MATERIAL SAFETY DATA SHEET

Section 1 Chemical Product and Company Identification

Product Name: **PG 5000 H**

Chemical Name: Waterproofing Membrane

Manufacturer: Polyguard Products
3801 South Business 45
Ennis, TX 75119

CAS # Mixture
Date of Last Revision: May 20, 2008
Replaces: N/A

For emergency assistance: Polyguard Products (7-5 CST) 800-541-4994 or CHEMTREC (24 Hours) 800-424-9300

Section 2 Hazardous Identification

Over exposure to this product may result in respiratory and skin sensitization.

Under normal conditions of use material is not expected to create any unusual emergency hazards
Skin irritations may be treated by washing affected area with soap and water.
If eyes come in contact with this material, flush at least 15 minutes and seek medical attention immediately.
Avoid inhalation of vapors.
Avoid contact with water.

Exposure routes- Inhalation, absorption, ingestion, skin and/or eye contact.

Skin contact: Isocyanates react with skin protein and moisture and can cause irritation. 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.

Eye contact: Liquid, aerosols, or vapors are severely irritating and can cause pain, tearing, reddening and swelling. Prolonged vapor may cause conjunctivitis. Any level of contact should be left untreated.

Skin Absorption: Systemically toxic concentrations of this product will probably not be absorbed through human skin.

Ingestion: Can result in irritating and corrosive action in the mouth, stomach tissue and digestive tact. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea.

Inhalation: TDI vapors or mist at concentration above the TLV 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). High vapor concentrations may cause central nervous system (CNS) depression as evidenced by giddiness, headache, dizziness, and nausea. Persons with a preexisting, non-specified bronchial hyperactivity can respond to concentrations below the TLV with similar symptoms as well as asthma attack. Exposure well above the TLV may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). As a result of previous repeated As a result of previous repeated overexposures or a single large dose, certain individuals may develop

isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure of isocyanate at levels below the TLV. 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 irritants. This increased lung sensitively can persist for weeks and in severe cases for several years.

Acute (Short Term) Health Effects-
Exposure may cause mucous membrane and respiratory tract irritation, tightness of chest, headache, shortness of breath, and a dry cough. At concentrations exceeding current occupational limits and for sensitized individuals at levels less than or greater than current occupational limits, asthma-like symptoms may occur. These symptoms may include coughing, wheezing, and shortness of breath. A hypersensitive pneumonitis may also occur if the person is sensitized. This syndrome is characterized by fever, non productive cough, wheezing, chills, and shortness of breath. Central nervous system (CNS) depression may also result. The effects of acute exposure may be delayed in onset up to 12-24 hours.

Chronic (Long Term) Health Effects-
Inhalation: Repeated exposure above current occupational limits may cause an allergic sensitization of the respiratory tract. This is characterized by an asthma-like response upon re-exposure to the chemical. The symptoms may include coughing, wheezing, shortness of breath and chest tightness, and may be fatal. Central nervous system (CNS) impairment leading to unconsciousness and fatality may occur in extreme cases.

Silica and other fillers are encapsulated and are not expected to be released from the product under normal conditions of use. Because this is a free flowing liquid or paste, dust inhalation is not an expected route of exposure. Sanding cured product can result in exposure to carbon black dusting.

Medical conditions generally aggravated by exposure: Cardiovascular disease, asthma or asthmatic bronchitis, emphysema, allergic disease, chronic respiratory disease, sinusitis, headache, and dizziness.

Section 3 Composition

Component	CAS #
Urethane Prepolymer	Mixture
Aromatic Petroleum Naphtha	64742-95-6
Petroleum Naphtha Solvent (Aliphatic)	64742-88-7
Toluene Diisocyanate	26471-62-5
Petroleum Hydrocarbon	64742-03-6
Crystalline Silica (Quartz)	14808-60-7
Carbon Black	1333-86-4

Section 4 First Aid Procedure

Inhalation- Remove person to fresh air. If not breathing, give artificial respirations. If breathing is labored, give oxygen. Get medical help immediately. Do not give food or liquids to an unconscious person.

Skin- Wash exposed area thoroughly with soap and water .Remove product soaked clothing and wash before reuse. If redness, itching or burning develops or irritation occurs, seek medical attention. Wash contaminated clothing and decontaminate footwear before reuse.

Ingestion- Give 1 or 2 glasses of water to drink. If gastrointestional symptoms develop, get medical help immediately. (Do not give anything by mouth to an unconscious person).

Eyes- Immediately flush with plenty water for at least 15 minutes. Keep eyelids open. Seek medical attention immediately.

Section 5 Firefighting Measures

Extinguishing Media- Dry chemical, foam, and carbon dioxide. If water is used, use very large quantities of cold water. The reaction between water and hot isocyanate may be vigorous.
Flash Point- 145 F (62.7 C) TCC
Flammable limits LEL- 1.0 % UEL- 7.0 %
Auto ignition temperature – Not available

Special fire fighting procedures- Wear self contained breathing apparatus with full face piece and protective clothing. Excessive pressure or temperature may cause explosive rupture of containers.

Unusual fire or explosion hazardous- Water contamination will produce carbon dioxide. Do not reseal contaminated containers as pressure buildup may result in rupturing of the container.

Hazardous materials formed during fire or decomposition- Carbon dioxide, carbon monoxide, and nitrogen oxides, trace amounts of hydrogen cyanide.

Section 6 Accidental Release Measures

All operations should be performed by trained personnel familiar with the hazards of the chemicals used. Secure area from further entry from unauthorized personal. Don proper personal protective equipment before handling spilled material. Approach spill from an uphill and upwind position. Prevent material from entering sewers and waterways.
Prepare a decontamination solution of 2.0% liquid detergent and 3-8 % concentrated ammonium hydroxide in water (5-10% sodium carbonate may be substituted for the ammonium hydroxide). Treat the spill area with the decontamination solution, using about 10 parts of solution for each part of the spill, and allow it to react for at least 15 minutes. Place material in approved container, but do not seal container for at least 48 hours to allow all the carbon dioxide to vent.
Dispose the waste in accordance to federal, local, and state regulations.
If applicable, report spill activity to the appropriate regulatory agencies.

Section 7 Handling & Storage

Keep in a cool, dry, ventilated storage area, in closed containers and out of direct sunlight. Keep liquid and vapors away from heat, sparks, and flame, store in containers above ground and surrounded by dikes to contain spills or leaks. Sufficient heat or pressure may ignite or detonate even liquid product in the absence of sparks or open flame. Extinguish pilot lights, cigarettes and turn off other sources of ignition prior to use and until all vapors are gone. Vapors may accumulate and travel to ignition sources distance from the handling source distant from the handling site; flash fire can result. Keep containers closed when not in use. Containers, even those that have been emptied, may contain explosive vapors. Do not cut, drill, grind, weld or perform

similar operations on or near containers. Do not pressurize containers to empty them. Use explosion proof lighting and equipment, non-sparking tools, clothing and shoes. Ground all structures, transfer containers and equipment to conform to the national electrical code. Use procedures that prevent static electrical sparks. Static electricity may accumulate and create a fire hazard.

Prevent skin and eye contact, observe TLV limitations. Avoid breathing vapors and mist. Workers should shower and change to fresh clothing after each shift. A sensitized person should not be allowed to be exposed to this product. Air circulation and exhaustion of isocyanate vapors must be maintained until the coatings have fully cured to insure that no potential fire, explosion, or health hazard remains. Warning properties (irritation of the eyes, nose, and throat or odor) are not adequate to prevent chronic overexposure from inhalation. This product can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposure to lower concentrations. Exposure to vapors of heated isocyanates can be extremely dangerous.

Keep material in tightly sealed containers to prevent material from reacting with atmospheric moisture. When transferring, ensure that the container is in a well ventilated area prior to transferring. Wear proper personal protective equipment when handling the material.

Section 8 Exposure Control and Personal Protection

Components **Exposure limits**

Polyurethane Polymer mixture- (mixture)
ACGIH- No Data
OSHA- No Data
IARC- Not Listed
NTP- Not Listed

Aromatic Petroleum Naphtha (64742-95-6)
ACGIH- 100 ppm TLV/TWA
OSHA- 100 ppm PEL
150 ppm STEL
IARC- Not Listed
NTP- Not Listed

Petroleum Naphtha Solvent (Aliphatic) (64742-88-7)
ACGIH- 100 ppm TLV/TWA
OSHA- 100 ppm PEL
150 ppm STEL
IARC- Not Listed
NTP- Not listed

Residual trace amount Toluene Diisocyanate (26471-62-5)
ACGIH- 0.005 ppm TLV
OSHA- 0.005 ppm PEL
0.02 ppm STEL
IARC- 2B possibly carcinogenic to humans
NTP- Reasonably anticipated to be a human carcinogen

Petroleum Hydrocarbon (64742-03-6)
ACGIH- 5 mg/m^3 TLV
OSHA- 5 mg/m^3 PEL
IARC- Not listed
NTP- Not listed

Crystalline Silica (14808-60-7)
ACGIH- 0.05 mg/m^3 TLV respirable
OSHA- 10 mg/m^3 PEL respirable
IARC- Group 1 Carcinogenic to Humans
NTP- Known carcinogen- Respirable dust

Carbon black (1333-86-4)
ACGIH- 3.5 mg/m^3 TLV respirable
OSHA- 3.5 mg/m^3 PEL respirable
IARC- 2 B Possibly carcinogenic to humans
NTP- Not listed

Engineering measures- Local or general exhaust required in an enclosed area or when there is inadequate ventilation to maintain concentrations below TLV. Provide eyewash and safety shower in work area.

Personal Protective Equipment

Eye/face protection- chemical tight goggles, full face shield in addition if splashing is possible.

Skin protection- Wear chemical resistance gloves. Depending on application conditions, additional protective clothing such as apron, long sleeve or full body suit maybe required.

Respiratory Protection- If airborne concentration exceeds or is expected to exceed the TLV, use MSHA/NIOSH approved positive pressure supplied air respirator with a full face piece or an air supplied hood. For emergencies, use a positive pressure self contained breathing apparatus. Air purifying (cartridge type) respirators are not approved for protection for protection against isocyanates.

Hygiene practices: Wash hands with soap and water before eating, drinking, smoking or using the toilet facilities. Keep away from children.

Section 9 Physical and Chemical Properties

Appearance- Black viscous liquid, mild aromatic odor
Boiling Point- >325 F (163 C)
Evaporation rate- slower than ether
Vapor density (air=1) > 1
Solubility in Water – reacts with water
Specific Gravity (H2O=1) – 1.26
Weight per Gal- 10.5
VOC (g/l) - 250 g/l

Section 10 Stability and Reactivity

Stability- Stable under normal conditions

Conditions to avoid- Heat, high temperature, open flame, sparks and moisture. Contact with incompatible materials in closed system will cause the liberation of carbon dioxide and build up of pressure.
Incompatibilities- This material will react with any materials containing active hydrogen groups such as water, alcohols, ammonia, amines, alkalis and acids. The reaction with water is slow under 122 F (50 C), but is accelerated at higher temperatures and in the presence of alkalis, tertiary amines, and metal compounds. Some reactions can be violent.
Hazardous polymerization- Will not occur under normal conditions but under high temperatures in the presences of alkalis, amines, and metal compounds will accelerate polymerization. Possible evolution of carbon dioxide gas may rupture closed containers.

Section 11 Toxicological Information

Eye irritation: irritant
Skin irritation: irritant. and sensitizer
Actual Dermal Toxicity- N/A
Acute oral Toxicity: N/A
Acute Inhalation Toxicity: N/A

Section 12 Ecological Information

No data is available

Section 13 Disposal Considerations

Dispose of in accordance with local, state, and federal regulations.
Empty containers contain residues and can be dangerous.

Section 14 Transportation Information

DOT Ground: Not Regulated

Section 15 Regulatory Information

All components are listed on the US TSCA inventory.
SARA Title III- Section 311/312 Hazard classes
Immediate/Acute Health effects- Yes
Delayed/Chronic Health effects- Yes
Fire Hazard- No
Sudden Release of Pressure Hazard- No
Reactivity Hazard- No

OSHA- This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

SARA III-The following chemicals are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment are Reauthorization Act of 1986 and 40 CFR Part 372:
Toluene Diisocyanate CAS # 26471-62-5

California Proposition 65
This product contains the following substance known to the state of California to cause cancer-
Crystalline Silica

Toluene Diisocyanate

This product contains the following substance known to the state of California to cause reproductive harm.
Petroleum Hydrocarbon oils

Section 16 Additional Information

The information in this document is based on our current knowledge and is intend to describe the product for the purpose of Health, Safety and Environmental requirements only. It should be not therefore be construed as guaranteeing any specific property of the product. Advice in this document relates only to the product as originally supplied. Where other components are added to the processing of this product, advice should be sought on their safe handling and use.

The content and format of this MSDS is in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Additional technical information is available on the website at www.polyguardproducts.com