

Material Safety Data Sheet

Hazard Rating: Least - 0 Slight - 1 Moderate - 2 Serious - 3 Severe - 4
HMIS H-2, R-1, F-1

Section 1 Product Identification and Physical Data

ASTC Polymers, Inc. 3207 West Warner Avenue, Santa Ana, CA 92704
714-966-2893 - Fax 714-966-9105
Date of Preparation: June 2005
Emergency Phone: 800-424-9300

Product Name: **Penatron 3004 Part A**

Product Class: Urethane Prepolymer

U.N.Label: N/A

Evaporation Rate: Slower (Butyl Acetate = 1)

U.N.Hazard Class: N/A

Specific Gravity: 1.06

U.N.ID Number: N/A

Appearance and Odor: Amber liquid/low

U.N. Shipping Name: Not Regulated

Section 2 Hazardous Ingredients/Sara III Information

Ingredients (CAS #)	%/wt.	ACGIH/TLV	OSHA/PEL
DIPHENYLMETHANE DIISOCYANATE CAS # 026447-40-5	MAJOR	NOT ESTABLISHED	NOT ESTAB.
DIPHENYLMETHANE DIISOCYANATE 039310-05-9	MINOR	NOT ESTABLISHED	NOT ESTAB.
1,2 BENZENEDICARBOXYLIC ACID DI (CII) ESTER, BR & LINEAR (0036-20-2) DI (C7) ESTER, BR & LINEAR (068515-44-6) DI (C9) ESTER, BR & LINEAR (06815-45-7) (C7, C9) ESTER, BR & LINEAR (111381-89-6) (C7,C11) ESTER, BR & LINEAR (111381-90-9) (C9,C11) ESTER, BR & LINEAR (111381-91-0)	MAJOR	NOT ESTABLISHED	NOT ESTAB.

* MAJOR = OVER 25%, MINOR = 6 TO 25%, TRACE = UNDER 6%, RESIDUE = UNKNOWN % RESIDUE POSSIBLE

Section 3 Fire & Explosion Hazard Data

OSHA Flammability: COMBUSTIBLE LIQUID – CLASS III

Flash Point: GREATER THEN 200^oF Method Used: PMCC

Extinguishing Media: Foam CO₂ Dry Chemical, water fog.

Unusual Fire and Explosion Hazards: Closed containers may rupture due to high build up of pressure when exposed to extreme heat.

Special Fire Fighting Procedures: Remove all ignition sources. Wear self-contained breathing apparatus with positive pressure mode, face piece, boots, gloves (Neoprene), goggles, protective clothing, when entering confined areas where potential for exposure to vapors or products of combustion exists.

Section 4 Health Hazard Data

Effects of Overexposure:

Acute - Ingestion: No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of ingestion.

Inhalation: May cause respiratory sensitization in susceptible individuals. At room temperature vapors minimal due to very low vapor pressure.

Vapors measurable when heated and sprayed as an aerosol, excessive concentrations are attainable that could be hazardous, excessive exposure to aerosol spray may cause irritation of eyes, upper respiratory tract and lungs. Effects may be delayed. Decreased ventilatory capacity has been associated with exposure to similar isocyanates. It is possible that exposure to MDI may cause similar impairment of lung function.

Skin Contact: May cause allergic skin reaction in susceptible individuals. Prolonged or repeated exposure may cause skin irritation. May stain skin.

Eye Contact: May cause slight eye irritation. Corneal Injury is unlikely.

Chronic - No information is available on the chronic health hazards of this product. However, based on data from the testing of similar materials, no significant chronic effects are expected.

Emergency and first aid Procedures:

Eye contact: Immediately rinse with clean water for 20-30 minutes. Retract eyelids often. Obtain medical attention if pain, blinking, tears or redness persists.

Skin Contact: Wash affected areas with soap and water. Remove and launder contaminated clothing before reuse. If irritation develops, consult a physician.

Ingestion: If swallowed, dilute with water and immediately induce vomiting. Never give fluids or induce vomiting if the victim is unconscious or having convulsions. Get immediate medical attention.

Inhalation: If overcome by mist exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration and needed. Obtain medical attention.

Section 5 Regulatory Information

Regulatory Information

California Safe Drinking water and toxic enforcement act (Proposition 65): Based on information currently available, this product is not known to contain any chemicals currently listed as carcinogens or reproductive toxins under California Prop. 65.

California South Coast Air Quality Management District Volatile Organic Compounds (SCAQMD) - Not Applicable.

Superfund Amendments and reauthorization act (SARA Title III Section 313): No chemicals in this product exceed the de minimus reporting level established by SARA Title III, Section 313. However, it is considered under applicable definitions, to meet the

Following categories; An immediate health hazard, A delayed health hazard, a reactive hazard.

Other information: All components of this product are listed on the TSCA inventory (both part A and B of this product)

Section 6 Reactivity

Stability: Stable

Hazardous Polymerization: May occur with incompatible reactants, especially strong bases (alkalies, tertiaryamines, metal salts), water or temperature over 320^oF.

Conditions To Avoid: Atmospheric moisture, water, acid, base – alkalies, ammonia, alcohol's, metal compounds, surface active materials. Avoid water as it reacts to form heat, carbon dioxide and insoluble urea. Reacts with water and can produce pressure in a container. The reaction with water is slow at temperatures less than 120^oF, but accelerated at higher temperatures and in the presence of the above mentioned materials. Some reactions are violent.

Hazardous Decomposition / By Products: Isocyanate vapors and mists, Carbon Dioxide, Carbon Monoxide, Nitrogen Oxide, trace amounts of Hydrogen Cyanide, aldehydes, acids, ketones, and other unknown organic compounds.

Section 7 Spill or Leak Procedure

Steps to be taken if product is spilled or released: Avoid contact with material. Persons not wearing appropriate protective equipment (see below) should be excluded from the area of spill until clean-up is complete. Eliminate ignition sources like heat, open flame and sparks, ventilate area of spill and dike area. Cover the spill with inert absorbent and place into proper salvage containers. Stop Spill at source, dike area to prevent spreading, pump liquid to salvage container. Remaining liquid may be taken up to prevent spreading, use clay, diatomaceous earth or other absorbent and place into disposal containers. Transport to a well ventilated area and treat with neutralizing solution consisting of a mixture of water and 3-8% concentrated ammonium hydroxide or 5-10% sodium carbonate. Add about 10 parts of neutralizer per part of isocyanate with mixing. Allow to stand for 48 hours letting evolved carbon dioxide to escape. Clean up contaminated floor using water/ammonia solution with 1-2% added detergent letting stand over affected area for at least 10 minutes. Cover mops and brooms used for this with plastic and dispose of properly.

Disposal: Dispose of per Federal, State and local law permits.

Waste Disposal Method: Dispose of waste in accordance with federal, state and local regulations.

Section 8 Safe Handling and Use Information

Ventilation: Adequate ventilation should be provided. Avoid breathing vapors. This material should be confined as far as possible within sealed or covered equipment in which case normal ventilation should be adequate. Special (local) ventilation will be needed in where vapors are expected to be vented.

Respiratory Protection: If inadequate ventilation exists, wear a properly fitted NIOSH/MSHA approved respiration. For emergencies, a self-contained breathing apparatus or full face respirator is recommended.

Protective Gloves: For operations where contact can occur, wear impervious gloves (neoprene or rubber).

Other protective equipment: For operations where contact can occur, safety glasses, coveralls, and impervious foot coverings are recommended. Water should be available to wash eyes and/or skin.

Section 9 Special Precautions

Precautions to be taken in handling and storage:

Special Precautions: Prevent all skin and eye contact.

Re-seal partially used containers.

Ensure that all containers are properly labeled to prevent accidental ingestion.

Observe conditions of good industrial hygiene and safe working practices, wash with soap and water before eating, drinking, smoking or using toilet facilities.

Remove and thoroughly launder contaminated clothing before reuse.

Discard contaminated shoes.

Store under cool, dry conditions and away from open flames and high temperatures, protect from moisture contamination (exothermic generation of carbon dioxide may cause dangerous container pressure).

Disclaimer

The data set forth in this sheet is based on information provided by the suppliers of the raw materials and chemicals used in the manufacture of the ASTC products and we believe these sources are reliable. However, the information is provide without any warranty, expressed or implied, regarding its correctness. The condition or methods of handling, storage, use and disposal of the product are beyond our control, and may be beyond our knowledge for this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with the handling, storage, sue or disposal of the product.

Summary of HMIS Ratings

1. Health Hazard Rating

- 0 Minimal Hazard: No significant risk to health.
- 1 Slight hazard: Irritation or minor reversible injury possible.
- 2 Moderate Hazard: Temporary or minor injury may occur.
- 3 Serious Hazard: Major injury likely unless prompt action is taken and medical treatment is given.
- 4 Sever Hazard: Lift-threatening, major or permanent damage may result from single or repeated exposures.

2. Flammability Hazard Rating

- 0 Minimal hazard: Materials that are normally stable and will not burn unless heated.
- 1 Slight hazard: Materials that must be preheated before ignition will occur. Flammable liquids in this category will have flash points (the lowest temperature at which ignition will occur) at or above 200°F (NFPA Class IIIB)
- 2 Moderate Hazard: Material that must be moderately heated before ignition will occur including flammable liquids with flash points at or above 100° F and below 200° F (NFPA Class II & Class IIIA).
- 3 Serious Hazard: Materials capable of ignition under almost all normal temperature conditions, including flammable liquids with flash points bellow 73°F and boiling points above 100°F as well as liquids with flash points between 73°F and 100°F (NFPA Class IB and IC).
- 4 Severe Hazard: Very flammable gases or very volatile flammable liquids with flash points below 73°F and boiling points bellow 100°F (NFPA Class 1A).

Summary of HMIS Ratings (continued)

3. Reactivity Hazard Rating

- 0 Minimal hazard: Materials that are normally stable, even under fire conditions, and will not react with water.
- 1 Slight hazard: Materials that are normally stable but can become unstable at high temperature and pressures. These materials may react with water but they will not release energy violently.
- 2 Moderate Hazard: Materials that, in themselves are normally unstable and will readily undergo violent chemical changes but will not detonate. These materials may also react violently with water.
- 3 Serious Hazard: Materials that are capable of detonation or explosive reaction but require a strong initiating source or must be heated under confinement before initiation or materials that react explosively with water.
- 4 Severe Hazard: Material that are readily capable of detonation or explosive decomposition at normal temperatures and pressures.

Material Safety Data Sheet

Hazard Rating: Least - 0 Slight - 1 Moderate - 2 High - 3 Extreme - 4
HMIS H-3, R-1, F-0

Section 1 Product Identification and Physical Data

ASTC Polymers, Inc., 3207 West Warner Avenue, Santa Ana, CA 92704

714-966-2893 - Fax 714-966-9105

Date of Preparation: June 2005

Previous Revision: October 2001

Emergency Phone: 800-424-9300

Product Name: Penatron 3004 Part B	% Volatile by Weight:	Nil
Product Class: Urethane Hardener	U.N. Label:	N/A
Evaporation Rate: Slower (Butyl Acetate = 1)	U.N. Hazard Class:	N/A
Specific Gravity: 1.06	U.N. ID Number :	N/A
	U.N. Shipping Name:	Not Regulated

Appearance and Odor: Black Liquid with Slight Ammonia Odor

Section 2 Hazardous Ingredients/Sara III Information

Ingredients (CAS #)	%/wt.	ACGIH/TLV	OSHA/PEL
Glyceryl Poly(Oxypropylene)Triamine (64852-22-8)	Minor	Not Established	Not Estab.
Polyoxypropylenediamine (9046-10-0)	Minor	Not Established	Not Estab.
N,N'-Dialkylaminodiphenylmethane (5285-60-9)	Major	Not Established	Not Estab.
1,2 Benzenedicarboxylic Acid	Major	Not Established	Not Estab.
Di (CII) Ester, Br & Linear (0036-20-2)			
Di (C7) Ester, Br & Linear (068515-44-6)			
Di (C9) Ester, Br & Linear (06815-45-7)			
(C7, C9) Ester, Br & Linear (111381-89-6)			
(C7,C11) Ester , Br & Linear (111381-90-9)			
(C9,C11) Ester, Br & Linear (111381-91-0)			

* Major = Over 25%, Minor = 6 To 25%, Trace = Under 6%, Residue = Unknown % Residue
POSSIBLE

Section 3 Fire & Explosion Hazard Data

OSHA Flammability: Combustible Liquid – CLASS III

Flash Point: Greater Than 200^oF Method Used: PMCC

Extinguishing Media: Foam CO₂ Dry Chemical, water fog.

Unusual Fire and Explosion Hazards: Closed containers may rupture due to high build up of pressure when exposed to extreme heat.

Special Fire Fighting Procedures: Remove all ignition sources. Wear self-contained breathing apparatus with positive pressure mode, face piece, boots, gloves (Neoprene), goggles, protective clothing, when entering confined areas where potential for exposure to vapors or products of combustion exists.

Section 4 Health Hazard Data

Effects of Overexposure:

Acute - Ingestion: Causes burning of mouth, throat, and stomach with abdominal and chest pain, nausea, vomiting, diarrhea, thirst, weakness and collapse, aspiration may occur during swallowing of vomiting, resulting in lung damage.

Inhalation: Vapors or mist are irritating and cause nasal discharge, coughing, and discomfort or pain in eyes, nose, throat, and chest. Severe overexposure may result in difficult breathing, headache, nausea, vomiting and drowsiness. Prolonged or repeated overexposure may result in lung damage.

Eye Contact: Causes eye irritation experienced as pain, with excess blinking and tear production and seen as marked excess redness and swelling of the eye and chemical burns of the eye. Severe eye damage may cause blindness.

Chronic – Repeated skin contact may cause persistent irritation or dermatitis. Repeated inhalation may cause lung damage.

Emergency and first aid Procedures:

Eye contact: Immediately rinse with clean water for 15 minutes. Retract eyelids often rinsing with water inside of lid and eye completely. Obtain medical immediately.

Skin Contact: Immediately flush skin with large amounts of running water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Destroy non-resistant footwear.

Ingestion: If patient is conscious and can swallow, give two glasses of water (16 oz.). Do not induce vomiting. Get immediate medical attention. Never give anything by mouth to an unconscious or convulsing person.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult or cyanosis (blue discoloration of skin or lips) is noted qualified personnel may administer oxygen. Get immediate medical attention.

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Other information: All components of this product are listed on the TSCA inventory (both part A and B of this product)

Section 6 Reactivity

Stability: Stable

Hazardous Polymerization: Will not occur.

Conditions To Avoid: Excessive heat and strong oxidizing agents.

Hazardous Decomposition By Products: Toxic levels of ammonia, combustion products of nitrogen carbon monoxide, carbon dioxide, irritating aldehydes and ketones may be formed on burning in a limited air supply.

Section 7 Spill or Leak Procedure

Steps to be taken if product is spilled or released: Avoid contact with material. Persons not wearing appropriate protective equipment (see below) should be excluded from the area of spill until clean-up is complete. Eliminate ignition sources like heat, open flame and sparks, ventilate area of spill and dike area. Cover the spill with inert absorbent and place into proper salvage containers. Stop Spill at source, dike area to prevent spreading, pump liquid to salvage container. Remaining liquid may be taken up to prevent spreading, use clay, diatomaceous earth or other absorbent and place into disposal containers.

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