

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT IDENTIFICATION AND USE				
PRODUCT IDENTIFIER: Bovi-Bond™ Block Adhesive 46129 & 46130 (Part A)		HMIS RATING:		2
PRODUCT USE: Hoof Repair Materials		Health		1
MANUFACTURER/SUPPLIER'S NAME: Vettec, Inc.		Flammability		1
STREET ADDRESS: 600 E. Hueneme Road		Reactivity		1
CITY: Oxnard		PPI RATING:		M
PROVINCE/STATE: California, USA		Personal Protective Index (See section 7)		M
POSTAL CODE: 93033		HMIS CODES:		PPI CODES:
NAME AND PHONE NUMBER OF PREPARER: Vettec, Inc. (805) 483-8832		0 = Minimal 2 = Moderate 4 = Severe		1 = Slight 3 = Serious H = High M = Medium L = Low
DATE: April, 2003		EMERGENCY TELEPHONE NO.: Call CHEMTREC (800) 424-9300 (U.S. & Canada) (703) 527-3887 (Outside U.S. & Canada)		
CHANGE/UPDATE INFORMATION Addition of New Product				
SECTION 2 - HAZARDOUS INGREDIENTS				
HAZARDOUS INGREDIENTS	%	CAS	LD50 OF INGREDIENT (SPECIFY SPECIES & ROUTE)	LC50 OF INGREDIENT (SPECIFY SPECIES)
Diphenylmethane diisocyanate (MDI)	40 - 70	101-68-8	>2000 mg/kg, rabbit, dermal >5000 mg/kg, rat, oral	490 mg/m <sup>3</sup> , rabbit, inhalation
Diphenylmethanediisocyanate prepolymer	15 - 40	68424-09-9	N/A	N/A
SECTION 3 - PHYSICAL DATA				
PHYSICAL STATE: Medium viscosity liquid.	ODOR AND APPEARANCE: Low or no detectable odor, weakly aromatic. Yellow color.		ODOR THRESHOLD (ppm): N/A	
VAPOR PRESSURE (mmHg): <4 x 10 <sup>-6</sup> @ 68°F ( 20°C)	VAPOR DENSITY: >1 (air=1)	EVAPORATION RATE: <1 (air=1) Very low vapor pressure; gels with exposure to humidity.		BOILING & FREEZING POINT (°C): BP > 400°F (204°C)
Ph N/A	SPECIFIC GRAVITY: 1.0 - 1.2	COEFF WATER/OIL DIST. N/A		
SECTION 4 - FIRE AND EXPLOSION DATA				
FLAMMABILITY YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> IF YES, UNDER WHICH CONDITIONS				
MEANS OF EXTINGUISHION: Carbon dioxide, dry chemical, or foam is preferred. Water may be used as a blanket for fire extinguishment. If water is used, it should be used in very large quantities, and if possible contain water run-off.				
FLASHPOINT (°C) AND METHOD: >280°F (138°C) Cleveland Open Cup		UPPER FLAMMABLE LIMIT (% BY VOLUME): N/A	LOWER FLAMMABLE LIMIT (% BY VOLUME): N/A	
AUTOIGNITION TEMPERATURE (°C): N/A		HAZARDOUS COMBUSTION PRODUCTS: Oxides of nitrogen and carbon, traces of HCN, MDI vapors and aerosols.		
EXPLOSION DATA: Moisture contamination will react to form excessive carbon dioxide gas pressure in closed containers.		SENSITIVITY TO SHOCK/IMPACT: None		SENSITIVITY TO STATIC DISCHARGE: None
SECTION 5 - REACTIVITY DATA				
CHEMICAL STABILITY IF NO, UNDER WHICH CONDITIONS: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Stable.				
INCOMPATIBILITY WITH OTHER SUBSTANCES YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> IF SO WHICH ONES?: Strong mineral acids, bases, oxidizers, metals, and/or water.				
REACTIVITY, AND UNDER WHAT CONDITIONS: Hazardous polymerization may occur with high temperatures associated with fires and/or contact with incompatible materials. Highly exothermic reactions may occur when mixed in large quantities with incompatible materials.				
HAZARDOUS DECOMPOSITION PRODUCTS: By high heat and fire: oxides of nitrogen and carbon, traces of HCN, MDI vapors and aerosols.				

N/A = Not Available

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PRODUCT IDENTIFIER: <b>Bovi-Bond™ Block Adhesive 46129 &amp; 46130 (Part A)</b>			
<b>SECTION 6 - TOXICOLOGICAL PROPERTIES</b>			
ROUTE OF ENTRY SKIN CONTACT ■                      SKIN ABSORPTION ■                      EYE CONTACT ■                      INHALATION AND INGESTION ■			
EFFECTS OF ACUTE EXPOSURE TO PRODUCT: <b>Exposure may result in sensitization. Prolonged or repeated exposure may cause skin irritation (chemical dermatitis).</b>			
EFFECTS OF CHRONIC EXPOSURE TO PRODUCT <b>Exposure above the TLV can cause irritation of the mucous membranes. Chest pain and/or shortness of breath may occur in rare instances.</b>			
EXPOSURE LIMITS TLV=0.005 ppm TWA (MDI) PEL=0.02 ppm (MDI)	IRRITANCY OF PRODUCT Skin and eyes.	SENSITIZATION TO PRODUCT Skin	CARCINOGENICITY No indication.
TERATOGENICITY N/A	REPRODUCTIVE TOXICITY N/A	MUTAGENICITY N/A	SYNERGISTIC PRODUCTS N/A
<b>SECTION 7 - PREVENTATIVE MEASURES</b>			
PERSONAL PROTECTIVE EQUIPMENT TO BE USED <b>Use product in a well-ventilated area with proper eye, skin and respiratory protection as specified below.</b>			
GLOVES (SPECIFY) Butyl rubber, nitrile rubber, or polyvinyl alcohol gloves are recommended.	RESPIRATOR (SPECIFY) Use respirator approved by NIOSH/MSHA for organic vapors (TC-23C-860 or equivalent) when working with the product in poorly ventilated areas, or when large quantities of unreacted product are involved. Use of this respirator is also recommended to avoid breathing the dust created from the grinding or sanding of the cured polymer.	EYE (SPECIFY) Always wear eye goggles when dispensing manually or pneumatically. Full eye protection is also required when grinding or sanding cured polymer.	
FOOTWEAR (SPECIFY) Shoe material composition should be resistant to solvent/chemical absorption. Leather material once contaminated, cannot be decontaminated.	CLOTHING (SPECIFY) Normal work clothing providing complete covering of arms and legs when working with small quantities. Any clothing contaminated with product should be washed thoroughly before reuse. When working with large quantities of product, complete coverage with an impermeable material is desirable.	OTHER (SPECIFY) Wash hands after use. Avoid contact with skin and clothing.	
SPECIFIC ENGINEERING CONTROLS TO BE USED <b>General exhaust (dilution ventilation) is required. Local exhaust (capture and exhausting of air contaminants) is highly recommended. When dispensing product pneumatically, the proper shielding is to be affixed to dispenser.</b>			
PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL: <b>Absorb excess material in sawdust or other commercially available absorbent. Remove residue with detergent and water. In event of a large spill, persons without proper protective equipment should be excluded from area.</b>			
WASTE DISPOSAL: <b>Waste or material contaminated with waste must be disposed of in accordance with federal, state and local regulations. Incineration in accordance with applicable regulations is preferred.</b>			
STORAGE REQUIREMENTS: <b>Store in a cool, dry place with adequate ventilation. For maximum product stability maintain temperature range of 65°-85° F.</b>			
<b>SECTION 8 - FIRST AID MEASURES</b>			
SPECIFIC MEASURES: <b>EYE CONTACT:</b> Flush with copious amounts of water, preferably lukewarm for at least 15 min. holding eyelids open all the time. Refer individual to physician or ophthalmologist for immediate follow-up. <b>SKIN CONTACT</b> Remove contaminated clothing immediately. Wash skin promptly and thoroughly with soap and water. If a severe exposure occurs remove clothing while showering in a safety shower. Seek medical attention if irritation or allergic reaction develops, or if gross exposure occurs. <b>EXCESSIVE INHALATION:</b> Remove to fresh air immediately. Oxygen or artificial respiration may be administered by qualified personnel as needed. Obtain medical attention. Monitor for delayed (2-3 hr) asthmatic-type symptoms and consult physician if this occurs. <b>INGESTION:</b> <b>DO NOT INDUCE VOMITING.</b> Rinse mouth with water and administer 1-2 glasses of milk or water. Never give fluids to an unconscious or convulsing victim. Obtain medical attention immediately			
<b>SECTION 9 - SHIPPING INFORMATION</b>			
SPECIAL SHIPPING INFORMATION D.O.T. Proper Chemical Name: Hoof Repair Material, Non Regulated			

N/A = Not Available

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT IDENTIFICATION AND USE				
PRODUCT IDENTIFIER: <b>Bovi-Bond™ Block Adhesive 46129 &amp; 46130 (Part B)</b>			HMIS RATING: <b>Health</b>	
PRODUCT USE: <b>Hoof Repair Material</b>			<b>Flammability</b> <b>1</b>	
MANUFACTURER/SUPPLIER'S NAME: <b>Vettec, Inc.</b>			<b>Reactivity</b> <b>1</b>	
STREET ADDRESS: <b>600 E. Hueneme Road</b>		CITY: <b>Oxnard</b>	PPI RATING: <b>Personal Protective Index (See section 7) M</b>	
PROVINCE/STATE: <b>California, USA</b>		POSTAL CODE: <b>93033</b>	HMIS CODES: 0 = Minimal    1 = Slight 2 = Moderate    3 = Serious 4 = Severe	
NAME AND PHONE NUMBER OF PREPARER: <b>Vettec, Inc. (805) 483-8832</b>		DATE: <b>April, 2003</b>	PPI CODES: H = High M = Medium L = Low	
CHANGE/UPDATE INFORMATION <b>Addition of New Product</b>			EMERGENCY TELEPHONE NO.: Call CHEMTREC <b>(800) 424-9300 (U.S. &amp; Canada)</b> <b>(703) 527-3887 (Outside U.S. &amp; Canada)</b>	
SECTION 2 - HAZARDOUS INGREDIENTS				
HAZARDOUS INGREDIENTS	%	CAS	LD50 OF INGREDIENT (SPECIFY SPECIES & ROUTE)	LC50 OF INGREDIENT (SPECIFY SPECIES)
Tetrakis (2-hydroxypropyl) ethylenediamine	10 - 30	102-60-3	3900 mg/kg, rat, oral	N/A
meta-xylylenediamine	1 - 5	1477-55-0	2000 mg/kg, rabbit, dermal 930 mg/kg, rat, oral	130 mg/L, golden orfe
SECTION 3 - PHYSICAL DATA				
PHYSICAL STATE: <b>Medium viscosity liquid.</b>	ODOR AND APPEARANCE: <b>Slight ammonia like odor. Color – Light yellow color.</b>		ODOR THRESHOLD (ppm): <b>N/A</b>	
VAPOR PRESSURE (mmHg): <b>N/A</b>	VAPOR DENSITY: <b>&gt;1 (air = 1)</b>	EVAPORATION RATE: <b>&lt;1 (water = 1)</b>	BOILING & FREEZING POINT (°C): <b>BP &gt; 390°F (199°C)</b>	
Ph <b>N/A</b>	SPECIFIC GRAVITY: <b>1.0 – 1.1</b>	COEFF WATER/OIL DIST. <b>N/A</b>		
SECTION 4 - FIRE AND EXPLOSION DATA				
FLAMMABILITY YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> IF YES, UNDER WHICH CONDITIONS				
MEANS OF EXTINGUISHION: <b>Carbon dioxide, dry chemical, or foam is preferred. Water may be used as a blanket for fire extinguishment. If water is used, it should be used in very large quantities, and if possible contain water run-off.</b>				
FLASHPOINT (°C) AND METHOD: <b>&gt;275°F (135°C) Cleveland Open Cup</b>		UPPER FLAMMABLE LIMIT (% BY VOLUME): <b>N/A</b>	LOWER FLAMMABLE LIMIT (% BY VOLUME): <b>N/A</b>	
AUTOIGNITION TEMPERATURE (°C): <b>N/A</b>		HAZARDOUS COMBUSTION PRODUCTS: <b>Hydrocarbon vapors and oxides of carbon and nitrogen plus undetermined aliphatic fragments.</b>		
EXPLOSION DATA: <b>No hazards.</b>		SENSITIVITY TO SHOCK/IMPACT: <b>None</b>	SENSITIVITY TO STATIC DISCHARGE <b>None</b>	
SECTION 5 – REACTIVITY DATA				
CHEMICAL STABILITY IF NO, UNDER WHICH CONDITIONS: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> <b>Stable.</b>				
INCOMPATIBILITY WITH OTHER SUBSTANCES YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> IF SO WHICH ONES?: <b>Strong mineral acids, oxidizing agents and isocyanates.</b>				
REACTIVITY, AND UNDER WHAT CONDITIONS: <b>Hazardous polymerization may occur with high temperatures and contact with isocyanates. Highly exothermic reactions may occur when mixed in large quantities with incompatible materials.</b>				
HAZARDOUS DECOMPOSITION PRODUCTS: <b>By high heat and fire: hydrocarbon vapors and oxides of carbon and nitrogen plus undetermined aliphatic fragments.</b>				

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MATERIAL SAFETY DATA SHEET

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ROUTE OF ENTRY SKIN CONTACT ■                      SKIN ABSORPTION ■                      EYE CONTACT ■                      INHALATION AND INGESTION ■			
EFFECTS OF ACUTE EXPOSURE TO PRODUCT: <b>Prolonged or repeated exposure may cause skin irritation (chemical dermatitis).</b>			
EFFECTS OF CHRONIC EXPOSURE TO PRODUCT: <b>Animal studies have shown increased tumor formation in liver, thyroids and possible mammary glands through ingestion.</b>			
EXPOSURE LIMITS N/A	IRRITANCY OF PRODUCT Skin and eyes.	SENSITIZATION TO PRODUCT Skin	CARCINOGENICITY No indication
TERATOGENICITY N/A	REPRODUCTIVE TOXICITY N/A	MUTAGENICITY N/A	SYNERGISTIC PRODUCTS N/A
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<b>SECTION 9 - SHIPPING INFORMATION</b>			
SPECIAL SHIPPING INFORMATION D.O.T. Proper Chemical Name: Hoof Repair Materials, Non Regulated			

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