

MATERIAL SAFETY DATA SHEET

Polyurethane 100 VOC Part A

SECTION I

Product Identification and General Information

Product Name: Polyurethane 100 VOC Part A
Product Class: Polyester Polyol
HMIS Codes: H F R P
3 2 1 G

Date Prepared: 4/21/99
24 Hour Emergency Assistance: Chemtrec
1-800-424-9300

SECTION II

Hazardous Ingredients

Propylene Glycol Mono-Methyl
Ether Acetate
Polyester Polyol

CAS#
108-65-6

OSHA PEL
N/E

ACGIH TLV
N/E

N/E

N/E

SECTION III

Physical Data

Boiling Point: Begins at 280°F
Vapor Pressure: 3.7mm Hg
Vapor Density: Heavier Than Air

Solubility in Water: Insoluble
Evaporation Rate: N/A
Appearance: Clear to Lightly Colored Viscous
Liquid

Specific Gravity: 1.04
Percent Volatiles: 54%

Odor: Of Solvent, Fruity Ester-Like

SECTION IV

Fire and Explosion Hazard Data

Flash Point: 122°F SETA Flash (ASTM D-3243)

Flammable Limits:

LEL: 1.3 @ 173°F

UEL: 13.1 @ 283°F

Extinguishing media: Dry Chemical, Carbon Dioxide, Foam, Water Spray for Large Fires

Hazardous Combustion Products: Carbon Monoxide, Carbon Dioxide

Special Fire Fighting Procedures: Full Emergency Equipment with self-contained breathing apparatus and full protective clothing. During fire irritating, toxic gases and smoke may be present from decomposition/combustion.

Fire and Explosion Hazards: Closed containers may explode when exposed to extreme heat. Use cold spray to cool fire exposed containers of minimize risk of rupture. Vapors May build-up and travel along the ground to an ignition source which may result in a flash back to the vapor source.

SECTION V

Reactivity Data

Stability: Material is stable.

Hazardous Polymerization: Will not occur.

Incompatibility: Avoid oxidizers.

SECTION VI

Health Hazard Data

Primary Route of Entry: Inhalation, Skin Contact, Eye

Eye Contact: Contact is severely irritating and can cause pain, tearing, redness and swelling. If left untreated, corneal damage can occur. Injury is slow to heal, but damage is usually reversible.

Skin Contact: Repeated or prolonged exposure may result in dry, defatted or cracked skin. Dermatitis and skin rash may occur. May penetrate skin.

Inhalation: Vapors are irritating to eyes, nose, throat and respiratory tract resulting in itchy eyes, dryness of the throat and tightness of the chest. Other possible symptoms include headache, nausea, narcosis, fatigue and loss of appetite.

Ingestion: Can result in the irritation of the digestive tract. Symptoms include sore throat, abdominal pain, nausea, vomiting and diarrhea.

SECTION VII

First Aid

Eye Contact: Flush with water for 15 minutes.

Skin Contact: Remove contaminated clothing and wash affected areas with soap and water. Wash contaminated clothing before reuse.

Ingestion: Do not induce vomiting. Do not give anything by mouth to an unconscious person. Seek medical attention.

Inhalation: Move to an area free from further exposure. Administer oxygen or artificial respiration as needed. Seek medical attention.

SECTION VIII

Special Protection Information

Respiratory Protection: A respirator approved for use in organic vapor containing environments.

Ventilation: Local exhaust ventilation is recommended.

Eye Protection: Liquid chemical goggles or full-face shield.

Skin Protection: Permeation resistant gloves (Butyl rubber or Nitrile rubber). Wear long sleeved and legged garments.

SECTION IX

Spill or Leak Procedures

Steps to be taken if material is released or spilled: Remove all sources of ignition. Ventilate area. Equip clean-up crew with appropriate protective gear. Dike spilled material and control further spillage if possible. Cover spill with absorbent material. Collect material in open containers. Flush spill area with water.

Waste Disposal Method: Waste disposal must be in accordance with federal, state and local regulations. Empty containers must be handled with care due to product residue and combustible solvent vapors.

SECTION X

Shipping Data

D.O.T. Shipping Name: Paint Related Material

Technical Shipping Name: Polyester Resin contains Propylene Glycol Monomethyl Ether Acetate

D.O.T. Hazard Class: Flammable

UN/NA Number: UN1263

Reportable Quantity: None

D.O.T. Labels Required: Flammable

Freight Class: 55

ICAO/IATA (Air)

Proper Shipping Name: Paint Related Material

Hazard Class Division Number: 3

UN 1263

Subsidiary Risk: None

Packing Group: III

Hazard Label: Flammable Liquid

MATERIAL SAFETY DATA SHEET

Polyurethane 100 VOC Part "B"

SECTION I

Product Identification and General Information

Product Name: Polyurethane 100 VOC Part B
Product Class: Isocyanate Solution
HMIS Codes: H F R P
2 3 1 G

Date Prepared: 4/21/99
24 Hour Emergency Assistance: Chemtrec
1-800-424-9300

SECTION II

Hazardous Ingredients

	<u>Percent</u>	<u>CAS#</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Propylene Glycol Mono-Methyl Ether Acetate	5-15	108-65-6	N/E	N/E
Homopolymer of Hexamethylene Diisocyanate	85-95	28182-81-2	N/E	N/E

SECTION III

Physical Data

Boiling Point: Begins at 280°F
Vapor Pressure: 3.7mm Hg
Vapor Density: Heavier Than Air
Specific Gravity: 1.09
Percent Volatiles: 5-15

Solubility in Water: Insoluble, but reacts slowly
Evaporation Rate: N/A
Appearance: Pale Yellow Clear Liquid
Odor: Of Solvent, Fruity Ester-Like

SECTION IV

Fire and Explosion Hazard Data

Flash Point: 122°F SETA Flash (ASTM D-3243)

Flammable Limits:

LEL: 1.3 @ 173°F

UEL: 13.1 @ 283°F

Extinguishing media: Foam, Dry Chemical, Carbon Dioxide. Do Not Use Water.

Hazardous Combustion Products: Oxides of Carbon and Nitrogen.

Special Fire Fighting Procedures: Firefighters should wear full emergency equipment with self-contained breathing apparatus. During fires irritating, toxic gases and smoke may be present from decomposition/combustion products.

Fire and Explosion Hazards: Product will burn under fire conditions. Toxic, corrosive fumes may be emitted.

SECTION V

Reactivity Data

Stability: Stable

Hazardous Polymerization: Will not occur.

Incompatibility: Water, strong bases, strong acids, strong oxidizing agents and amines.

SECTION VI

Health Hazard Data

Primary Route of Entry: Inhalation, Dermal, Eye contact.

Skin Contact: Isocyanates react with skin protein and moisture and can cause irritation. Symptoms include reddening, swelling, rash, scaling and blistering. Cured material is difficult to remove.

Inhalation: Inhalation of mist can irritate the mucous membrane in the respiratory tract causing runny nose, sore throat, coughing, chest discomfort and shortness of breath. Acute exposure may lead to bronchitis, bronchial spasm or pulmonary edema. These effects are usually reversible.

Ingestion: Can result in irritation and possibly corrosive action in the mouth, stomach tissue and digestive tract.

Chronic Overexposure: May result in isocyanate sensitization.

SECTION VII

First Aid

Eyes: Flush eyes with clear water for 15 minutes. Refer individual to a physician for immediate follow-up.

Skin: Remove contaminated clothing immediately. Wash affected areas with soap and water. Wash contaminated clothing thoroughly before reuse. Seek medical attention if irritation develops or persists.

Inhalation: Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed.

Obtain medical attention. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours.

Treatment is essentially symptomatic.

Ingestion: Do not induce vomiting. Give 1 to 2 cups of milk or water to drink. Do not give anything by mouth to an unconscious person. Consult physician.

Note To Physician: Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation frequently.

Skin: This product is a known sensitizer. Treat symptomatically as for contact dermatitis or thermal burn.

Ingestion: Treat symptomatically no specific antidote. Inhalation: This product is a known pulmonary sensitizer.

Treatment is essentially symptomatic. An individual having a sensitization reaction to this material must be removed from any further exposure to any isocyanate.

SECTION VIII

Special Protection Information

Respiratory Protection: A NIOSH approved respiratory for organic vapor should be used. In spray applications a supplied air respirator is recommended.

Ventilation: Possible use precautions as above.

Eye Protection: Chemical splash goggles or full face shield.

Skin Protection: Permeation resistant gloves. Cover as much of the exposed skin area as possible with appropriate clothing.

SECTION IX

Spill or Leak Procedures

Steps to be taken if material is released or spilled: Evacuate non-essential personnel. Remove all sources of ignition. Put on personal protective equipment. Dike spilled material and control further spillage. Pour decontamination solution over spill and allow to react for at least 10 min. Collect material in open containers and further amounts of decontamination solution. Wash down spill area with decontamination solution. Decontamination solutions: Concentrated (3.8%), detergent (2%) and water (90-95%) or Union Carbide's tergitol TMN-10 (20%) and water (80%)

Waste Disposal Method: Waste must be disposed of in accordance with all federal, state and local regulations.

Incineration is preferred method. Empty containers will contain product residue. Decontaminate prior to disposal.

SECTION X

Shipping Data

D.O.T. Shipping Name: Paint Related Material

Technical Shipping Name: Tolonate HDB 75BX

D.O.T. Hazard Class: Flammable Liquid

PG III

UN/NA Number: UN1263

Reportable Quantity: None

D.O.T. Labels Required: Flammable Liquid

Freight Class: 55