

MATERIAL SAFETY DATA SHEET
For chemicals, coatings and related materials

DATE :	SUPERSEDES	PREPARED BY:
April 21, 1997	August 1, 1995	Mark Horton, (612) 496-6027
Manufacturer		
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Distributor		
NAME: ADDRESS: ADDRESS: ADDRESS: ADDRESS:	PHONE:	

Section I - Product	
NUMBER: EM73-941	H M I S Hazard Codes Health: 2 Moderate Flammability: 1 slight Reactivity: 0 Minimal Personal Protective Equipment: B
NAME: Chemrex 941 Urethane Adhesive CLASS: Adhesive CAS NUMBER: none - mix	

Section II - Hazardous Ingredients				
Ingredient: Material Description	Percent by Weight	C.A.S. Registry Number	LEL	Vapor Pressure [mm Hg at 20 deg C]
Hydrotreated light petroleum distillate	7-12	64742-47-8	1.6	<<1
Talc [hydrous magnesium silicate]	5-15	14807-96-6	None	None
*Polymethylene polyphenyl isocyanate	5-10	9016-87-9	None	<.0001
*Methylene bisphenyl diisocyanate	7-12	101-68-8	1	<<1
Silica, quartz	1-.1	14808-60-7	None	None
* Reportable under SARA Title III, Section 313				

Section III - Physical Data			
Boiling Range:	>480 deg F	Freezing Point:	no data
Vapor Pressure:	<1 mm Hg @ 77 deg F	Vapor Density:	Heavier than air
Specific Gravity:	1.26	H2O Soluble:	slight [<0.1 %]
Evaporation Rate(relative to n-butyl acetate)	Slower	% Volatile by Volume:	13-17
pH:	N/A	Odor Threshold:	no data
Appearance and Odor:	clear viscous liquid	mild oily odor.	

Section IV - Fire and Explosion Hazard Data			
FLASH POINT: (Method Used)	250 deg F [TCC]	EXPLOSIVE LIMITS: LEL	0.6
		(% V in air) UEL	7.0
AUTOIGNITION TEMP:	no data	METHOD:	N/A
OSHA FLAMMABILITY CLASSIFICATION	Combustible Class III B		

EXTINGUISHING MEDIA:	Water Spray (Fog), Foam, Dry Chemical or Carbon Dioxide.		
SPECIAL FIRE FIGHTING PROCEDURES	Fire Fighters must wear self contained breathing apparatus or air masks.	Containers exposed to fire should be kept cool with water spray.	A water stream directed into the fire may cause frothing with subsequent spread of fire.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	Closed containers may explode due to build up of pressure when exposed to heat.	Thermal decomposition or combustion of product may generate irritating and/or toxic gases.	Vapor is heavier than air and may travel along the ground or floor and be ignited at locations distant from the source.

Section V - Toxicological Information

Ingredient Material Description	PEL [mg/m ³]	TLV STEL [mg/m ³]	TLV[twa]		LD50 [mg/kg]		LC50 [ppm] Rat INHAL
			mg/m ³	ppm	RAT [oral]	RABBIT [dermal]	
Hydrotreated light petroleum distillate	Not listed***	Not listed	Not listed	Not listed***	No data	No data	N/A
Talc [hydrous magnesium silicate]	2	Not given	2	N/A	N/A	N/A	N/A
Polymethylene polyphenyl isocyanate	Not listed	Not listed	Not Listed	Not Listed	>10 g/kg	>9400	N/A
Methylene bisphenyl diisocyanate	0.005 ppm	0.02 ppm	Not listed	0.005 ppm	>5800	>16000	N/A
Silica, quartz	0.1	Not listed	Not listed	0.1	N/A	N/A	N/A
* Total dust ** Respirable dust ***Supplier recommends 300 ppm.							

Section VI - Health Hazard Data and Emergency/first Aid Procedures

THRESHOLD LIMIT VALUES: See Section V	
ACUTE OVEREXPOSURE INFORMATION	
EYES:	Moderate irritant. May cause tearing, reddening of the eyes and reversible corneal injury.
SKIN:	Regard this product as a severe irritant. The product contains an isocyanate, a class of compounds generally regarded as primary skin irritants. Contact with the product may cause dermatitis, allergic responses, and, in sensitive individuals, redness, swelling, and blisters.
INHALATION:	Regard this product as a severe irritant. The product contains an isocyanate. Exposure to a concentration of airborne isocyanates above the TLV may produce irritation of the respiratory tract, coughing, chest discomfort, shortness of breath. Individuals with a history of exposure to isocyanates can develop more severe symptoms, such as bronchitis, bronchial spasms, and pulmonary edema [fluid in the lungs]. For most individuals these effects are reversible.
INGESTION:	May cause irritation if swallowed.
NOTE:	Preexisting respiratory or skin condition(s) may be aggravated by exposure.
CHRONIC OVEREXPOSURE INFORMATION:	
1)	This product does not contain dust as produced and does not generate dust in normal use. Dust generated by abnormal activities, such as sanding or grinding, could contain a trace amount of free, respirable silicon dioxide [quartz]. NTP and IARC have listed free respirable silicon dioxide [quartz] as a suspect human carcinogen. Prolonged and/or repeated overexposure to free respirable silica may cause silicosis or other delayed and serious lung injury.
2)	No other known components of this product are listed as known or suspected carcinogens per NTP, IARC, or OSHA.
3)	This product contains a solvent [hydrotreated petroleum distillate]. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Solvents are also reported to cause liver damage, kidney damage, mucous membrane irritation. Be warned that intentional misuse by deliberately inhaling the contents [a process often called "sniffing"] may be harmful or fatal.
4)	This product contains an isocyanate. Note that prolonged or repeated exposure to isocyanates can lead to skin sensitization. For persons so sensitized even brief exposures to the isocyanate can produce reddening, swelling, rash, or blisters. Similarly, prolonged and repeated exposure to isocyanates can lead to respiratory sensitization. In such individuals brief exposures to isocyanates at levels well below the TLV can produce chemical asthma, and nonspecific asthmatic conditions.
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Any pre-existing respiratory or skin condition.	
EMERGENCY AND FIRST AID PROCEDURES:	
EYES:	Flush the eyes with plenty of water for at least 15 minutes. If necessary, gently hold the eyelids open during the flush. Obtain immediate medical attention.

SKIN:	Remove contaminated clothing and shoes. Wash affected area(s) thoroughly with soap and water. Wipe or flush affected skin with isopropyl alcohol [rubbing alcohol]. Wash again thoroughly with soap and water to remove polyethylene glycol and residual product. If symptoms persist, obtain medical attention.
INHALATION:	Move the victim into fresh air. If the victim has difficulty breathing, give oxygen. Administer artificial respiration if not breathing. Obtain immediate medical attention.
INGESTION:	Obtain immediate medical attention. Do not induce vomiting. Should vomiting occur, be sure to keep victim's head below hips to avoid aspiration of vomitus into the lungs.

Section VII - Reactivity Data

STABILITY:	Stable
STABILITY CONDITIONS TO AVOID:	Contact with water vapor. Sources of ignition. Long term exposure to elevated temperatures.
INCOMPATIBILITY (MATERIALS TO AVOID CONTACT WITH):	Water, alcohols, amines, strong oxidants, strong bases or acids.
HAZARDOUS DECOMPOSITION PRODUCTS:	Oxides of carbon and nitrogen, hydrogen cyanide gas, other acid and toxic fumes.
HAZARDOUS POLYMERIZATION:	This product contains an isocyanate. Contact with moisture or other materials that react with isocyanates may cause polymerization.

Section VIII - Spill or Leak Procedures

STEPS FOR MATERIAL SPILLAGE:	Ventilate area and remove all sources of ignition. Evacuate unnecessary personnel. Put on respiratory protection. Dike or impound spilled liquid. Cover the spill with absorbent compound. Sweep or shovel into containers. Cover loosely and remove to appropriate waste area. Flush spill with excess water to a chemical sewer or soak up with inert absorbent. Do not discharge the product or waste water to lakes, streams, ponds, or sewer. Avoid contact with eyes and skin. Report the spill to appropriate authorities.
WASTE DISPOSAL METHODS:	Review all local, state, and federal regulations concerning health and pollution for appropriate disposal procedures. Do not incinerate closed containers.

Section IX - Special Protection Information

RESPIRATORY PROTECTION:	Wear NIOSH/MSHA approved respiratory protection when the product is mixed or applied in a poorly ventilated area or if workplace levels of ingredients exceed the PEL or TLV. Follow applicable federal, state, and local regulations.
VENTILATION:	Use local exhaust as needed to keep vapor/dust levels below recommended limits.
PROTECTIVE EQUIPMENT:	Wear gloves [natural or butyl rubber, supported PVA, or nitrile. Avoid neoprene], eye goggles, and clean protective clothing to cover arms and legs and keep exposure to a minimum.

Section X - Special Precautions

HANDLING AND STORAGE PRECAUTIONS	
DO NOT BREATHE VAPORS.	DO NOT TAKE INTERNALLY
AVOID CONTACT WITH EYES, CLOTHING, AND SKIN	WEAR PROTECTIVE CLOTHING AT ALL TIMES.
KEEP CONTAINER CLOSED WHEN NOT IN USE	WASH THOROUGHLY AFTER USING.
KEEP OUT OF REACH OF CHILDREN	USE ONLY WITH ADEQUATE VENTILATION

Section XI - Regulatory Data

VOC CONTENT: 124 g/L or 1.04 lbs/gal, excluding water and exempt compounds		
CALIFORNIA PROPOSITION 65:		
This product contains material listed by the State of California as known to cause cancer, birth defects or other reproductive harm..		
TRANSPORTATION		
	DOT	UN
HAZARD CLASS:	Not Regulated	Not Regulated
UN/NA NUMBER:	Not Regulated	Not Regulated
SHIPPING NAME:	Not Regulated	Not Regulated
PLACARD AT	N/A	N/A
CLASS NUMBER:	N/A	AIR: N/A MARINE: N/A

SUBSID. RISK :	N/A	AIR: N/A MARINE: N/A
PACKING GROUP:	N/A	AIR: N/A MARINE: N/A
REPORTING		
CERCLA REPORTABLE QUANTITY: 48544 lbs ASWASTE: 100 lbs		
SARA SECTION 304 EMERGENCY RESPONSE REPORTABLE QUANTITY: None		
SARA SECTION 311/312 INVENTORY REPORTING (Y/N): Y		
SARA SECTION 311/312 HAZARD CLASS(ES): Acute and chronic health hazard.		
SARA SECTION 313 ROUTINE RELEASE REPORTING CHEMICALS: Methylene bisphenyl diisocyanate, 13.3%; Polymethylene polyphenyl isocyanate, 8.9%		
COMPONENTS ON TSCA INVENTORY (Y/N): Y		
DISPOSAL		
EPA RCRA WASTE CLASS: Not regulated		
EPA RCRA WASTE NUMBER: N/A		
CALIFORNIA LIST LAND BAN (Y/N): N/A		

ABBREVIATIONS USED:

N/A = Information or data Not Available, NTP = National Toxicology Program,
IARC = International Agency for Research on Cancer, NIOSH = National Institute of Occupational Safety and Health,
ACGIH = American Conference of Governmental Industrial Hygienists, OSHA = Occupational Safety and Health Administration,
PEL = Permissible Exposure Limit (8-hr. TWA) (OSHA), TLV = Threshold Limit Value (8-hr. TWA) (ACGIH),
STEL = Short Term Exposure Limit (15-min TWA) (OSHA), C = Ceiling Value.

DISCLAIMER

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REASON FOR REVISION: Complete Review

REISSUE REQUIRED: Y