Rubber Polymer Corporation
1135 W. Portage Trail Ext., Akron, OH 44313-9416 USA
Phone (800) 860-7721 *Fax (330) 945-9416

# MATERIAL SAFETY DATA SHEET (MSDS)

**MSDS FOR: RPC Pipe Seal Kit**
**DATE: August 8, 2007**

**24 HOUR CEMICAL**
**EMERGENCY RESPONSE NUMBER:**
**CHEM-TREC**
**1-800-424-9300**
**USA and CANADA**

---

Common Name: Pipe Seal Kit
Formula Trade Name: Two Component Water Blown
Description: Polyurethane Isocyanate Component CAS Number: Mixture

---

***Section 1: Hazardous Ingredients:***

| | CAS* | Weight % | **Exposure Limits** ACGIH/TLV TWA | STEL | OSHA/PEL |
|---|---|---|---|---|---|
| Polymethylene Polyphenyl Isocyanate | 9016-87-9 | 100 | NE | NE | NE |
| 4.4 Diphenylmethane Diisocyanate (MDI) | 101-68-8 | ca50 | .005ppm | NE | .02ppm© |
| Phenyl Isocyanate | 109-71-9 | Trace | NE | NE | NE |

***Section 2: Hazardous Summary:***

Harmful if inhaled. Toxic fumes are released in fire situations. Dark brown liquid. Mild odor.
NFPA Ratings: 0=insignificant, 1=slight, 2=moderate, 3=high, 4=extreme

Health 3 Flammability 1 Reactivity 1

HMIS Ratings: 0=insignificant, 1=slight, 2=moderate, 3=high, 4=extreme

Health 3 Flammability 1 Reactivity 1

Potential Health Effects: At room temperature, MDI vapors are minimal due to low vapor pressure. However, heating operations may generate more vapor or aerosol concentrations of isocyanate. Excessive exposure may cause irritation of the eyes, upper respiratory tract, and lungs. Sever overexposure may lead to pulmonary edema. Respiratory sensitization with asthma-like symptoms may occur in susceptible individuals. MDI concentrations below the exposure guidelines may cause allergic respiratory reactions in individuals already sensitized.

Symptoms may include coughing, dryness of throat, headache, nausea, difficulty breathing and a feeling of tightness in the chest. Effects may be delayed. Impaired lung function (decreased ventilator capacity) has been associated with overexposure to isocyanates.

PERSONS WITH KNOWN RESPIRATORY OR ALLERGY PROBLEMS MUST NOT BE EXPOSED TO THIS PRODUCT

Skin Contact: No irritation is likely to develop following short contact periods with skin. Prolonged or repeated exposure can cause skin irritation, reddening, dermatitis and in some individuals, sensitization. Skin contact may result in allergic skin reactions or respiratory sensitization but is not expected to result in absorption or amounts sufficient to cause other adverse effects. May stain skin.

Eye Contact: As a liquid or dust, may cause irritation, inflammation and or damage to sensitive eye tissue. Symptoms include watering or discomfort of eyes. Corneal injury is unlikely.

Ingestion: Single dose oral toxicity is considered to be extremely low. Can result in irritation and corrosive action in mouth, stomach tissue and digestive tract.

Chronic: As a result of previous repeated overexposure or a single large dose, certain individuals develop isocyanate sensitization (chemical asthma) or tissue injury in the upper respiratory tract. Animal tests indicate skin contact alone may also lead to allergic respiratory reaction. These effects may be permanent. Any person developing asthmatic reaction or other sensitization should be removed from further exposure.

Carcinogenicity: MDI and Polymeric MDI are not listed by the NTP, IARC or regulated by OSHA as carcinogens. Lung tumors have been observed in laboratory animals exposed to aerosol droplets of MDI/Polymeric MDI (6mg/m3) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects.

---

## ***Section 3: First Aid Measures***

Eyes: Flush eyes with plenty of water for at least 15 minutes. Materials containing MDI may react with the moisture of the eye forming a thick material that may be difficult to wash from the eyes. Seek medical attention.

Skin: Wash off in flowing water or shower. Remove and wash contaminated clothing and discard contaminated shoes. Seek medical attention if redness, itching, or a burning sensation develops or persists after the area is washed.

Ingestion: If swallowed, drink 1 or 2 glasses of water or milk. Do not induce vomiting unless directed to do so by medical personnel. If gastrointestinal symptoms develop, consult medical personnel. (Never give anything by mouth to an unconscious person).

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility immediately.

NOTE TO PHYSICIAN: 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. Skin: This compound is a know skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burns. If burned, treat as thermal burn. Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of this compound.

---

## ***Section 4: Fire Fighting Measures***

Flash Point 425°F 218°C (COC) NFPA Combustible Class IIIB
Autoignition Temperature, NOA Flammable Limits (STP): NDA

FireDegradation Products: Toxic fumes are released in fire situations. Isocyanate vapor and mist, carbon dioxide, carbon monoxide, nitrogen oxides and traces of hydrogen cyanide.

Extinguishing Media: Use dry chemical foam, carbon dioxide or halogenated agents. If water used, use very large quantities. The reaction between water and hot Isocyanate may be vigorous. If possible, contain fire run-off water.

Protective Equipment: Wear positive pressure self-contained breathing apparatus with full face piece and full protective clothing.

Unusual Hazards: At temperatures greater than 400°F, Polymeric MDI can polymerize and decompose which will cause pressure to build-up in closed containers. Explosive rupture is possible. Water contamination will produce carbon dioxide. Do not re-seal containers as pressure build-up may rupture containers. Download personnel must be evacuated.

---

***Section 5: Accidental Release Measures***

Spill: Evacuate spill area. With adequate ventilation and appropriate personal protective equipment, cover the area with an inert absorbent such as clay or vermiculite and transfer to metal waste containers. Saturate with water or decontamination solution below, but do not seal the container with the isocyanate mixture. Larger quantities of liquid may be transferred directly to drums for disposal.

Note: ISOCYANATE WILL REACT WITH WATER AND GENERATE CARBON DIOXIDE. THIS COULD RESULT IN THE RUPTURE OF ANY CLOSED CONTAINER.

Clean up: The area should then be flushed with a decontamination solution. The decontamination solution is a 5-10% mixture of sodium carbonate and 0.5% liquid detergent in water solution or 3% concentrated ammonium hydroxide and 0.5% liquid detergent in water. Use 10 parts decontamination solution to 1 part spilled material. If the ammonium hydroxide solution is used, ammonia will be evolved as a vapor. Use caution to avoid exposure to high concentrations of ammonia. Allow to stand for 48 hours letting evolved carbon dioxide to escape.

Disposal: Any disposal practice must be in compliance with all federal, state and local laws and regulations. Chemical additions, processing, storage, or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Waste characterization and disposal compliance is the responsibility solely of the party generating the waste or deciding to discard or dispose of the material.

*Refer to RCRA 40 – CFR 261 and/or any other appropriate federal, state, or local requirements for proper classification information.*

Container Disposal: Bottles/containers must be thoroughly drained to process or storage vessels before removal to an appropriate area for subsequent decontamination. Bottles/containers must be decontaminated in properly ventilated areas by personnel protected from the inhalation of isocyanate vapors. Spray or pour 1 to 5 gallons of decontamination solution into the drum making sure the walls are well rinsed. Let the bottle/container soak unsealed for 48 hours. Pour out the decontamination solution and triple rinse the empty container. Puncture or otherwise destroy the rinsed container before disposal. Do not heat or cut empty containers with electric or gas torch.

**CALL CHEMTREC (800) 424-9300 FOR CHEMICAL EMERGENCIES OR SPILLS DURING TRANSPORTATION.**

---

***Section 6: Storage and Handling***

Storage: When stored between 60° and 85°F (15° and 30°C) in sealed containers, typical shelf life is 6 months or more from the date of manufacture. Consult technical data sheet for shelf life requirements affecting performance quality. Should freezing occur, the material must be thawed thoroughly and mixed until uniform. Opened containers must be handled properly to prevent moisture contamination.

Handling: Use personal protective equipment when transferring material to or from bottles/bags or other containers. Safety glasses and gloves are the minimum protection. Additional precautions must be used when splash hazards are present. The reaction of polyols and isocyanates generate heat. Contact of the reacting materials with skin or eyes can cause severe burns and may de difficult to remove from the affected areas. Immediately wash affected areas with plenty of water and seek medical attention. In addition, such contact increases the risk of exposure to isocyanate vapors. Do not smoke or use naked lights, open flames, space heaters, or other ignition sources near pouring or frothing operations.

---

***Section 7: Exposure Control***

Exposure: MDI contains reactive isocyanate groups. Use with adequate ventilation to keep airborne isocyanate level below TLV or 0.005 ppm TWA (ACGIH) and PEL 0.02 ppm ceiling (OSHA). These control limits do not apply to previously sensitized individuals, or to individuals with existing respiratory disease such as bronchitis, emphysema or asthma. Respiratory protection may be needed where material is heated, sprayed or used in a confined space, or if TLV is exceeded. Never try to detect MDI vapor by odor. PERSONS WITH KNOWN RESPIRATORY OR ALLERGIC PROBLEMS MUST NOT BE EXPOSED TO THIS PRODUCT.

Ventilation: MDI has a very low vapor pressure at room temperature. General/local ventilation typically controls exposure levels very adequately. More aggressive engineering controls or personal protective equipment may be required in some applications such as heating. Monitoring is required to determine engineering controls.

Respiratory Protection: A supplied air, full face piece, positive pressure or continuous flow respirator or a supplied air hood required when airborne concentrations are unknown or exceed threshold values. A positive pressure self contained breathing apparatus can be used in emergencies or other unusual situations. All equipment must be NIOSH/MSHA approved and maintained. Air purifying (cartridge type) respirators are not approved for protection against isocyanates.

Eye Protection: Chemical splash goggles or safety glasses of full face shield must be used consistent with splash hazard present. If vapor exposure causes eye discomfort, use a full-face piece respirator or air supplied hood.

Protective Clothing: Wear clothing and gloves impervious to MDI under conditions of use. Materials may include butyl rubber, nitrile rubber, neoprene and Saranex® coated Tyvek®.

---

***Section 8: Properties***

| | |
|---|---|
| Physical Form | Milky Brown viscous Liquid |
| Odor | Pungent |
| PH | N/A Reacts with Water |
| Boiling Point | 406°F, 207°C |
| Vapor Pressure (mm at 20°C) | <0.00001 |
| Solubility in Water | Not soluble, reacts |
| Specific Gravity @ 25°C | 1.23 |
| Viscosity @ 25°C | 200 |
| % Volatile, by weight | Negligible |

---

***Section 9: Stability and Reactivity***

Stability: Polyisocyanates are highly reactive chemicals and should be handled and stored in a way to avoid exposure to many common substances, including water and moisture. Material is stable when stored in sealed containers under normal conditions. Avoid extended exposure over 110°F (45°C).

Hazardous Polymerization: May occur with incompatible reactants especially strong bases, water or temperatures over 320°F (160°C). Possible evolution of carbon dioxide gas from overheating or exposure to contaminants may rupture closed containers.

Reactivity: Reacts with water, acids, bases, alcohols, metal compounds. The reaction with water is very slow under 120°F (50°C), but is accelerated at higher temperatures and in the presence of alkalis, tertiary amines and metal compounds. Some reactions can be vigorous or even violent.

---

***Section 10: Shipping Information***

DOT (Domestic Surface): Not Regulated (Class 55)

IMO (Ocean): Not Regulated

ICAO (Air): Not Regulated

---

***Section 11: Regulatory Information***

OHSA Status: This product is hazardous under the criteria of the Federal OSHA Hazard Communications Standard 29 CFR 1910.1200.

TSCA Status: On the TSCA Inventory

CERCLA Reportable Quantity: 4.4 Diphenylmethane Diisocyanate = 5.000 lbs.

SARA Title III: Section 302 Extremely Hazard Substances
None

Section 311/312 Hazard Categories:
Immediate Health Hazard
Delayed Health Hazard
Reactive Hazard

Section 313 Toxic Chemicals

| | | |
|---|---|---|
| 4.4 Diphenylmethane Diisocyanate (MCI) | CAS# 101-68-8 | ca 100% |
| Polymethylene Polyphenyl Isocyanate | CAS# 9016-87-9 | ca 50% |

RCRA Status: MDI is not a hazardous waste. However, under RCRA, it is the responsibility of the user of products to determine, at any time of disposal, whether a product meets any of the criteria for hazardous waste.

THIS MSDS COMPLIES WITH 29 CFR 1910, 1200 (HAZARD COMMUNICATION STANDARD). Read MSDS and Safety/Handling Sheet before use.