

**MATERIAL SAFETY DATA SHEET**

Prepared by: Technical Barrier Systems Inc. Revision Date: 12/8/06

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). Where a proprietary ingredient is shown, the identity may be made available as provided in this standard.

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

**1. PRODUCT NAME: MONOBOND 100% RESIN**

Chemical Family: Epoxy Resin and Solvent Mixture

<b>2. HAZARDOUS INGREDIENTS:</b>	CASNO	<b>EXPOSURE LIMITS*</b>				CONTENT
		TLV	STEL	PEL		
Epoxy Resin	25068-38-6	None	None	None	73-78%	
Alkyl Glycidyl Ether	68609-97-2	10.4	None	None	7-10%	
Benzyl Alcohol	100-51-6	None	None	None	7-10%	
Nonylphenol	25154-52-3	None	None	None	3-6%	

\* Refer to Section 7 for available LD/LC(50) Health Hazard Data.

**3. PHYSICAL DATA:**

Boiling Point (°C):	N/Av	Coefficient:	N/Av
Percent Volatile:	0.0 g/l	Solubility in Water:	Insoluble
Freezing Point (°C)	N/Av	Specific Gravity:	.93
Vapor Pressure:	N/Av	pH:	N/Av
Vapor Density:	N/Av	Evaporation Rate:	N/Av
Odor Threshold:	N/Av	Odor:	Hydrocarbon odor.
Appearance: Clear or colored viscous liquid		ca. =	Approximate
N/Av = Not Available N/Av = Not Applicable			

**4. FIRE AND EXPLOSION HAZARD DATA:** HMIS Hazard Rating No. 1 (slight)

**Flash Point:** > 150°C Closed Cup

**Auto-Ignition Temp:** Not Available

**Conditions of Flammability:** Not Available

**Extinguishing Media:** Large fires: Alcohol foam or water spray. Small fires: Dry chemical, carbon dioxide or limestone.

**Special Fire & Unusual Hazards:** Self-contained respirator equipment (NIOSH Approved) with independent air supply. Full protective clothing required. Personnel in vicinity and downwind should be evacuated.

5. **REACTIVITY DATA:** HMIS Hazard Rating No. 0 (Minimal)

**Stability:** Stable. Not sensitive to mechanical impact. Excessive heat, fumes and smoke can occur if this product is not mixed and used according to directions.

**Incompatibility:** Strong acids, strong alkalis, contact with oxidizing substances.

**Hazardous Decomposition Products:** Oxides of carbon and nitrogen; aldehydes and various unknown hydrocarbons from incomplete combustion.

**Hazardous Polymerization:** Will not occur when handled per instructions.

6. **ENVIRONMENTAL AND DISPOSAL INFORMATION:**

**Action to Take For Spills/Leaks:** Ventilate area, eliminate all sources of ignition. Wear appropriate protective gear, contain leak or spill, salvage, and clean up residue with absorbent material.

**Waster Disposal Method:** Handle disposal of waste material in manner, which complies with local, state, province and federal regulation. Landfill if solidified or incineration at agency approved waste-disposal facilities.

7. **HEALTH HAZARD DATA:** HMIS Hazard Rating No. 1 (Slight)

**Primary Route of Entry:** Inhalation, Dermal, and Eyes

**Effects of Overexposure:**

**Inhalation:** Vapors can be irritating to nose and mucus membranes. High exposures may result in narcotic effect, headaches, and possible asphyxiation. Exposure to fumes can result in psycho physiological changes and distorted perception.

**Eyes:** Moderately irritating. Causes redness, tearing.

**Skin Contact:** Prolonged or repeated exposure may cause skin irritation and redness. Skin sensitization or allergic reaction may occur in some individuals.

**Ingestion:** Intake can cause gastrointestinal irritation, nausea, vomiting, diarrhea, headache and drowsiness.

**Chronic:** Product does not contain carcinogenic materials as defined by OSHA Hazardous Communications Act 1910.1200. Materials are not known mutagenic, teratogenic, or reproductive health hazards.

Long term exposure to high concentrations of vapors may result in headaches, nausea, dizziness, central nervous system depression and narcosis.

**8. FIRST AID:**

**Inhalation:** Remove victim from exposure. If difficulty with breathing, administer oxygen. If breathing has stopped administer artificial respiration, preferably mouth-to-mouth. Seek medical attention.

**Eyes:** Flush eyes with water, lifting upper and lower lids occasionally for 15 minutes. Seek medical attention.

**Skin:** Remove contaminated clothing. Wash thoroughly with soap and water. If irritation persists seek medical attention. Wash contaminated clothing before reuse.

**Ingestion:** Do not give liquid if victim is unconscious or very drowsy, otherwise, give no more than two glasses of water or milk and induce vomiting by 2 tablespoons Syrup of Ipecac or by touching finger to back of victim's throat. Keep victim's head below hips while vomiting. Seek medical attention.

**9. SPECIAL PROTECTION INFORMATION:**

**Ventilation:** Ventilation is recommended. Air movement must be designed to insure turnover at all locations in work area to avoid build up of heavy vapors.

**Personal Protection Equipment:** Do NOT wear contact lenses when working with this material. Use chemical goggles/safety glasses with side shields and Rubber/Latex gloves. Selection of specific items such as boots and apron will depend on operation. Wear respirator protection whenever airborne concentrations exceed TLV ceilings or TWA, use NIOSH/OSHA approved respirators equipped with an organic vapor cartridge for listed hazard.

Confined spaces, rooms, or tanks are areas where concern for TLV's is especially important. Reference OSHA Regulation CFR 29 1910.134 for recommended respiratory protection.

**10. ADDITIONAL INFORMATION:**

**Average Shelf Life:** Refer to Product Data Sheet.

**Special Instructions:** Store in cool, dry place.

**State:** California No reportable materials.

**WHMIS Classification:** Class D, Div 2, Sub B

**Canadian Domestic Substance List:** All chemicals are listed.

The information herein is given in good faith. No warranty, expressed or implied, is given regarding the accuracy of these data or the results obtained from the use thereof. Consult Technical Barrier Systems Inc. for further information.

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Revision Date:12/8/06

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

**1. PRODUCT NAME: MONOBOND 100% HARDENER**

Chemical Family: Amino resin and ketone

2. HAZARDOUS INGREDIENTS:	CASNO	EXPOSURE LIMITS*			CONTENT
		TLV	STEL	PEL	
Polyamide resin	68082-29-1	None	None	None	45-60%
Acetone 1000ppm	67-64-1		750ppm		
		750ppm	40-50%		
Triethyleneteramine	112-24-3	None	None	None	< 5%

\*) Refer to Section 7 for available LD/LC(50) Health Hazard Data.

**3. PHYSICAL DATA:**

Boiling Point (°C):	(Acetone) 56	Water/Oil Distribution
Percent Volatile:	60	Coefficient: N/Av
Freezing Point (°C)	N/Av	Solubility in Water: 100%
Vapor Pressure mmHg @20(°C):	226mm	Gravity: 8.5
Vapor Density:	> Air	pH: N/Av
Odor Threshold:	N/Av	Evaporation Rate: N/Av
Appearance: Amber-clear Liquid		Odor: Ketone, sweet
N/Av = Not Available	N/Av = Not Available	ca. = Approximate

**4. FIRE AND EXPLOSION HAZARD DATA: HMIS Hazard Rating No. 3 (Serious)**

Flash Point: &lt;-18°C (&gt;0°F)

Method: Pensky Martin C.C.

Auto-Ignition Temp.: 465°C (869°F) (Acetone)

Limited of Flammability: LEL: 2.6% (Acetone) UEL: 12.8% (Acetone)

Extinguishing Media: Carbon dioxide, foam, dry chemical &amp; water fog.

**4. FIRE AND EXPLOSION HAZARD DATA (cont'd):****Special Fire & Unusual Hazards:**

At higher temperature vapors can cause pressure build up in sealed containers. Use water to cool containers exposed to fire. Vapors heavier than air can concentrate, travel to source of ignitions, and flash back.

Residue in container can ignite explosively. Self-contained respirator equipment and full protective clothing required when smoke or fumes are generated. Electrical grounding is not recommended for containers 5 gallon (20 litres) or smaller.

**5. REACTIVITY DATA:** HMIS Hazard Rating No. 0 (Minimal)

**Stability:** Stable. Not sensitive to mechanical impact. Excessive heat, fumes and smoke can occur if this product is not mixed and used according to directions.

**Incompatibility:** Peroxides, oxidizing, and reducing agents, excessive heat and sources of ignition.

**Hazardous Decomposition Products:** Oxides of carbon and nitrogen; various unknown hydrocarbons from incomplete combustion.

**Hazardous Polymerization:** Will not occur when handled per instructions.

**6. ENVIRONMENTAL AND DISPOSAL INFORMATION:**

**Action to Take For Spills/Leaks:** Ventilate area, eliminate all sources of ignition. Wear appropriate protective gear, contain leak or spill, salvage, and clean up residue with absorbent material.

**Waste Disposal Method:** Handle disposal of waste material in manner which complies with local, state, province and federal regulation. Incineration at agency approved waste-disposal facilities.

**7. HEALTH HAZARD DATA:** HMIS Hazard Rating No. 2 (Moderate)

**PRIMARY ROUTE OF ENTRY:** Inhalation, Skin, Eyes, and Oral

Effect of Overexposure

**Inhalation :** Vapors can be irritating to nose and mucous membranes. High exposures to Xylene may result in narcotic effect, headaches, psycho physiological changes, distorted perception and possible asphyxiation.

**LC(50) Inhal.** CASRN 67-64-1 50.1 gm/m<sup>3</sup> 8Hr Rat.

**Eyes:** Contact can cause severe irritation, redness, and tearing, blurred vision. May cause corneal injury.



**Ingestion:** Do NOT induce vomiting; give large quantities of water; get immediate medical attention. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquids into lungs. do not give anything by mouth to an unconscious person.

## 9. SPECIAL PROTECTION INFORMATION:

**Ventilation:** Ventilation is recommended. Air movement must be designed to insure turnover at all locations in work area to avoid build up of heavy vapors.

**Personal Protection Equipment:** Do NOT wear contact lenses when working with this material. Use chemical goggles/safety glasses with side shields and Rubber/Latex gloves. Selection of specific items such as boots and apron will depend on operation. Wear respirator protection whenever airborne concentrations exceed TLV ceilings or TWA, use NIOSH/OSHA approved respirators equipped with an organic vapor cartridge for listed hazard. Confined spaces, rooms, or tanks are areas where concern for TLV's is especially important. Reference OSHA Regulation CFR 29 1910.134 for recommended respiratory protection.

## 10. ADDITIONAL INFORMATION:

Average Shelf Life: Refer to Product Data Sheet.  
Special Instructions: Store in cool, dry place.

## 11. REGULATORY INFORMATION:

Title III Section 302: CASRN 67-64-1 RQ: 5000 lbs.

Title III Section 311/312: Health hazard: Immediate  
Delayed  
Physical hazard: None

Title III Section 313: CASRN 67-64-1 < 50%

WHMIS Classification: Class B, Div 2  
Class D, Div 2, Sub B

## 12. TRANSPORTATION

**National Motor Freight Classification (NMFC):** 46030 Sub: - Class: 55

**Description:** REGULATED - USE DOT PROPER SHIPPING NAME

DOT Reportable Quantity: 0  
DOT

Shipping Name: CYCLOALIPHATIC AMINO/NONLY/PHENOL, N.O.S.  
UNNO: UN 2735 Class: 8 Package Group: II  
Label: CORROSIVE Sub-Label: NONE

INTERNATIONAL

Shipping Name: CYCLOALIPHATIC AMINO/NONYL/PHENOL, N.O.S.  
UNNO: UN 2735 TDGDC: 8 Package Group: II  
Label: CORROSIVE Sub-Label: NONE

Marine Pollutant: NL (NL = Not Listed; P = Moderate; PP = Severe; ND = Not Determined)

The information herein is given in good faith. No warranty, expressed or implied, is given regarding the accuracy of these data or the results obtained from the use thereof. Consult Technical Barrier Systems Inc. for further information.