MATERIAL SAFETY DATA SHEET

SECTION 1 - MATERIAL IDENTIFICATION

AIRTHANE* PET-91A POLYURETHANE INTERMEDIATE PRODUCT NAME

*AIRTHANE is a registered trademark of Air Products and Chemicals, Inc

PRODUCT CODE PET91A

MSDS REVISION NUMBER: 4710-01

MANUFACTURER Air Products and Chemicals, Inc

7201 Hamilton Blvd., Allentown, PA 18195-1501

EMERGENCY TELEPHONE NUMBER(S) 800-523-9374 (Continental U.S.)

215-481-7711 (Outside Continental U.S.)

800-322-9092 (Pennsylvania only)

OCTOBER 1992 DATE PREPARED

REVISION NOTES: Updated Composition Information C.A.S. CHEMICAL NAMEPoly(oxy-1,4-butanediyl),

alpha-hydro-omega-hydroxy-, polymer with

1,3-diisocyanatomethylbenzene

SYNONYMS

None

CHEMICAL FAMILY:

Polyurethane

EMPIRICAL FORMULA

(C9H6N2O2*(C4H8O)n H2O)x

INTENDED USE

Cast Elastomer

SECTION 2 - INGREDIENTS

OSHA CAS Number and Chemical Name %

> PEL/TWA TLV-TWA

ppm mg/m3 PPM mg/m3

ACGIH

9069-50-5 POLYURETHANE PREPOLYMER (TDI 100 N/E N/E N/E N/E

WITH PTMEG)

N/E = Not Established SK = Skin C = Ceiling S = STEL =

Short Term Exposure Level

SECTION 3 - HEALTH HAZARDS

EMERGENCY OVERVIEW

HMIS HEALTH RATING 1 FLAMMABILITY 1 REACTIVITY 1

Viscous liquid, Straw yellow, Odorless

Mild eye irritant. Mild skin irritant.

Ignition will give rise to a Class B fire. In case of fire use Water

Spray, Carbon Dioxide (CO2), Dry Chemical or Alcohol Foam.

ROUTES OF EXPOSURE

EXPOSURE STANDARDS

No standards established for the product.

HEALTH HAZARDS: Mild eye irritant

Mild skin irritant

TARGET ORGANS None known

SIGNS AND SYMPTOMS OF EXPOSURE (Acute effects)

Contact with eyes causes mild irritation and discomfort.

Contact with skin causes mild irritation and discomfort.

SIGNS AND SYMPTOMS OF EXPOSURE (Possible Longer Term Effects)
Repeated and/or prolonged exposures may result in no known effects.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE None known

IRRITATION EFFECTS DATA

No irritation data are known for this product.

ACUTE TOXICITY EFFECTS DATA
Oral LD50 (rat): >5000 mg/kg
Dermal LD50 (rabbit): >2000 mg/kg

OTHER ACUTE EFFECTS No Data

CHRONIC/SUBCHRONIC DATA
No delayed, subchronic or chronic test data are known

SECTION 4 - FIRST AID

EYE CONTACT

Hold eyelids apart and immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

SKIN CONTACT

Wash affected area with soap and water. Remove contaminated clothing and shoes. Wash before reuse.

INHALATION

Move patient to fresh air. If breathing has stopped or is labored give assisted respiration (e.g. mouth-to-mouth). Supplemental oxygen may be indicated.

There has been no clinical experience with overexposure via the respiratory route.



INGESTION

If swallowed, call a physician immediately. Induce vomiting or remove stomach contents by gastric suction only as directed by medical personnel. Never give anything by mouth to an unconscious person.

SECTION 5 - FIRE AND EXPLOSION DATA

CHARACTERISTICS:

Flash Point . >350F (176.8C)

Upper Explosion Limit (UEL)

Lower Explosion Limit (LEL)

No Data

Autoignition Temperature

Flash Point Method(s)

No Data

Closed cup

Fire Hazard Classification Combustible Liquid, Class IIIB

(OSHA/NFPA)

EXTINGUISHING MEDIA

Ignition will give rise to a Class B fire. In case of fire use Water Spray, Carbon Dioxide (CO2), Dry Chemical or Alcohol Foam.

SPECIAL FIRE FIGHTING PROCEDURES

Retain expended liquids from fire fighting for later disposal. Water spray is also useful in cooling fire-exposed tanks and in dispersing vapors.

Firefighters should wear butyl rubber boots, gloves, and body suit and a self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS

May generate toxic or irritating combustion products.

Sudden reaction and fire may result if product is mixed with an oxidizing agent.

SECTION 6 - REACTIVITY HAZARD DATA

CHEMICAL STABILITY

Stable

CONDITIONS TO AVOID (if unstable)

Reacts with water to form carbon dioxide.

INCOMPATABILITY (Materials to Avoid)

Oxidizing Agents (i.e. perchlorates, nitrates etc.) Water, steam

HAZARDOUS DECOMPOSITION PRODUCTS (from burning, heating, or reaction with other materials)

Carbon Monoxide in a fire Hydrogen Cyanide when heated Nitrogen Oxides in a fire

HAZARDOUS POLYMERIZATION Will not occur

CONDITIONS TO AVOID (if polymerization may occur)

NFPA Reactivity Rating

SECTION 7 - SPILL, LEAK AND WASTE DISPOSAL INFORMATION

CONTAINMENT TECHNIQUES (Removal of ignition sources, diking etc)
Ventilate the space involved.
Shut off or remove all ignition sources.
Stop the leak, if possible.

CLEAN-UP PROCEDURES

If recovery is not feasible, admix with dry soil, sand or non-reactive absorbent and place in a container or dumpster pending disposal. Prepare a decontamination solution of 0.2-5% liquid detergent and 3-8% concentrated ammonium hydroxide in water. Treat spill area with decontamination solution, using about 10 parts of the solution for each part of the spill and allow it to react for at least 10 minutes for trace amounts and 48 hours for large spills. Neutralize the waste. Carbon dioxide will evolve, leaving insoluble polyureas.

OTHER EMERGENCY ADVICE

Avoid skin contact. Wear protective clothing.

WASTE DISPOSAL:

Comply with all Federal, State and Local Regulations.

Stir the isocyanate waste into the decontamination solution as above. Neither the liquid nor the solid is a hazardous waste. Fill waste drum with above solution and let sit unsealed for 48 hours. Rinse container three times and puncture or otherwise destroy before disposal.

ENVIRONMENTAL EFFECTS

No Data

SECTION 8 - PERSONAL PROTECTION/EXPOSURE CONTROLS

EYE PROTECTION:

Chemical safety glasses or Splash-proof eye goggles.

HAND PROTECTION:

Cuffed butyl rubber gloves

RESPIRATORY PROTECTION

Not required under normal conditions. In poorly ventilated areas, a cartridge mask National Institute for Occupational Safety and Health (NIOSH) approved for organic vapors is recommended.

PROTECTIVE CLOTHING

Appropriate protective clothing.

ENGINEERING CONTROLS

Adequate general and local exhaust.

WORK AND HYGIENIC PRACTICES

Wash at the end of each workshift and before eating, smoking or using the toilet.

Launder or discard contaminated clothing.
Wash promptly if skin becomes contaminated.

SECTION 9 - STORAGE AND HANDLING

STORAGE

Store under inert atmosphere. Keep away from oxidizers, heat or flames.

HANDLING

ODOR

Avoid contact with skin or eyes.

OTHER PRECAUTIONS

Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations (e.g. OSHA).

SECTION 10 - TYPICAL PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM Viscous liquid
COLOR Straw yellow

TYPICAL PHYSICAL DATA

PH No Data
VAPOR PRESSURE (mm Hg) <0.5
VAPOR DENSITY (Air = 1) No Data
BOILING POINT No Data
FREEZING/MELTING POINT 120-140F

Odorless

SOLUBILITY IN WATER Reacts slightly with water

SPECIFIC GRAVITY (Water = 1) 0.98 a 70C EVAPORATION RATE (Butylacetate = 1) No Data VISCOSITY (CPS): 6000 a 40C 1500 a 70C

MOLECULAR WEIGHT 3100

SECTION 11 - TRANSPORTATION INFORMATION

UN No.

DOT SHIPPING NAME

(Nonbulk) Resin Compound (Tanktruck) Chemicals N.O.I.

Air Products and Chemicals, Inc. 7201 Hamilton Boulevard Allentown, PA 18195-1501 Telephone (215) 481-4911



IMO SHIPPING NAME

No Data

IATA SHIPPING NAME

Chemicals, NOS (Polyurethane Prepolymer)

SECTION 12 - U.S. FEDERAL REGULATIONS

TOXIC SUBSTANCES CONTROL ACT (TSCA)-

All components are included in the EPA Toxic Substances Control Act (TSCA) Chemical Substance Inventory

OSHA Hazard Communication Standard (29CFR1910.1200) hazard class(es)

EPA SARA Title III Section 312 (40CFR370) hazard class None

EPA SARA Title III Section 313 (40CFR372) toxic chemicals above "de minimis" level are

None

SECTION 13 - STATE REGULATIONS

Proposition 65 substance(s) listed by the state of California under the "Safe Drinking Water and Toxic Enforcement Act of 1986"

None

New Jersey Trade Secret Registry Number(s) None

SECTION 14 - INTERNATIONAL REGULATIONS

CANADA

REGULATORY

DSL

Included on Inventory

WHMIS Hazard Classification

None

WHMIS Trade Secret Registry Number(s) None

WHMIS HAZARDOUS INGREDIENTS

LABELING

WHMIS Symbol None

EUROPEAN ECONOMIC COMMUNITY (EEC)

REGULATORY

EINICS Master Inventory

Polymeric substance: status not

determined

LABELING

EEC SYMBOL

EEC Council Directives relating to the classification, packaging and labeling of dangerous substances and preparations Risk (R) and Safety (S) phrases