

## MATERIAL SAFETY DATA SHEET

**Company Name:** TREMCO INC  
**Address:** 4475 E 175TH ST  
**City / State / Zip:** CLEVELAND / OH / 44128  
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**Vendor Update:** 3/7/2003  
**Date Prepared:** 5/13/2003  
**MSDS Number:** V1160FW ; V116BL ; V116BRZ ; V116GRY ; V116L ; V116T ;

### I. CHEMICAL PRODUCT IDENTIFICATION

**Product Name:** VULKEM 116 SEALANT  
**HMIS Ratings:**  
**NFPA Ratings:**

### II. COMPOSITION, INFORMATION ON INGREDIENTS

Chemical Ingredients	C.A.S. Number	% By Weight	ACGIH TLV TWA/STEL	OSHA PEL TWA/STEL	Other TWA/STEL	LD50	LC50
AROMATIC POLYISOCYANATE RESIN	TRADE SECRET	30 – 50					
<b>Notes</b>							
LIMESTONE (CALCIUM CARBONATE)	1317-65-3	10 – 20	10 MG/M <sup>3</sup> TOTAL DUST, NO ASBESTOS,	15 MG/M <sup>3</sup> TOTAL DUST, 5 MG/M <sup>3</sup> RESPIRABLE FRACTION			
<b>Notes</b>							
PHTHALATE PLASTICIZER	TRADE SECRET	10 – 20					
<b>Notes</b>							
TACKIFIER	TRADE SECRET	5 – 10					
<b>Notes</b>							
BUTYL BENZYL PHTHALATE	85-68-7	5 – 10	5 MG/M <sup>3</sup> 10 MG/M <sup>3</sup>	5 MG/M <sup>3</sup>			
<b>Notes</b>							
THICKENER	TRADE SECRET	3 – 7					
<b>Notes</b>							
LVP AROMATIC PETROLEUM HYDROCARBON	68477-31-6	1 – 4					
<b>Notes</b>							
INERT FILLER	TRADE SECRET	1 – 5					
<b>Notes</b>							
HYDROTREATED LIGHT PETROLEUM DISTILLATE	64742-47-8	1 – 3					
<b>Notes</b>							
	64742-95-6	1 – 3					

AROMATIC PETROLEUM DISTILLATE							
<b>Notes</b>							
4,4' – METHYLENE BIS(PHENYLISOCYANATE)	101–68–8	0.1 – 0.5	0.005 PPM		OSHA CEIL: 0.020 PPM		
<b>Notes</b>							
TOLUENE DIISOCYANATE (MIXED ISOMERS)	26471–62–5	0.1 – 0.5	0.005 PPM 0.020 PPM	0.005 PPM 0.020 PPM			
<b>Notes</b>							
XYLENES (DIMETHYLBENZENES)	1330–20–7	0.1 – 0.5	100 PPM 150 PPM	100 PPM 150 PPM			
<b>Notes</b>							
POLYMETHYLENE POLYPHENYL ISOCYANATE	9016–87–9	0.1 – 0.5	0.005 PPM		OSHA CEIL: 0.020 PPM		
<b>Notes</b>							
CRYSTALLINE SILICA (QUARTZ)	14808–60–7	0.01 – 0.4	0.050 MG/M <sup>3</sup> (RESPIRABLE DUST)				
<b>Notes</b>							
CARBON BLACK	1333–86–4	0.0 – 2.0	3.50 MG/M <sup>3</sup>	3.50 MG/M <sup>3</sup>			
<b>Notes</b>							
TITANIUM DIOXIDE	13463–67–7	0.0 – 10	10 MG/M <sup>3</sup>	10 MG/M <sup>3</sup> (TOTAL DUST, NO ASBESTOS,			
<b>Notes</b>							
IRON OXIDE	1309–37–1	0.0 – 7.0	5 MG/M <sup>3</sup> (FUME AS FE)	10 MG/M <sup>3</sup> (DUST, FUME AS FE)			
<b>Notes</b>							

### III. HAZARDS IDENTIFICATION PRIMARY ROUTE OF ENTRY

**Eyes:** CAN CAUSE IRRITATION.

**Skin:** CAN CAUSE IRRITATION, SENSITIZATION, DERMATITIS. CAN BE ABSORBED THROUGH SKIN.

**Ingestion:** CAN CAUSE GASTROINTESTINAL IRRITATION.

**Inhalation:** CAN CAUSE HEADACHE, IRRITATION, NAUSEA, DROWSINESS, STUPOR, COUGHING SPELL AND ALLERGIC RESPIRATORY SENSITIZATION. LEAVE AREA TO BREATHE FRESH AIR. SHOULD BE OBSERVED BY PHYSICIAN IMMEDIATELY IF OVER-EXPOSURE IS SEVERE.

#### **Signs and Symptoms of**

**Exposure:**

**Other:** CHRONIC: REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING CONTENTS MAY BE HARMFUL OR FATAL.

PROLONGED OR REPEATED EXPOSURES (ORALLY AND BY INHALATION) OF BUTYL BENZYL PHTHALATE (BBP) TO RATS PRODUCED DECREASED BODY WEIGHTS, SPLEEN AND SEX ORGAN CHANGES, INCREASED LIVER AND KIDNEY WEIGHTS, REDUCED FOOD CONSUMPTION, WEAKNESS, HIND LIMB STIFFNESS, AND EFFECTS ON THE LIVER, TESTES AND PANCREAS. BIRTH DEFECTS HAVE BEEN REPORTED IN MICE AND RATS AT DOSE LEVELS OF BBP THAT PRODUCE SIGNIFICANT TOXICITY IN THE MOTHER AND OFFSPRING. HOWEVER, BIRTH DEFECTS HAVE NOT BEEN OBSERVED IN RABBITS. EVIDENCE OF CARCINOGENICITY OF BBP HAS BEEN MIXED. AN INITIAL NTP STUDY OF BBP EFFECTS HAS REPORTED AN INCREASED INCIDENCE OF MONONUCLEAR CELL LEUKEMIAS IN FEMALE RATS, A COMMONLY OCCURRING SPONTANEOUS DISEASE IN THIS STRAIN, BUT NO INCREASE IN TUMORS IN MICE. HOWEVER, A REPEAT STUDY HAS NOT FOUND AN INCREASE IN LEUKEMIAS, ALTHOUGH AN INCREASE IN KIDNEY AND BLADDER LESIONS IN FEMALES AND IN PANCREATIC TUMORS IN MALES WAS NOTED. FURTHERMORE, A CONCURRENT STUDY THAT RESTRICTED DIET ALSO HAS NOT REVEALED ANY INCREASE IN TUMORS IN MALE AND FEMALE RATS. NUMEROUS STUDIES ALSO HAVE INDICATED THAT BBP IS NOT GENOTOXIC. A LONG-TERM NTP STUDY SHOWED THAT ORAL EXPOSURE TO TOLUENE DIISOCYANATE (TDI) CAUSED CANCER IN RATS AND MICE. A LIFETIME INHALATION STUDY SPONSORED BY THE INTERNATIONAL ISOCYANATE INSTITUTE DID NOT SHOW CARCINOGENIC ACTIVITY IN RATS. DIPHENYLMETHANE DIISOCYANATE (METHYLENE BIS PHENYL ISOCYANATE) CAUSED AN INCREASED INCIDENCE OF LUNG TUMORS IN EXPERIMENTAL ANIMALS FOLLOWING LONG TERM INHALATION AT CONCENTRATIONS IN EXCESS OF 100 TIMES THE EXPOSURE LIMIT. OVEREXPOSURE TO ISOCYANATE CAN CAUSE A DECREASE IN LUNG FUNCTION. SKIN AND RESPIRATORY SENSITIZATION IS POSSIBLE. INHALATION OF CRYSTALLINE SILICA (QUARTZ) CAN CAUSE CANCER BASED ON ANIMAL DATA, AND IARC CONCLUDES SUFFICIENT EVIDENCE IN HUMANS (GROUP 1). PROLONGED AND REPEATED OVEREXPOSURE TO FREE CRYSTALLINE SILICA DUST ABOVE THE TLV LEVEL MAY CAUSE SCARRING OF THE LUNGS WITH COUGH AND SHORTNESS OF BREATH. A DELAYED LUNG INJURY, SILICOSIS MAY RESULT FROM BREATHING FREE SILICA. NO SERIOUS HEALTH EFFECTS HAVE BEEN ESTABLISHED IN MAN WHEN EXPOSED TO CARBON BLACK. INFLAMMATION, LUNG FIBROSIS, AND TUMORS HAVE BEEN OBSERVED IN ANIMALS AT LEVELS WHICH OVERLOAD LUNG CLEARANCE MECHANISMS. CARBON BLACK CONTAINS VARYING AMOUNTS OF POLYNUCLEAR AROMATIC COMPOUNDS (PNA'S) WHICH HAVE BEEN FOUND TO CAUSE CANCER IN ANIMALS. SOLVENT EXTRACTS OF CARBON BLACK ARE CARCINOGENIC TO THE SKIN OF MICE. IT IS CLASSIFIED BY IARC TO BE A KNOWN ANIMAL CARCINOGEN AND A POSSIBLE HUMAN CARCINOGEN (GROUP 2B). FILLERS ARE ENCAPSULATED AND NOT EXPECTED TO BE RELEASED FROM PRODUCT UNDER NORMAL CONDITIONS OF USE.

#### IV. FIRST AID MEASURES

<b>Eyes:</b>	FLUSH IMMEDIATELY WITH RUNNING WATER FOR 15 MINUTES, LIFTING THE UPPER AND LOWER LIDS OCCASIONALLY. GET MEDICAL ATTENTION IMMEDIATELY.
<b>Skin:</b>	WASH AREA OF CONTACT THOROUGHLY WITH HAND CLEANER FOLLOWED BY SOAP AND WATER. IF IRRITATION, RASH OR OTHER DISORDERS DEVELOP, GET MEDICAL ATTENTION IMMEDIATELY.
<b>Ingestion:</b>	GET MEDICAL ATTENTION IMMEDIATELY.
<b>Inhalation:</b>	LEAVE AREA TO BREATHE FRESH AIR. SHOULD BE OBSERVED BY PHYSICIAN IMMEDIATELY IF OVEREXPOSURE IS SEVERE.

#### V. FIRE FIGHTING MEASURES

<b>Flash Point:</b>	150°F
<b>Test Method:</b>	TAG CLOSED CUP
<b>Lower Flammability Limit:</b>	0.6% (SOLVENT)
<b>Upper Flammability Limit:</b>	7.0% (SOLVENT)
<b>Extinguishing Agents:</b>	IF WATER FOG IS INEFFECTIVE, USE CARBON DIOXIDE, DRY CHEMICAL OR FOAM.
<b>Unusual Fire or Explosion Hazards:</b>	NEVER USE WELDING OR CUTTING TORCH ON OR NEAR CONTAINER (EVEN EMPTY). PRODUCT, RESIDUE OR VAPOR MAY IGNITE.
<b>Fire Fighting Procedures:</b>	DURING A FIRE, PERSONNEL AT THE SCENE ARE TO PREVENT EXPOSURE TO FUMES USING ACCEPTED FIRE FIGHTING TECHNIQUES.
<b>Other:</b>	OTHER PRECAUTIONS: HYDROCYANIC ACID, OXIDES OF NITROGEN CAN FORM.

#### VI. ACCIDENTAL RELEASE MEASURES

<b>Containment/Cleanup:</b>	REMOVE SOURCES OF IGNITION IMMEDIATELY. VENTILATE TO REDUCE THE AIRBORNE CONTAMINANT CONCENTRATION BELOW THE EXPOSURE LIMITS. ABSORB SPILL IN SAND, EARTH OR OTHER SUITABLE MATERIAL. TRANSFER TO APPROPRIATE CONTAINER FOR DISPOSAL.
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#### VII. HANDLING AND STORAGE

<b>Other:</b>	STORE IN CLOSED CONTAINER BELOW 80°F. KEEP PRODUCT AND VAPOR AWAY FROM HEAT, SPARKS AND FLAME. DO NOT STORE IN DIRECT SUNLIGHT. PREVENT INHALATION OF VAPOR, INGESTION, AND CONTACT WITH SKIN AND EYES. KEEP CONTAINER CLOSED WHEN NOT IN USE. VAPOR MAY MIGRATE TO SOURCES OF IGNITION. DO NOT SMOKE, WELD, GENERATE SPARKS, OR USE FLAME NEAR CONTAINER. CHANGE SOILED WORK CLOTHES FREQUENTLY. CLEAN HANDS THOROUGHLY AFTER HANDLING. PRECAUTIONS ALSO APPLY TO EMPTIED CONTAINERS. PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN DURING MAINTENANCE OR REPAIR OF CONTAMINATED MIXER, REACTOR, OR OTHER EQUIPMENT.
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#### VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>Eyes:</b>	WEAR SUITABLE SAFETY EYEWEAR.
<b>Skin:</b>	PROTECT HANDS WITH IMPERVIOUS RUBBER GLOVES AND WEAR RUBBER APRON AND OVERSHOES. PREVENT CONTACT WITH SKIN.
<b>Respiratory:</b>	WEAR APPROPRIATE, PROPERLY FITTED NIOSH/OSHA APPROVED RESPIRATOR WHEN AIRBORNE CONTAMINANT LEVEL(S) EXCEED EXPOSURE LIMITS. SELECT POSITIVE PRESSURE SUPPLIED AIR RESPIRATOR (TC19C OR EQUIVALENT) FOR ISOCYANATES.
<b>Engineering:</b>	USE LOCAL EXHAUST WHEN THE GENERAL VENTILATION IS NOT SUFFICIENT TO KEEP THE AIRBORNE CONTAMINANT CONCENTRATION BELOW THE EXPOSURE LIMIT.

#### IX. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	VARIOUS COLOR PASTE
<b>Boiling Point:</b>	280°F (SOLVENT)
<b>Freezing Point:</b>	NOT ESTABLISHED

<b>pH:</b>	NOT APPLICABLE
<b>Solubility in Water:</b>	NEGLIGIBLE
<b>Specific Gravity:</b>	1.344
<b>Vapor Pressure:</b>	NOT ESTABLISHED
<b>Vapor Density:</b>	>1 (AIR=1)
<b>Physical State:</b>	PASTE
<b>Volatile Content:</b>	% VOLATILE WEIGHT: 7.5 (CARB CONSUMER PRODUCE METHOD 310 VOC <4%)

#### X. STABILITY AND REACTIVITY

**Stability:** STABLE

**Hazardous Polymerization:** WILL NOT OCCUR

**Incompatible Products:** AVOID CONTACT WITH WATER, AMINES, BASES, OXIDIZERS, ALCOHOLS.

#### XI. TOXICOLOGICAL INFORMATION

#### XII. ECOLOGICAL INFORMATION

#### XIII. DISPOSAL CONSIDERATIONS

**Disposal Method:** WASTE NOT REGULATED UNDER RCRA. INCINERATE AT EPA APPROVED FACILITY OR DISPOSE OF WASTE IN COMPLIANCE WITH STATE AND LOCAL REGULATIONS.

#### XIV. TRANSPORT INFORMATION

**D.O.T. Shipping Name:** NOT REGULATED

**D.O.T. Hazard Class:** NOT REGULATED

#### XV. REGULATORY INFORMATION

**TSCA Status:** ON THE TSCA INVENTORY

**EPA Sara Title III Chemical Listings:** SECTION 311: IMMEDIATE HEALTH HAZARD: Y <BR> DELAYED HEALTH HAZARD: Y <BR> FIRE HAZARD: N <BR> REACTIVITY HAZARD: N <BR> SUDDEN RELEASE OF PRESSURE HAZARD: N <BR> SECTION 313 INGREDIENTS: <BR> <BR> CHEMICAL XYLENES (DIMETHYLBENZENES) CAS# 1330-20-7 <BR> CHEMICAL 4,4'-METHYLENE BIS (PHENYLISOCYANATE) CAS# 101-68-8 <BR> CHEMICAL POLYMETHYLENE POLYPHENYL ISOCYANATE CAS# 9016-87-9 <BR> CHEMICAL \*TOLUENE DIISOCYANATE (MIXED ISOMERS) CAS# 26471-62-5

**California:** WARNING PROP 65: CONTAINS CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS AND/OR OTHER REPRODUCTIVE HARM <BR> CHEMICAL CRYSTALLINE SILICA (QUARTZ) CAS# 14808-60-7 <BR> CHEMICAL AROMATIC PETROLEUM DISTILLATE CAS# 64742-95-6 <BR> CHEMICAL TOLUENE DIISOCYANATE (MIXED ISOMERS) CAS# 26471-62-5

#### XVI. OTHER INFORMATION

#### WARRANTY INFORMATION

THIS INFORMATION IS OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EXPRESSED OR IMPLIED, IS HEREBY MADE. THE RECOMMENDED INDUSTRIAL HYGIENE AND

SAFE HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD  
REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTEXT OF THE INTENDED USE AND DETERMINE  
WHETHER  
THEY ARE APPROPRIATE.