

Safety Data Sheet (SDS)

1. Identification

PRODUCT NAME: Aquabond PF-37 - Hydrophobic Polyurethane - One Component
SYNONYM: Aromatic Isocyanate

MANUFACTURER / SUPPLIER: Aquabond
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Long Beach CA 90815-1553
sales@eaquabond.com

EMERGENCY TELEPHONE: Contact InfoTrac 1-800-535-5053
OUTSIDE U.S. and CANADA: Contact InfoTrac 1-353-323-3500

NOTE: InfoTrac emergency number is to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

2. Hazard(s) Identification

Signal Word: WARNING



Skin Contact: Moderate irritant. Prolonged or repeated exposure can cause skin 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.

Eye Contact: As a liquid, vapor or mist, may cause irritation, stinging, burning or tearing.

Ingestion: Irritation of the gastrointestinal tract with any or all of the following symptoms; nausea, vomiting, lethargy, diarrhea.

Inhalation: Respiratory irritation. The onset of respiratory symptoms may be delayed for several hours after exposure. Inhalation at levels above the occupational exposure limit could cause risk of damage to the respiratory system.

Precautionary Statements: Do not handle until all safety precautions have been read and understood. Do not breathe vapors. In case of inadequate ventilation wear respiratory protection. Wear protective gloves and eye protection. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Store locked up. Keep away from children. Dispose of contents and container in accordance with applicable local, regional and national regulations.

Signal Word: DANGER



Hazard Statement: Chronic: As a result of previous repeated overexposure or a single large dose, certain individuals develop isocyanine sensitization (chemical asthma) or tissue injury in the upper respiratory tract. Animal tests indicate skin contact alone may also lead to allergic respiratory reaction. 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.

Potential Health Effects: At room temperature, MDI vapors are minimal due to low vapor pressure. However, heating, foaming or otherwise dispersing (drumming, venting or pumping) operations may generate more vapor or aerosol concentrations of isocyanate. Excessive exposure may cause irritation of the eyes, upper respiratory tract and lungs. Severe overexposure may lead to pulmonary edema. Respiratory sensitization with asthma like symptoms may occur in susceptible individuals. MDI concentration 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 feeling of tightness in the chest. Effects may be delayed. Impaired lung function (decreased ventilators capacity) has been associated with overexposure to isocyanate.

Any individual with isocyanate should not be exposed to this product. These individuals can react to exposure well below the exposure limit.

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3. Composition / Information on Ingredients

INGREDIENT	BY WEIGHT	CAS #
MDI Prepolymer	20 - 30	96328-90-4
2,2-dimethyl-1-(methylethyl)- 1,3-propanediyl bis(2-methylpropanoate)	10 - 30	6846-50-0
Polymeric diphenylmethane diisocyanate	10 - 30	9016-87-9
MDI Prepolymer	< 10	59675-67-1
Diphenylmethane 4,4'- diisocyanate	< 10	101-68-8
Diphenylmethane diisocyanate, mixed isomers	< 10	26447-40-5

4. 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 soap and flowing water or shower. Remove and wash contaminated clothing and discard contaminated shoes. Seek medical attention immediately if redness, itching or a burning sensation develops or persists after the area is washed.

Ingestion: If swallowed, rinse mouth with water. Give 1 or 2 glasses of water to drink. **Do not induce vomiting.** Seek immediate medical attention. (Never give anything by mouth to an unconscious person.)

Inhalation: Remove to fresh air, keep warm and at rest. 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: Strain 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 material 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 of the irritating nature of this product.

5. Fire Fighting Measures

Flash Point: > 200 °F (93.3 °C)

Fire Degradation Products: Toxic fumes are released in fire situations. Combustion may produce carbon dioxide, carbon monoxide and nitrogen oxides.

Extinguishing Media: Use dry chemical, chemical foam, carbon dioxide, water fog or spray.

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

Fire Fighting Procedures: Isolate fuel supply from fire. Use water spray to cool fire exposed surfaces and containers.

Hazardous Combustion Products: Carbon monoxide, carbon dioxide, nitrous oxide and HCN

Comment: product acts slowly with water to produce carbon dioxide which may rupture closed containers. This reaction accelerates at higher temperatures. Harmful if inhaled. Toxic fumes are released in fire situations.

6. Accidental Release Measures

Spill: Evacuate spill area. With adequate ventilation and appropriate personal protective equipment, cover the area with an inert absorbent such as earth, sand or any inert material 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 mixture of 2% liquid detergent, 5% concentrated ammonia and 93% water. Use 10 parts decontamination solution to 1 part Isocyanate. Use caution to avoid exposure to high concentrations of ammonia. Allow to stand for 48 hours letting evolved carbon dioxide to escape. Test atmosphere for MDI.

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 SDS 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 4 CFR 261 and/or any other appropriate federal, state or local requirements for proper classification information.

Container Disposal: Drums/containers must be thoroughly drained to process or storage vessels before removal to an appropriate area for subsequent decontamination. Drums/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 drum/container soak unsealed for 48 hours. Pour out the decontamination solution and triple rise the empty container. Puncture or otherwise destroy the rinsed container before disposal.

Do not heat or cut empty containers with electric or gas torch.

7. Handling and Storage

Storage: Stored between 40°F and 90°F (4.4°C - 32.2°C) in sealed containers. Opened containers must be handled properly to prevent moisture contamination, protect from atmospheric moisture. After container has been opened, blanket with nitrogen before resealing. Store indoors in a cool, well ventilated area.

Handling: Use personal protective equipment when transferring material to or from drums, totes or other containers. Safety glasses and gloves are the minimum protection. Additional precautions must be used when splash hazards are present. Do not smoke or use naked lights, open flames, space heaters or other ignition sources near pouring or frothing operations.

Special Sensitivity: Material is hygroscopic and reacts with water. It will form cured particles or a film when exposed to atmospheric moisture. Blanket containers with nitrogen before resealing.

This material is designed and intended to be pumped, not sprayed. MDI becomes more hazardous when atomized (sprayed). The following data is derived from tests performed when the material is sprayed and should be considered but may not apply to pumping operations as recommended by the manufacturer. Harmful if inhaled. Toxic fumes are released in fire situations.

8. Exposure Controls / Personal Protection

INGREDIENT	EXPOSURE LIMITS		CAS #
	OSHA/PEL	ACGIH/TLV	
Diphenylmethane 4,4'-disocyanate	0.02 ppm (ceiling) 0.20 mg/m ³ (ceiling)	0.005 ppm 0.051 mg/m ³	101-68-8

Engineering Controls: Use process enclosures, local exhaust ventilation or other engineering controls to control airborne levels.

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 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 is 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 protections against isocyanates.

Eye Protection: Chemical splash goggles or safety glasses or 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.

This material is designed and intended to be pumped, not sprayed. MDI becomes more hazardous when atomized (sprayed). The following data is derived from tests performed when the material is sprayed and should be considered but may not apply to pumping operations as recommended by the manufacturer. Harmful if inhaled. Toxic fumes are released in fire situations.

9. Physical and Chemical Properties

VP: (TDI) < 0.0001 mm Hg at 77 °F (25 °C)	SP GR: 1.06 to 1.08 (water = 1) at 77 °F (25 °C)
Viscosity: 350 - 550 Centipoise at 77 °F (25 °C)	Flash Point: > 200 °F (93.3 °C)
Physical State: Liquid	Boiling Point: Not Determined
Color: Clear to light yellow	Solubility In Water: Negligible
Odor: Slightly musty	Freezing Point: Not Determined

10. Stability and Reactivity

Stability: Stable under recommended storage conditions. Avoid temperature extremes, container contamination and moisture

Hazardous Polymerization: May occur at elevated temperatures in the presence of alkalis, tertiary amines and/or metal compounds.

Incompatible Materials: Reacts with any material containing active hydrogens such as water, alcohol amines, bases and acids. The reaction with water is very slow under 122°F (50°C), but is accelerated at higher temperatures and in the presence of alkalis, tertiary amines and acids. Some reactions can be vigorous or even violent.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, nitrous oxide and HCN.

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11. Toxicological Information

Component:	Oral LD ₅₀ (rat)	Dermal LD ₅₀ (rabbit)	Inhalation LD ₅₀ (rat)
2,2-dimethyl-1-(methylethyl)-1,3-propanediyl bis(2-methylpropanoate)	> 3200 mg/kg	>18900mg/kg (guinea pig)	> 5.3 mg/L/6h
Diphenylmethane 4,4'- diisocyanate	> 5000 mg/kg	> 5000 mg/kg	490 mg/m ³ /4h (respirable aerosol)

Carcinogenicity:

IARC: Not classified as a carcinogen

NTP: Not classified as a carcinogen

OSHA: Not classified as a carcinogen

ACGIH: Not classified as a carcinogen

Any person developing asthmatic reaction or other sensitization should be removed from further exposure.

This material is designed and intended to be pumped, not sprayed. MDI becomes more hazardous when atomized (sprayed). The following data is derived from tests performed when the material is sprayed and should be considered but may not apply to pumping operations as recommended by the manufacturer. Harmful if inhaled. Toxic fumes are released in fire situations.

12. Ecological Information

Ecotoxicological Information:

MDI: LC₅₀ (zebra fish) >500 mg/L/96h EC₅₀ (delphnia magna) >500 mg/L/24h

2,2,4-Trimethyl-1,3-pentaniol diisobutyrate:
LC₅₀ (oryzias latipes) 18 mg/L/96h EC₅₀ (delphnia magna) 300 mg/L/24h

Chemical Fate Information:

Immiscible with water, but will react with water to produce inert and non-biodegradable solids

Comments: No testing for a product as a whole.

13. Disposal Considerations

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 SDS 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.

RCRA Hazard Class: If discarded as purchased, this material is not a hazardous waste under RCA 40 CFR 261.

Container Disposal: Drums/containers should be decontaminated and either passed to an approved drum recycler or destroyed.

RCRA/EPA Waste Information: The generation of waste should be avoided or minimized whenever possible. Chemical waste, even small quantities, should never be poured down drains, sewers or waterways.

14. Transport Information

DOT (Domestic surface): Not regulated below RQ (reportable quantity) (Class 55)

IMO (Ocean): Not regulated

ICAO (AIR): Not regulated

15. Regulatory Information

TSCA Status: All ingredients are on the TSCA inventory

CERCLA Reportable Quantity: 4,4, Diphenylmethane Diisocyanate = 5,000 lbs.

SARA Title: III

Section 311/312 Hazard Categories: Acute, Chronic, Sensitizing substance

Section 313 Toxic Chemicals:

4,4 Diphenylmethane Diisocyanate (MDI) (category diisocyanate compounds) CAS # 101 68 8

Polymeric diphenylmethane diisocyanate (category diisocyanate) CAS # 9016-87-9

CERCLA:

4,4 Diphenylmethane Diisocyanate (MDI) CAS # 101 68 8 RQ (lbs) 5000

TSCA:

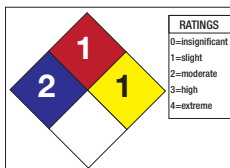
TSCA Regulatory: All ingredients are on the TSCA inventory

RCRA Status: Not hazardous if discarded in its purchased form. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal whether a material containing this product or derived from this product should be classified as hazardous waste (40 CFR 261.20-24).

16. Other Information

All statements, technical information and recommendations contained herein are based upon available scientific test or data which we believe to be reliable since we cannot anticipate all conditions under which this information and our products or the products of other manufacturers in combination with our products may be used. AquaBond makes no warranties, express or implied, and assumes no responsibility in connection with any use of this information.

NFPA Ratings:



HMIS Ratings:

