

MATERIAL SAFETY DATA SHEET

SPAL-PRO RS 88 “B”

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Spal-Pro RS 88 “B”

PRODUCT DESCRIPTION: Isocyanate part of a two-component poured polyurethane elastomer

MANUFACTURED BY

Metzger McGuire Co., Inc.

557 Route 3-A

Bow, NH 03304

800-223-6680 www.metzgermcguire.com

24 HOUR EMERGENCY TELEPHONE NUMBER

Chemtrec: 800-424-9300

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>Wt.%</u>	<u>CAS</u>
MDI Prepolymer	50-60	Not disclosed
Polymeric Diphenylmethane Diisocyanate (PMDI)	10-16	9016-87-9
Diphenylmethane Diisocyanate Mixed Isomers	6 -10	26447-40-5
Methylene Bisphenyl Isocyanate (MDI)	6 - 9	101-68-8
2,2-dimethyl-1-(methylethyl)-1,3-propanediyl bis(2-methylpropanoate)	13-15	6846-50-0

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Amber liquid.

IMMEDIATE CONCERNS: Irritating to eyes, respiratory system, and skin. Inhalation at levels above the occupational exposure limit could cause respiratory sensitization.

POTENTIAL HEALTH EFFECTS

EYES: Liquids, vapors, or mists are irritating to the eyes and can cause stinging, burning, lachrymation, or tearing.

SKIN: Moderate irritant. Repeated and/or prolonged contact may cause skin sensitization.

INGESTION: Ingestion may cause irritation of the gastrointestinal tract and gastrointestinal discomfort with any or all of the following symptoms: nausea, vomiting, lethargy, or diarrhea.

INHALATION: Inhalation of vapors or mist at concentrations above the TLV can cause respiratory tract irritation. (nose, throat, lungs) Chronic inhalation can result in sensitization.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

EYES: Contact may cause moderate irritation consisting of transient redness, swelling, and mucous membrane discharge to the conjunctiva. Prolonged contact with the eyes may cause reversible corneal opacity to occur, with no visual impairment expected.

SKIN: Contact may cause minor irritation consisting of transient redness and/or swelling. Individuals with skin sensitization can develop these symptoms from contact with a small amount of liquid or vapors.

INGESTION: Ingestion may cause irritation of the gastrointestinal tract and gastrointestinal discomfort with any or all of the following symptoms: nausea, vomiting, lethargy, or diarrhea.

INHALATION: Vapors or mist, especially as generated from heating the material or as from exposure in poorly ventilated areas or confined spaces, are irritating and cause nasal discharge, coughing, discomfort in nose and throat, and breathing obstruction. Individuals with respiratory sensitization may experience allergic respiratory reactions when exposed to amounts below the exposure guidelines.

MEDICAL CONDITIONS AGGRAVATED: Asthma, other respiratory disorders (bronchitis, emphysema, bronchia hyperreactivity), skin allergies, eczema.

ROUTES OF ENTRY: Inhalation, skin contact, eye contact, ingestion.

SENSITIZATION: Any individual with isocyanate sensitization should not be exposed to this product. These individuals can react to exposure well below the TLV. Symptoms can occur immediately or several hours after exposure.

4. FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN: Remove contaminated clothing. Wash affected areas thoroughly with soap and water. Wash clothing thoroughly before reuse. For severe exposure, seek medical attention immediately. For lesser exposure, seek medical attention if swelling or redness occurs, or if irritation persists after being washed.

INGESTION: Do not induce vomiting. Never give anything by mouth to a drowsy or unconscious person. If the individual is conscious, rinse mouth with water. Give 1 to 2 cups of water to drink. Seek immediate medical attention.

INHALATION: Remove individual from exposure, keep warm and at rest. If dizzy or shows signs of respiratory distress, obtain immediate medical attention. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours.

NOTES TO PHYSICIAN: Symptomatic and supportive therapy as needed. Following severe exposure, medical follow-up should be monitored for at least 48 hours. May cause respiratory sensitization or asthma-like symptoms. Respiratory symptoms, including pulmonary edema, may be delayed.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: > 200 °F (Closed Cup)

EXTINGUISHING MEDIA: Dry Chemical, Carbon Dioxide, Chemical Foam, Water Fog or Spray.

HAZARDOUS COMBUSTION PRODUCTS: Carbon Monoxide, Carbon Dioxide, Nitrous Oxide, and HCN.

COMMENT: Product reacts slowly with water to produce carbon dioxide which may rupture closed containers. This reaction accelerates at higher temperatures.

FIRE FIGHTING PROCEDURES: Isolate fuel supply from fire. Use water spray to cool fire-exposed surfaces and containers. Fire fighters should wear self-contained breathing apparatus in addition to emergency fire fighting protective clothing.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Clean up spills wearing proper personal protective equipment. (See section 8) Absorb with dry chemical absorbent, earth, sand, or any other inert material. Place in a chemical waste container. Move to outside well-ventilated area. Treat with 10 parts decontamination solution to 1 part isocyanate. Mix well. Allow to stand uncovered 48 hours before disposal.

LARGE SPILL: Eliminate all ignition sources. Evacuate and ventilate the area. Create a dike or trench to contain materials. Prevent entry into waterways, sewers, basements or confined areas. Clean-up personnel should wear appropriate personal protection equipment. (see section 8) Absorb with dry chemical absorbent, earth, sand, or any other inert material. Do not use combustible material such as sawdust. Place in a chemical waste container. Move to outside well-ventilated area. Treat with 10 parts decontamination solution to 1 part isocyanate. Mix well. Allow to stand uncovered 48 hours before disposal. Clean spill area with decontamination solution and allow to stand for 15 minutes before removal. Test atmosphere for MDI.

DECONTAMINATION SOLUTION: Decontamination solution: concentrated ammonia (5%), detergent (2%), and water (93%)

RELEASE NOTES: Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements.

SPECIAL PROTECTIVE EQUIPMENT: See Section 8. Clean-up crews should always wear Personal Protective Equipment.

COMMENT: Dispose of by any standard method of disposal in accordance with good industrial practice and in compliance with federal, state, and local environmental protection regulations.

7. HANDLING AND STORAGE

HANDLING: Wear proper personal protective equipment. Use in a well ventilated area. Avoid smoking, bare lights, or ignition sources. Avoid physical damage to containers.

STORAGE: Protect from atmospheric moisture. Keep containers sealed in order to avoid

contamination. Do not reseal if contaminated. After container has been opened, blanket with nitrogen before resealing. Store indoors in a cool, well-ventilated area.

STORAGE TEMPERATURE: 60 °F – 120 °F

SHELF LIFE: 6 Months

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.

COMMENT: Reacts slowly with water to produce carbon dioxide which may rupture closed containers. This reaction accelerates at higher temperatures. See Section 10 for more information on precautions concerning storage and handling of this material.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES:

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

<u>CHEMICAL NAME</u>		<u>EXPOSURE LIMITS</u>					
		<u>OSHA PEL</u>		<u>ACGIH TLV</u>		<u>SUPPLIER OEL</u>	
		ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³
MDI Prepolymer	TWA	NE	NE	NE	NE		
Polymeric Diphenylmethane Diisocyanate ¹	TWA	.02*	.20*	.005	.051		
Diphenylmethane Diisocyanate Mixed Isomers	TWA	NE	NE	NE	NE		
Methylene Bisphenyl Isocyanate (MDI)	TWA	.02*	.20*	.005	.051		
2,2-dimethyl-1-(methylethyl)-1,3-propanediyl bis(2-methylpropanoate)	TWA	NE	NE	NE	NE		

KEY:

- NE = Not Established
- 1 = MDI is present in PMDI
- * = Ceiling Value

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Wear safety glasses with side shields.

SKIN: Wear gloves and clothing to cover exposed skin.

RESPIRATORY: During application, if exposure of product can exceed the PEL/TLV, use appropriate respiratory protection to protect from overexposure.

WORK HYGIENIC PRACTICES: Follow good normal hygiene practices. Avoid contact with skin. Avoid eating, drinking, or smoking while using this product. Wash hands thoroughly after use.

OTHER USE PRECAUTIONS: Medical supervision of all employees who handle or come in contact with respiratory sensitizers is recommended. Persons with respiratory problems including asthmatic-type conditions, chronic bronchitis, or other chronic respiratory diseases or recurrent skin eczema or skin allergies should be evaluated for their suitability of working with this product. Once a person is diagnosed as sensitized, no further exposure of the material that caused the sensitization should be permitted. The Occupational Exposure limits do not apply to previously sensitized individuals.

OTHER PROTECTIVE EQUIPMENT: Safety showers and eye wash stations are recommended..

9. PHYSICAL AND CHEMICAL PROPERTIES

- PHYSICAL STATE: Liquid
- ODOR: Slightly musty
- COLOR: Amber
- VAPOR DENSITY: Heavier than air
- BOILING POINT: Not Determined
- FREEZING POINT: Not Determined
- SOLUBILITY IN WATER: Insoluble
- SPECIFIC GRAVITY: 1.070 to 1.100 (water=1) at 74°F
- VISCOSITY: 1200 – 1500 Centipoise at 74 °F

10. STABILITY AND REACTIVITY

- CONDITIONS TO AVOID: Temperature extremes. Container contamination. Moisture.
- STABILITY: Stable under recommended storage conditions.
- POLYMERIZATION: May occur with contaminants. May occur at temperatures over 400 °F.
- HAZARDOUS DECOMPOSITION PRODUCTS: Carbon Monoxide, Carbon Dioxide, Nitrous Oxide, and HCN.
- INCOMPATIBLE MATERIALS: This product will react with any materials containing active hydrogens such as water, alcohol, amines, bases and acids. The reaction with water is very slow under 122 °F, but is accelerated at higher temperatures.

11. TOXICOLOGICAL INFORMATION

	ORAL LD ₅₀ (rat)	DERMAL LD ₅₀ (rabbit)	INHALATION LC ₅₀ (rat)
Polymeric Diphenylmethane Diisocyanate	> 5000 mg/kg	> 5000 mg/kg	490 mg/m ³ /4h (respirable aerosol)
Methylene Bisphenyl Isocyanate (MDI)	> 5000 mg/kg	> 10000 mg/kg	490 mg/m ³ /4h (respirable aerosol)
2,2-dimethyl-1-(methylethyl)-1,3-propanediyl bis(2-methylpropanoate)	> 3200 mg/kg	>18840-18960 mg/kg (guinea pig)	> 5.3 mg/L/6h

EYE EFFECTS: The vapor, aerosol, and liquid are moderate irritants.

SKIN EFFECTS: Moderate Irritant.

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.

MUTAGENICITY: There is no substantial evidence of mutagenic potential.

REPRODUCTIVE EFFECTS: No adverse reproductive effects are anticipated.

12. ECOLOGICAL INFORMATION

ECTOTOXICOLOGICAL INFORMATION: *PMDI*: LC₅₀ (Zebra Fish) >1000 mg/L. EC₅₀ (Daphnia magna) (24 hour) >1000 mg/L. EC₅₀ (E. Coli) >100 mg/L.

CHEMICAL FATE INFORMATION: Immiscible with water, but will react with water to produce inert and non-biodegradable solids.

COMMENTS: No testing for product as a whole.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Disposal should be in accordance with local, state, provincial or national regulations.

EMPTY CONTAINER: Empty containers should be decontaminated and either passed to an approved drum recycler or destroyed.

RCRA HAZARD CLASS: This material is not a hazardous waste under RCRA 40 CFR 261.

COMMENTS: 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. Refer to Section 6 for additional information.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

Not regulated when shipped below RQ.

Single containers with 5,000 lbs or more of 4,4'-Methylene Diphenyl Diisocyanate are regulated as: NA3082, Other Regulated Substances, Liquid, N.O.S. (Methylene Diphenyl Diisocyanate), 9, PG III, RQ.

AIR (ICAO/IATA): Not restricted

VESSEL (IMO/IMDG): Not restricted

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: Immediate, Delayed, Reactive.

313 REPORTABLE INGREDIENTS: Diisocyanate Compounds

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

4,4-Methylene diphenyl diisocyanate (CAS 101-68-8) has a 5,000 lb RQ (reportable quantity).

Any spill or release above the RQ must be reported to the National Response Center (800-424-8802).

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA REGULATORY: All ingredients are on 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 the product or derived from the product should be classified as a hazardous waste (40 CFR 261.20-24).

OSHA HAZARD COMM. RULE: This material is classified as a hazardous material under the criteria outlined in the OSHA Hazard Communication Standard (HCS) at 29 CFR 1910.1200.

16. OTHER INFORMATION

HMIS RATING: Health - *2, Flammability - 1, Physical Hazard - 1

HMIS RATING NOTES: If present, the asterisk signifies a chronic health hazard.

Rating system: 0 = low hazard to 4 = high hazard

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KEY LEGEND INFORMATION:

ACGIH - American Conference of Governmental Industrial Hygienists

EPA - Environmental Protection Agency

IARC - International Agency for Research on Cancer

NTP - National Toxicology Program

OEL - Occupational Exposure Limit

OSHA - Occupational Safety and Health Administration

PEL - Permissible Exposure Limit

STEL - Short Term Exposure Limit

TLV - Threshold Limit Value
TWA - Time Weighted Average

PREPARED BY: L. Priest

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CHANGES FROM LAST VERSION: Section 3 [Immediate Concerns], Section 8 [Exposure limits MDI and PMDI], Section 11 [Inhalation: MDI, Dermal: 2,2-dimethyl-1-(methylethyl)-1,3-propanediyl bis(2-methylpropanoate)], Section 9 [Comments], Section 12 [Comments], Section 15 [OSHA Hazard Comm Rule]