

# SWD URETHANE COMPANY

## Material Safety Data Sheet

MSDS-SWD 106 "A"

1 APRIL 2007

### SWD 106 "A"

## 1. CHEMICAL PRODUCT/ COMPANY IDENTIFICATION

### Material Identification

**PRODUCT NAME** ..... **SWD 106 "A"**  
**CHEMICAL FAMILY** ..... Aromatic Isocyanate  
**CHEMICAL NAME** ..... Isocyanic Acid, Polymethylene Polyphenylene Ester  
**SYNONYMS** ..... Polymeric Diphenylmethane Diisocyanate (MDI)  
**CAS NUMBER** ..... 9016-87-9  
**FORMULA** ..... Not Applicable

### Company Identification

#### MANUFACTURER/ DISTRIBUTOR

SWD Urethane Company  
 539 South Drew Street  
 Mesa, Arizona 85210

#### PHONE NUMBERS

Transportation Emergency/ Chemtrec: 1-800-424-9300  
 SWD Urethane Company/ Emergency: 1-800-828-1394

## 2. COMPOSITION/ INFORMATION ON INGREDIENTS

MATERIAL:	CAS Number	Percent	OSHA-PEL	ACGIH-TLV
Polymeric Diphenylmethane Diisocyanate	9016-87-9	100 %	Not Listed	Not Listed

Regulated as a Toxic Chemical under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

## 3. HAZARDS IDENTIFICATION

\*\*\*\*\*EMERGENCY OVERVIEW\*\*\*\*\*

- \* IRRITANT TO EYES, SKIN AND RESPIRATORY PASSAGES.
- \* DARK BROWN LIQUID.

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### Potential Health Effects:

EYE: Contact with liquid product or fumes will cause irritation.

SKIN: Contact may cause irritation.

INGESTION: Not a likely route of exposure. Relatively non-toxic

INHALATION: Irritation of the nose, throat, and lungs may result from exposure to vapors or mist. Severe overexposure may cause pulmonary edema. Can cause asthma like symptoms. May aggravate existing conditions.

CHRONIC (CANCER) INFORMATION: Not classified as carcinogenic.  
 LONG TERM TOXIC EFFECTS: Skin and respiratory sensitization may result.

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#### 4. FIRST AID MEASURES

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##### First Aid:

INHALATION: Remove to fresh air.

SKIN CONTACT: Wash thoroughly. Consult medical personnel if irritation develops.

EYE CONTACT: Irrigate eyes with running water for at least 15 minutes. Get medical attention.

INGESTION: None applicable but consult a physician.

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 known 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.  
Respiratory. This compound 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.

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#### 5. FIRE FIGHTING MEASURES

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FLASH POINT ..... 390 des. F (198.8 deg. C) Pensky-Martens Closed Cup (ASTM D-93)

EXTINGUISHING MEDIA ..... Dry Chemical; Carbon Dioxide; Foam; Water spray for large fires.

SPECIAL FIRE FIGHTING PROCEDURES: ... Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by firefighters. During a fire, MDI vapors and other irritation, highly toxic gases may be generated by thermal decomposition or combustion. (See Section VIII). At temperatures greater than 400 deg. F (204 deg. C), polymeric MDI can polymerize and decompose which can cause pressure build-up in closed containers. Explosive rupture is possible. Therefore, use cold water to cool fire-exposed containers.

FIRE FIGHTING PROTECTION ..... Fire fighters, if needed, must wear self-contained breathing apparatus and full protective clothing. Eye and skin protection should be worn and respiratory protection should be worn if concentrations of MDI exist above the PEL, exists

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#### 6. ACCIDENTAL RELEASE MEASURES

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Safeguards (Personnel) ..... Evacuate the area surrounding the spill and prevent further spillage, leakage or entry into drains. Eye, skin and respiratory protection should be worn if concentrations of MDI exist above PEL limits.

**Contain and cover spill with sawdust or other absorbent material.**

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

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## 7. HANDLING AND STORAGE

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STORAGE TEMPERATURE (MIN/ MAX):.....50 deg.F (10 deg.C) - 86 deg. F (30 deg. C)

SHELF LIFE:.....Six months

SPECIAL SENSITIVITY.....If container is exposed to high heat, 400 deg. F (204 deg. C), it can be pressurized and possibly rupture. MDI reacts slowly with water to form carbon dioxide gas which can cause sealed containers to expand and possibly rupture.

HANDLING/ STORAGE PRECAUTION:.....Store in tightly closed containers to prevent moisture contamination. Do not re-seal if contamination is suspected. Avoid contact with skin and eyes. Do not breathe aerosols or vapors. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent chronic overexposure from inhalation. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Exposure to vapors of heated MDI can be extremely dangerous. Employee education and training in the safe handling of this compound are required under the OSHA Hazard Communication Standard.

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## 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

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EYE PROTECTION REQUIREMENTS: .....Chemical tight goggles with full-face shield, if splashing is possible.

SKIN PROTECTION REQUIREMENTS:.....Gloves determined to be impervious under the conditions of use. Depending on conditions of use, additional protection may be required such as apron, arm covers, or full body suit. Wash contaminated clothing before rewearing.

RESPIRATOR REQUIREMENTS: ..... A full face, approved, positive pressure, self-contained fresh air system with a supplied, air respirator and ventilation, is recommended for application of this product and the safety of the applicator. Spray application in tight areas such as attics, ceilings, and wall corners, requires fresh air system protection, although ventilation may be sufficient to keep vapors below the TLV at room temperatures under some circumstances. Airborne concentrations may exceed or are expected to exceed the TLV, when this material is heated and sprayed in close quarters, creating the need for MSHA/ NIOSH approved positive pressure supplied air respirator with a full-face piece, or an air-supplied hood. **Air purifying (cartridge type) respirators are not approved for protection against Isocyanates.**

VENTILATION REQUIREMENTS:.....Use local exhaust ventilation, as needed, to help keep airborne concentrations below the TLV. Follow guidelines in the ACGIH publication "Industrial Ventilation." Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination.

MONITORING:.....	Isocyanate exposure levels must be monitored. Monitoring of airborne Isocyanates in the breathing zone of individuals should become part of the overall employee exposure characterization program. NIOSH, and OSHA have developed monitoring techniques.
MEDICAL SURVEILLANCE: .....	Medical supervision of all employees who handle or come in contact with Isocyanates is recommended. These should include medical evaluation prior to issuing and wearing respiratory equipment by employees. Continuing periodic medical examinations are required by employees. Persons with asthmatic-type- conditions, chronic bronchitis, other chronic respiratory diseases or re-current skin eczema or sensitization, should be excluded from working with isocyanates.- Once a person is diagnosed as sensitized to an Isocyanate, no further exposure can be permitted.
ADDITIONAL PROTECTIVE MEASURES:...	Safety showers and eyewash stations should be available. Educate and train employees in safe use of product. Follow all label instructions.

### Exposure Guidelines / Exposure Limits

4,4'-Diphenylmethane-diisocyanate  
 OSHA (PEL): 0.02 ppm  
 ACGIH (TLV): 0.005 ppm

HMIS Hazard Code: Health (Chronic Hazard): 2 Flammability: 1 Reactivity: 1  
 B: PPE (Personal Protective Equipment) (B= Safety glasses and gloves)

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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PHYSICAL FORM .....	Liquid
COLOR .....	Dark Brown
ODOR .....	Slightly musty odor
MOLECULAR WEIGHT.....	About 350
pH .....	Not Established
BOILING POINT .....	406 deg. F (208 deg. C) at 5 mm Hg for MDI
MELTING/ FREEZING POINT.....	Below 32 <sup>0</sup> F (0 <sup>0</sup> C) for MDI
SOLUBILITY IN WATER .....	Not soluble. Reacts slowly with water to liberate CO <sub>2</sub> gas.
SPECIFIC GRAVITY .....	1.24 @ 77 deg. F (25 deg. C)
BULK DENSITY .....	10.3 lbs/ gal
VOLATILITY BY VOLUME (%).....	Negligible
VAPOR PRESSURE .....	Less than 10-5 mm Hg at 77 deg. F (25 deg.C) for MDI
VAPOR DENSITY.....	8.5 (MDI) (Air = 1)

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## 10. STABILITY AND REACTIVITY

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STABILITY:.....	This is a stable material.
HAZARDOUS POLYMERIZATION:.....	May occur. Contact with moisture or other materials which react with isocyanates, or temperatures above 400 deg. F (104 deg. C), may cause polymerization.
INCOMPATIBILITIES:.....	Water, amines, strong bases, alcohols. Will cause some corrosion to copper alloys and aluminum.
INSTABILITY CONDITIONS: .....	Contamination with water.
DECOMPOSITION PRODUCTS:.....	By high heat and fire: carbon monoxide, oxides of nitrogen, traces of HCN, MDI vapors or aerosols.

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## 11. TOXICOLOGICAL INFORMATION

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ROUTE(S) OF ENTRY:..... Skin Contact from liquid and aerosols (spray application). Inhalation. Although MDI is low in volatility, an inhalation hazard can exist from MDI aerosols or vapors formed during heating, foaming or spraying.

### HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:

ACUTE INHALATION: ..... MDI vapors or mist at concentrations 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). Persons with a pre-existing, nonspecific bronchial hyperactivity can respond to concentrations below the TLV with similar systems as well as asthma attack. Exposure well above the TLV 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 systems 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 TLV. 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 moisture and can cause irritation, which may include the following symptoms: reddening, swelling, rash, scaling or blistering. Cured material is difficult to remove.

CHRONIC SKIN CONTACT: ..... Prolonged contact can cause reddening, swelling, rash, scaling, blistering and in some cases, skin sensitization. Individuals who have skin sensitization can develop these symptoms from contact with liquid or vapors.

ACUTE EYE CONTACT: ..... Liquid, aerosols or 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.

CHRONIC EYE CONTACT: ..... None Found

ACUTE INGESTION: ..... Can result in irritation and corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea.

CHRONIC INGESTION: ..... None Found  
 POLYMERIC MDI.....LD 50 Oral >10,000 mg/kg (rat)  
 LD 50 Dermal > 5,000 mg/kg (rabbit)  
 LC 50 Inhalation > 2.240 mg/m3/1 hour 9rat  
 (Aerosol of Monomeric MDI)  
 370-490 mg/m3/4 hour (rat)  
 (For polymeric MDI)

None of the components are listed as carcinogens.

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**12. ECOLOGICAL INFORMATION**

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ENVIRONMENTAL FATE AND DISTRIBUTION... Significant environmental exposure in the air or water  
 Is unlikely due to production and use of this product.  
 PERSISTANCE AND DEGRADATION.....immiscible with water, but will react with water to form  
 Carbon Dioxide  
 AQUATIC TOXICITY ..... LC 50 >1,000 mg/ 1(Zebra Fish) No deaths at highest level  
 EC 50 (24 hours) mg/ 1 (Daphnea magna)  
 EC 50 >100 mg/ 1 (E Coli)

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**13. DISPOSAL CONSIDERATIONS**

WASTE DISPOSAL..... Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/ Provincial and local regulations. Chemical waste, regardless of quantity, should never be poured into drains, sewers or waterways.  
 NON-HAZARDOUS..... This material is not a hazardous waste under RCRA 40 CFR 261 when in its purchased form.

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**14. TRANSPORTATION INFORMATION**

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TECHNICAL SHIPPING NAME:.....Diphenylmethane 4, 4'Diisocyanate  
 FREIGHT CLASS BULK: .....Chemicals, NOI (Isocyanate)  
 FREIGHT CLASS PACKAGE:.....Chemicals, NOI (Isocyanate) NMFC 60000  
 PRODUCT LABEL:.....SWD 106 "A"  
 DOT (HM-181)  
 PROPER SHIPPING NAME: ..... Other regulated substances, liquid, n.o.s.  
 ..... (Methylene Diphenyl Diisocyanate)  
 UN/NA NUMBER .....NA3082  
 PG.....III  
 HAZARDOUS CLASS .....9

Single containers less than 5,000 lbs. are not regulated.

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**15. REGULATORY INFORMATION**

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U.S. Federal Regulations

TSCA Inventory Status: Reported/ Included.

HCS Classification : Toxic, Irritating material, Sensitizing material

CERCLA and SARA Regulations (40 CFR 355, 370, and 372): Section 313, Supplier Notification.

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

40-55% MDI, listed as Methylene Diphenyl Diisocyanate, MDI - N120 Diisocyanate category 94-96 %

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## 16. OTHER INFORMATION

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This law requires that certain industrial facility which manufactures/uses these chemicals to report annually on emissions and waste management of these chemicals. Additional information is available at the EPA's EPCRA hotline: 800-424-9346.

### Additional Information

NA = Not Applicable

NE = Not Established

# = Indicates updated section

### STATE RIGHT-TO-KNOW LAWS

No substances on the state hazardous substances list, for the states indicated below, are used in the manufacture of products on this Material Safety Data Sheet, with the exceptions indicated. While we do not specifically analyze these products, or the raw materials used in their manufacture, for substances on various state hazardous substances lists, to the best of our knowledge the products on this Material Safety Data Sheet contain no such substances except for those specifically listed below:

WARNING: SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER:  
None known.

WARNING: SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS  
OR OTHER REPRODUCTIVE HARM: None known.

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This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of SWD Urethane Company. The data on this sheet relates only to the specific material designated herein. SWD Urethane Company assumes no legal responsibility for use or reliance upon this data.

### Responsibility for MSDS

SWD Urethane Company  
539 South Drew Street  
Mesa, Arizona 85210  
1-800-828-1394