

PEACOCK LABORATORIES, INC.
1901 S 54th St.
Philadelphia, PA 19143
Tel: 215 729 4400
www.peacocklabs.com

Material Safety Data Sheet

Permalac 2KB Hardener

SECTION 1

Manufacturer's Name:..... Peacock Laboratories, Inc.
Address:.....1901 S. 54th Street
City, State, and Zip.....Phila., PA 19143
Date Prepared:.....08/2007
24 Hour Emergency Number: CHEMTREC (800)424-9300

SECTION 2

Hazardous Ingredients	Concentration (%)
1, 6-Hexamethylene Diisocyanate (HDI) CAS NO.: 822-06-0 OSHA: .Not Established ACGIH: Not Established	<0.06 %
Homopolymer of HDI CAS NO.: 28182-81-2 OSHA: .Not Established ACGIH: Not Established	35-39%
Naphtha CAS NO.: 64742-95-6 OSHA: .Not Established ACGIH: Not Established	0.4-3.2%
N-Butyl Acetate CAS NO.: 123-86-4 OSHA: 150 ppm TWA; 710 mg/m ³ TWA ACGIH: 150 ppm TWA; 713 mg/m ³ TWA; 200 ppm STEL; 950 mg/m ³ STEL	0.4-3.2%
1, 2, 4 Trimethylbenzene (in Naphtha Solvent) CAS NO.: 95-63-6 OSHA: .Not Established ACGIH: Not Established	0.4-3.2%
Toluene: CAS NO.: 108-88-3 OSHA PEL: ACGIH TLV: TWA-100pmSTEL: 150ppm	50-60%

SECTION 3 PHYSICAL HAZARDS (REACTIVITY DATA)

Physical Form: Liquid

Color	Clear
Odor	Solvent odor
Boiling Point	Approx 320F (160 C) for solvent; Polyisocyanate will decompose
Melting/Freezing Point	Not Established
Solubility in Water	Resin is insoluble. Reacts slowly with water to liberate Carbon dioxide gas.
Specific Gravity	Approx. 1.1 @ 68 F (20 C)
Bulk Density	Approx 9.4 lbs/Gal
Vapor Pressure	Polyisocyanate: 5.2×10^{-9} mm Hg at 20 C; Toluene-22.0, Butyl Acetate – 15 mm Hg at 20 C;
Stability	Solvent Naphtha: 4 mm Hg @ 38 C Stable under normal conditions
Conditions to Avoid	High heat - contains organic solvents
Hazardous Polymerization	May occur; Contact with moisture or other materials which react with isocyanates or temperatures over 400 F (204 C) may cause polymerization.
Incompatibility (Materials to Avoid)	Water, amines, strong bases, alcohols, metal compounds and surface active materials.
Hazardous Decomposition Products	–by high heat and fire- carbon dioxide, carbon monoxide, oxides of nitrogen, hydrogen cyanide, isocyanates vapors and other undetermined aliphatic fragments.

SECTION 4 HEALTH HAZARDS

Routes of Entry: Inhalation, Skin contact, Skin absorption, Eye contact

Symptoms of Overexposure:

Acute Inhalation: : Breathing of high vapor concentrations may produce narcosis. Liquid may cause minor skin irritation and definite eye irritation. Causes nose and throat irritation. Causes eye irritation. Causes skin irritation.

HDI vapors or mist at concentrations above applicable exposure limits 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 problems). Persons with pre-existing, nonspecific bronchial hyperactivity can respond to HDI vapors or mist at concentrations below the exposure limits with symptoms similar to an asthma attack. Exposures well above the limits 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 (fever, chills) has also been reported. Solvent vapors may be irritating to

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the eyes, nose and throat. Symptoms of irritation may include redness, burning, and itching of the eyes, dryness of the throat and tightness of the chest. Other possible symptoms of overexposure include headache, nausea, narcosis, fatigue, and loss of appetite. Exposure to a concentration of 200 ppm Butyl Acetate (BA) can cause eye, nose, and throat irritation. At 300 ppm, these effects can become severe.

Chronic Inhalation: Repeated overexposures or single large dose can cause certain individuals to develop isocyanates sensitization (chemical asthma). This will cause these individuals to react to later exposures at levels well below applicable exposure limits. The symptoms which include chest tightness, wheezing, cough, shortness of breath or asthmatic attack, could be immediate or delayed up to several hours after exposure. Similar to many non-specific asthmatic responses, there are reports that the sensitized 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. Chronic overexposure to isocyanates has also been reported to cause lung damage, including decrease in lung function, which may be permanent. Chronic overexposure to organic solvents has been associated with various neurotoxic effects including permanent brain and nervous system damage. Symptoms include loss of memory, loss of intellectual ability and loss of coordination.

Acute Skin Contact: Isocyanates react with moisture and skin protein and may cause irritation. Symptoms of skin irritation may be reddening, swelling, rash, scaling or blistering. Some individuals may develop skin sensitization from skin contact. Cured material is difficult to remove. Repeated contact with solvents can result in dry defatted and cracked skin causing increased susceptibility to infection. Skin irritation (redness, swelling) may develop into dermatitis. Solvents can penetrate the skin and cause systemic effects similar to those identified under acute inhalation.

Chronic Skin Contact: Prolonged contact with isocyanates can cause reddening, swelling, rash, scaling or blistering. In those individuals who have developed skin sensitization, these symptoms can develop at later skin contacts exposures at levels well below applicable limits. Chronic skin exposure to solvents may cause systemic effects similar to those identified under chronic inhalation.

Acute Eye Contact: Liquids, aerosols and vapors of this product (isocyanates and solvents) are irritating and can cause tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes.

Chronic Eye Contact: May result in corneal opacity (clouding of the eye surface). Prolonged vapor contact may cause conjunctivitis.

Acute Ingestion: Can result in irritation and possible corrosive action in the mouth, stomach tissue and digestive tract. Vomiting may cause aspiration of the solvent resulting in chemical pneumonitis.

Chronic Ingestion: None known.

Chemical Listed as Carcinogen or Potential Carcinogen:

National Toxicology Program: No

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I.A.R.C. Monographs: No
OSHA: No

Medical Conditions Aggravated by Exposure Repeated or prolonged overexposure to solvents could cause permanent brain & nervous system damage. Intention misuse by deliberately concentrating & inhaling contents may be harmful or fatal. Asthma and other respiratory disorders (bronchitis, emphysema, hyperactivity), skin allergies, eczema and existing eye conditions can be made worse.

FIRST AID MEASURES

First Aid for Eyes: Flush with clean, lukewarm water (low Pressure) for at least 15 minutes, while lifting eyelids. Refer individual to physician/ophthalmologist for immediate follow-up.

First Aid for Skin: Remove contaminated clothing and shoes immediately. Wash affected areas with soap and water. For severe exposures, get under safety shower after removing clothing, then get medical attention. Seek medical attention if irritation develops or persists.

First Aid for 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 maybe immediate or delayed up to several hours. Treatment is essentially symptomatic. Consult Physician.

First Aid for 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 or convulsing person. Consult Physician. Should vomiting occur keep head lower than hip level to prevent aspiration of fluid into the lungs.

Note to Physician: Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation frequently. Workplace vapors could produce reversible corneal epithelial edema impairing vision. Skin: This product is a known skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn. Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of the product. Inhalation: This product is a known pulmonary sensitizer. Treatment is essentially symptomatic. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from any further exposure to this product.

SECTION 5 FIRE FIGHTING MEASURES

FIRE & EXPLOSION DATA

Flash Point: 45F (Toluene) **Method Used:** Selaflash closed cup.

Flammable Limits:

Upper Explosive Limit (UEL) (%):7.6 Toluene

Lower Explosive Limit (LEL) (%): 1.0 Toluene

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Upper Explosive Limit (UEL) (%): 7.5 to 7.6 - n-butyl acetate

Lower Explosive Limit (LEL) (%): 1.4 to 1.7 - n-butyl acetate

Upper Explosive Limit (UEL) (%): 7.5 – solvent Naphtha

Lower Explosive Limit (LEL) (%): 1.0 – solvent Naphtha

Auto-Ignition Temperature : Not established

Extinguisher Media: Dry chemical, carbon dioxide foam.

Special Fire Fighting Procedures: Full emergency equipment with self contained breathing apparatus and full protective clothing should be worn by firefighters. During fires, HDI vapors and other highly toxic gases may be generated by thermal decomposition or combustion. Closed container may explode when exposed to extreme heat or burst when contaminated with water (CO₂ evolved). Solvent vapors may be heavier than air. Stagnant air may cause vapors to accumulate and travel along the ground to an ignition source which may result in a flashback to the source of the vapor.

Unusual Fire and Explosive Hazards: Keep containers tightly closed. Vapors may migrate to ignition source and cause flash fire. Isolate from heat, sparks, electrical equipment, appliances, pilot lights, flames and other sources of ignition. Flammable liquid and vapor

SECTION 6 SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES.

Precautions to be Taken in Handling and Storage: Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. Store in temperatures between -30 F (-34 C) and 122 F (50 C). At 50 C, material may slowly polymerize without hazard. Ideal storage temperature for ease of handling is 50-81 F (10-27 C). Avoid contact with skin and eyes. Do not breathe vapors or mists if generated. Employee education and training in the safe use of this product is required under the OSHA hazard communication standard.

Steps to be taken in Case Material is Released or Spilled: Evacuate nonessential personnel. Remove all sources of ignition. Ventilate the area. Notify appropriate authorities if necessary. Put on protective equipment (see section 8). Dike or impound spilled material and control further spillage if possible. Cover the spill with sawdust, vermiculite, or other absorbent material. Pour decontamination solution (concentrated ammonia (5%), detergent (2%), and water (93%)) over spill area and allow it to react for at least 10 minutes. Collect material in open containers and add further amounts of decontamination solution. Remove containers to a safe place, cover loosely, and allow standing for 24 to 48 hours. Flush spill area with decontamination solution.

Waste Disposal Methods: Consult federal, state, and local regulations:

SECTION 8 SPECIAL PROTECTION INFORMATION/CONTROL MEASURES

Required Work/Hygienic Practices: Persons handling this product must avoid contact

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with eyes or skin. In spray operations, protection must be afforded against exposure to both vapor and spray mist.

Eye Protection: Chemical safety splash goggles to prevent eye contact. Vapor resistant goggles should be worn when contact lenses are in use. In a splash hazard environment chemical goggles should be used in combination with a full face-shield.

Protective Gloves: Permeation resistant gloves (butyl rubber, nitrile rubber). We recommend that latex gloves not be worn when working with isocyanates. Cover as much of the exposed skin area as possible with appropriate clothing. If skin creams are used keep the area protected only by the cream to a minimum.

Respiratory Protection (specify type): Approved by NOISH/MSHA respirator with ammonia filter. Must be used when exposure limits are exceeded.

Ventilation: Local exhaust, to meet TLV requirements.

Other Protective Clothing or Equipment: Rubber apron or protective coveralls.

SECTION 9 TRANSPORTATION

Proper Shipping Name: Paint Solution UN-1263

Hazard Class: Flammable Material.

Label:

Identification No.:

SECTION 10 DISCLAIMER

The above information in this M.S.D.S. was obtained from sources which we believe are reliable and correct, but does not purport to be inclusive and shall be used only as a guide. The information is provided without any representation or warranty expressed or implied regarding accuracy or correctness. The conditions 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, Peacock Laboratories, Inc. and its employees 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, use or disposal of the product.