.

Reproductive Hazard

This Product contains no known materials or materials suspected of causing human reproductive hazards.

12. ECOLOGICAL INFORMATION

Persistence/degradability:

Chemical Name	CAS No.	%	Biodegradability:

-No Data Available-

While no further information is available on the Ecological impacts of this material, caution should be taken to prevent release to the environment. See Section 13 for further information.

Ecotoxicity Data:

Chemical Name	CAS No.	%	Test	Concentration	Result	Species

-No data available-

Individual components of this mixture have been independently tested by the raw material suppliers and any known results have been presented above. The results for the individual components may not be representative of the ecological toxicity of this finished product. This finished product has not been tested to determine individual toxicological/ecological limits Great Caution should be taken to prevent release to the environment. See Section 13 for further information.

13. DISPOSAL CONSIDERATIONS

Disposal

Preferred method of disposal includes incineration under controlled conditions in accordance with all local and national laws and regulations. The generation of waste should be avoided or minimized wherever possible. Untreated material is not suitable for disposal. Waste, even small quantities, should never be poured down drains, sewers or watercourses. Waste must be disposed of in accordance with federal, state and local environmental control regulations. This material, when properly mixed and cured with its resin component at the proper mix ratio, may be safely landfilled.

Contaminated packaging

Empty containers can only be disposed of when the remaining product adhering to the container walls has been removed. Hazard warning labels should be removed from the container only after it has been properly emptied.

14. TRANSPORT INFORMATION

Land/Air/Sea/Rail

Proper Shipping Name: Liquid Plastic, NOI
UN Number: Not Regulated
Hazard Class: Not Regulated
Packing Group: Not Regulated

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS

TOXIC SUBSTANCES CONTROL ACT (TSCA):

All components are included in the EPA Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

TOXIC SUBSTANCE CONTROL ACT (TSCA) 12(b) COMPONENT(S):

None

OSHA Hazard Communication Standard (29CFR1910.1200) hazard class(es):

Irritant. Sensitizer.

EPA SARA Title III Section 312 (40CFR370) hazard class:

Immediate Health Hazard. Delayed Health Hazard.

EPA SARA Title III Section 313 (40CFR372) toxic chemicals above "de minimis" level are:

None

STATE REGULATIONS

PROPOSITION 65 SUBSTANCES (component(s) known to the State of California to cause cancer and/or reproductive toxicity and subject to warning and discharge requirements under the "Safe Drinking Water and Toxic Enforcement Act of 1986")

None

PRO GLAS
PREMIUM EPOXY RESIN SYSTEMS

CANADA

DSL

Included on Inventory.

WHMIS HAZARD CLASSIFICATION

Class D Division 2B,

WHMIS INGREDIENT DISCLOSURE LIST

BENZYL ALCOHOL
TETRAETHYLENEPENTAMINE (TEPA)
TRIETHYLENETETRAMINE (TETA)

WHMIS TRADE SECRET REGISTRY NUMBER(S)

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

None

WHMIS SYMBOLS

EUROPEAN ECONOMIC COMMUNITY (EEC)

EINECS/ELINCS MASTER INVENTORY

Included on EINECS inventory or polymer substance, monomers included on EINECS inventory or no longer polymer.

EEC SYMBOL

Xn

EU Classification: Xn-Harmful

Risk Phrases:	R20/22:	Harmful by inhalation and if swallowed
	R36/38:	Irritating to eyes and skin
	R43:	May cause sensitization by skin contact
	R52/53:	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
Safety Phrases:	S26:	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
	S36/37:	Wear suitable protective clothing and gloves
	S61:	Avoid release to the environment. Refer to special instructions/Safety data sheet.
	S45:	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

16. OTHER INFORMATION

No Other Information

To the best of our knowledge, the information contained herein is accurate. Final determination of the suitability of any material is the sole responsibility of the users. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.