

Deerfield Urethane, Inc

Routes 5 & 10, Box 186
South Deerfield, MA 01373

TRANSPORTATION EMERGENCY
CALL CHEMTREC: 800-424-9300
INTERNATIONAL: 703-527-3887

NON-TRANSPORTATION
BAYER EMERGENCY PHONE...: (412) 923-1800
BAYER INFORMATION PHONE.: (800) 662-2927

1. CHEMICAL PRODUCT IDENTIFICATION:

PRODUCT NAME.....: Dureflex PT-9400S
PRODUCT CODE.....: Non-coded
CHEMICAL FAMILY.....: Aromatic thermoplastic polyurethane
CHEMICAL NAME.....: Polyurethane elastomer
FORMULA.....: Not Applicable

2. COMPOSITION/INFORMATION ON INGREDIENTS:

INGREDIENT NAME /CAS NUMBER	EXPOSURE LIMITS	CONCENTRATION (%)
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***** HAZARDOUS INGREDIENTS *****

The following are potentially hazardous ingredient(s) used to formulate this product. In this supply form, the ingredient(s) is bound in the polymer matrix. Because it is bound in the matrix, it is not expected to create any unusual hazards when handled and processed according to good manufacturing and industrial hygiene practices and the guidelines provided in this MSDS.

Amorphous Silica			
61790-53-2	OSHA:	Not Established	>1.0%
	ACGIH:	10.00 mg/m3 TWA	
		3.00 mg/m3 TWA	

3. HAZARDS IDENTIFICATION:

* EMERGENCY OVERVIEW *
* *
* CAUTION! Color: Natural; Form: Plastic Film; Odor: *
* Odorless; Contact with hot material will cause thermal *
* burns; Toxic gases/fumes are given off during burning or *
* thermal decomposition and may cause allergic skin and *
* respiratory reaction; Melted product is flammable and *
* produces intense heat and dense smoke during burning. *

POTENTIAL HEALTH EFFECTS:

ROUTE(S) OF ENTRY.....: Inhalation; Skin Contact; Eye Contact

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:

Mechanical irritation can be produced if this product is introduced into the eye. At temperatures above decomposition (482 F (250 C)), Diphenylmethane Diisocyanate (MDI) may also be liberated. The following effects reflect the potential health hazards associated with overexposure to isocyanates.

ACUTE INHALATION.....: Isocyanate vapors at concentrations above the suggested exposure limit can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing: runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the exposure limit with similar symptoms as well as asthma attack. Exposure well above the exposure limit may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symptoms (e.g., fever, chills) has also been reported. These symptoms can be delayed up to several hours after exposure.

CHRONIC INHALATION.....: As a result of previous repeated overexposures or a single large dose, certain individuals develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the exposure limit (See Section 2). These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate or delayed (up to several hours after exposure). Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Overexposure to isocyanates has also been reported to cause lung damage (including decrease in lung function) which may be permanent. Sensitization can either be temporary or permanent.

ACUTE SKIN CONTACT.....: Isocyanates react with skin protein and

3. HAZARDS IDENTIFICATION (Continued)

moisture and can cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering.

CHRONIC SKIN CONTACT.....: Prolonged contact can cause reddening, swelling, rash, scaling, blistering, and in some cases, skin sensitization. Individuals who have developed a skin sensitization can develop these symptoms as a result of contact with very small amounts of liquid material or as a result of exposure to vapor.

ACUTE EYE CONTACT.....: Isocyanate vapors are irritating and can cause tearing, reddening and swelling. If left untreated, corneal damage can occur and injury is slow to heal. However, damage is usually reversible. See Section 4 for treatment.

CHRONIC EYE CONTACT.....: None known

ACUTE INGESTION.....: None known

CHRONIC INGESTION.....: None known

CARCINOGENICITY

NTP.....: Not listed as a carcinogen

IARC.....: Not listed as a carcinogen

OSHA.....: Not listed as a carcinogen

MEDICAL CONDITIONS

AGGRAVATED BY EXPOSURE.....: Asthma, other respiratory disorders (bronchitis, emphysema, bronchial hyperreactivity), skin allergies, eczema.

EXPOSURE LIMITS.....: Although no exposure limit has been established for this product, the OSHA-PEL for nuisance dust of 15 mg/m³-total dust, 5 mg/m³-respirable dust is recommended. In addition, the ACGIH-TLV for nuisance dust of 10 mg/m³ is recommended.

4. FIRST AID MEASURES:

FIRST AID FOR EYES.....: Flush eyes with plenty of lukewarm water for at least 15 minutes, holding eyelids open all the time. See a physician or ophthalmologist for immediate follow-up if irritation is present and persists.

FIRST AID FOR SKIN.....: Wash affected areas with soap and water. See physician if thermal burn occurs.

FIRST AID FOR INHALATION: Remove to fresh air.

FIRST AID FOR INGESTION.: Contact a physician.

NOTE TO PHYSICIAN.....: The following courses of action are suggested if overexposure to MDI is suspected. Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation frequently. Workplace vapors have produced reversible corneal epithelial edema impairing vision. If burned, treat as thermal burn. Respiratory: MDI is a known pulmonary sensitizer. Treatment is essentially symptomatic. An individual having a skin or pulmonary sensitization reaction to this material should be removed from exposure to any isocyanate.

5. FIRE FIGHTING MEASURES:

FLASH POINT.....: Above 410 F (210 C)
FLAMMABLE LIMITS:
UPPER EXPLOSIVE LIMIT (UEL)(%): Not Established
LOWER EXPLOSIVE LIMIT (LEL)(%): Not Established
AUTO-IGNITION TEMPERATURE.....: Not Applicable
EXTINGUISHING MEDIA.....: Water; Dry Chemical; Foam
SPECIAL FIRE FIGHTING PROCEDURES: Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by firefighters.
UNUSUAL FIRE / EXPLOSION HAZARDS: Full emergency equipment with self-contained breathing apparatus should be worn by firefighters. During a fire, MDI vapors and other highly irritating and toxic gases may be generated by thermal decomposition and combustion. (See Section 10).

6. ACCIDENTAL RELEASE MEASURES:

SPILL OR LEAK PROCEDURES.....: If molten material is spilled, allow it to solidify. Remove mechanically by a method which minimizes the generation of airborne dust.

7. HANDLING and STORAGE:

STORAGE TEMPERATURE(MIN/MAX): Ambient/104 F (40 C)
SHELF LIFE.....: Not Established
SPECIAL SENSITIVITY.....: Material is hygroscopic and will absorb ambient moisture.
HANDLING/STORAGE PRECAUTIONS: Store in a cool, dry place.

8. PERSONAL PROTECTION:

EYE PROTECTION REQUIREMENTS.....: Safety glasses recommended when handling molten material.
SKIN PROTECTION REQUIREMENTS.....: None required but fabric gloves are recommended when handling molten material.
VENTILATION REQUIREMENTS.....: Thermal processing equipment should be ventilated to control gases and fumes given off during processing. Diphenylmethane Diisocyanate (MDI) could be liberated in small amounts. ACGIH TLV for MDI is 0.005 ppm TWA.

8. PERSONAL PROTECTION (Continued)

RESPIRATOR REQUIREMENTS.....: NIOSH/MSHA-approved dust respirator recommended if the airborne dust concentration is near or exceeds the nuisance dust exposure limits. During die cleaning operations, high temperature processing and/or circumstances where decomposition is suspected, a NIOSH-approved supplied air respirator is recommended to protect against Diphenylmethane Diisocyanate (MDI) fumes.

9. PHYSICAL and CHEMICAL PROPERTIES:

PHYSICAL FORM.....: Plastic Film
COLOR.....: Natural
ODOR.....: Odorless
pH.....: Not Applicable
BOILING POINT.....: Not Applicable
MELTING/FREEZING POINT....: See softening point
SOFTENING POINT.....: 356-392 F (180-200 C)
VISCOSITY.....: Not Applicable
SOLUBILITY IN WATER.....: Insoluble
SPECIFIC GRAVITY.....: 1.1 - 1.3
BULK DENSITY.....: 68 - 82 lbs/ft3
% VOLATILE BY WEIGHT.....: Negligible
EVAPORATION RATE.....: Not Applicable (Butyl acetate = 1)
VAPOR PRESSURE.....: Not Applicable
VAPOR DENSITY.....: Not Applicable (Air = 1)

10. STABILITY and REACTIVITY:

STABILITY.....: This is a stable material
HAZARDOUS POLYMERIZATION...: Will not occur.
INCOMPATIBILITIES.....: None known
INSTABILITY CONDITIONS....: None known
DECOMPOSITION TEMPERATURE..: Begins at 482F (250C)
DECOMPOSITION PRODUCTS....: By fire or thermal decomposition: Carbon monoxide (CO), carbon dioxide (CO2), diphenylcarbonate, oxides of nitrogen (NOx), traces of hydrogen cyanide (HCN), amines, and nitriles. Traces of MDI, aliphatic and aromatic hydrocarbons, aldehydes and acids may also be formed.

11. TOXICOLOGICAL INFORMATION:

NO ANIMAL TOXICITY INFORMATION AVAILABLE

12. ECOLOGICAL INFORMATION:

NO ECOLOGICAL INFORMATION AVAILABLE

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD.....: Material may be incinerated or landfilled in compliance with federal, state, and local environmental control regulations.

14. TRANSPORTATION INFORMATION:

TECHNICAL SHIPPING NAME.....: Thermoplastic polyurethane film
FREIGHT CLASS BULK.....: Plastic Film or Sheeting,O/T cellulose,Not printed
FREIGHT CLASS PACKAGE.....: Plastic Film or Sheeting,O/T cellulose,Not printed (NMFC 156830 sub 2)
PRODUCT LABEL.....: GP 379 or GP 381

DOT (DOMESTIC SURFACE)

HAZARD CLASS OR DIVISION: Non-Regulated

IMO / IMDG CODE (OCEAN)

HAZARD CLASS DIVISION NUMBER...: Non-Regulated

ICAO / IATA (AIR)

HAZARD CLASS DIVISION NUMBER...: Non-Regulated

15. REGULATORY INFORMATION:

OSHA STATUS.....: This product is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200. However, thermal processing and decomposition fumes from this product may be hazardous as noted in Section 3.

CERCLA REPORTABLE QUANTITY...: None reported

SARA TITLE III:

16. OTHER INFORMATION:

HMIS RATINGS: Health Flammability Reactivity
 0 1 0
 0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

Deerfield's method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS ratings are provided by Deerfield as a customer service.

REASON FOR ISSUE.....: Established Product Code.
PREPARED BY.....: Shannon Simpson
APPROVED BY.....: J. H. Chapman
APPROVAL DATE.....: 06/11/2002
SUPERSEDES DATE.....: None
MSDS NUMBER.....: 46145

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