

MATERIAL SAFETY DATA SHEET

SPAL-PRO RSF "A"

Section 1: Product and Company Identification

Product Name: Spal-Pro RSF "A"

Product Description: Polyol part of a two-component poured polyurethane elastomer.

Manufacturer:

Metzger McGuire Co., Inc.

557 Route 3-A

Bow, NH 03304

Phone 800-223-6680

www.metzgermcguire.com

24 Hour Emergency Contact Number:

CHEMTREC: United States/Canada 800-424-9300

Section 2: Hazards Identification

Emergency Overview

Physical Appearance: Pigmented liquid.

Immediate Concerns: Irritating to eyes, skin and gastrointestinal tract.

Potential Health Effects

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

Skin: Mild to moderate irritant. Contact may cause irritation consisting of transient redness and/or swelling.

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 high concentrations can cause respiratory tract irritation. (nose, throat, lungs). Not expected in normal use.

Routes of Entry: Inhalation, skin contact, eye contact, ingestion.

Section 3: Composition/Information on Ingredients

Component	% (weight)	Product Identifier
Polyether Polyol	75-85	CAS No. 9082-00-2
6-Methyl-2,4-Bis(Methylthio)Phenylene-1,3-Diamine	10-15	CAS No. 106264-79-3 EINECS No. 403-240-8
N,N,N',N'-Tetrakis(2-Hydroxypropyl)Ethylendiamine	≤ 10	CAS No. 102-60-3 EINECS No. 203-041-4

Section 4: First Aid Measures

Eye Contact: Immediately flush eyes with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Seek immediate medical attention.

Skin Contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing. Seek medical attention if irritation persists. For severe exposure, seek immediate medical attention

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: Move person to fresh air. If dizzy or shows signs of respiratory distress, seek immediate medical attention.

Section 5: Firefighting Measures

Suitable Extinguishing Media: Water fog or spray, foam, dry chemical or carbon dioxide. Water or foam may cause frothing if liquid is burning, but it still may be a useful extinguishing agent if carefully applied to the fire

Unusual Fire and Explosion Hazards: Product reacts slowly with water to produce carbon dioxide which may rupture closed containers. This reaction accelerates at higher temperatures

Fire Fighting Procedures: Exposed firefighters must wear NIOSH-approved positive pressure self-contained breathing apparatus with full-face mask and full protective clothing. Use water spray to cool fire-exposed surfaces and containers.

Hazardous Combustion Products: Thermal decomposition will produce oxides of carbon, nitrogen, and sulfur

Flash Point: > 200 °F (93 °C) - Closed Cup

Section 6: Accidental Release Measures

Personal Protection: Wear protective equipment listed in Section 8.

Spill Procedures: Isolate the hazard and deny entry to unnecessary and unprotected personnel. Do not walk through or otherwise scatter spilled material. Avoid prolonged skin contact. Small spills: Take up with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: Dike far ahead of liquid spill. Take up with sand or other noncombustible absorbent material and place into containers for later disposal. May be a slipping hazard.

Environmental Precautions and Cleanup Methods: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.

Section 7: Handling and Storage

Handling: Do not get in eyes, on skin or on clothing. Keep container closed. Use only with adequate ventilation. Use good personal hygiene practices. Wash hands before eating, drinking, smoking. Keep away from heat and flame. Do not reseal if contaminated.

Storage: Store in tightly closed containers in cool, dry, well-ventilated area away from heat, sources of ignition and incompatibles. Store 60 °F - 120 °F (15.6 °C - 48.9 °C). Keep out of direct sunlight. Protect against physical damage.

Comment: Material is hygroscopic and can absorb small amounts of atmospheric moisture.

Section 8: Exposure Controls/Personal Protection

Exposure limits: None of the components of this product are assigned exposure limits by OSHA, ACGIH or NTP.

Engineering Controls: Local exhaust ventilation used in combination with general ventilation as necessary to control air contaminants.

Eye/Face Protection: Wear chemical safety goggles and face shield.

Skin Protection: Wear impervious gloves. Cover exposed skin.

Respiratory Protection: None needed in normal use.

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.

Section 9: Physical and Chemical Properties

Appearance	Pigmented liquid
Odor	Slightly musty
Odor Threshold	Not determined

pH	Not determined
Melting Point	Not applicable
Freezing Point	< 32 °F (0 °C)
Boiling Point	> 300 °F (148.9 °C)
Flash Point (Closed Cup)	> 200 °F (93 °C)
Evaporation Rate	Not determined
Vapor Pressure	Not determined
Vapor Density (air = 1)	Not determined
Specific Gravity (water = 1)	1.040 - 1.080 at 74 °C 77 °F (22.3 °C)
Viscosity	1350 - 1550 Centipoise at 74 °F (22.3 °C)
Solubility in water	Partially soluble
Partition coefficient, n-octanol/water (log Pow)	Not determined
Autoignition Temperature	Not determined
Decomposition Temperature	Not determined

Section 10: Stability and Reactivity

Stability: Stable.

Hazardous Polymerization: Will not occur.

Hazardous Decomposition Products: Oxides of carbon, nitrogen, and sulfur.

Incompatibilities: Acids and strong oxidizers.

Section 11: Toxicological Information

Acute Toxicity:

Component	Oral LD ₅₀ (rat)	Dermal LD ₅₀ (rabbit)
6-Methyl-2,4-Bis(Methylthio)Phenylene-1,3-Diamine	> 1515 mg/kg	> 2000 mg/kg
N,N,N',N'-Tetrakis(2-Hydroxypropyl)Ethylenediamine	> 3280 mg/kg	> 2000 mg/kg

Acute (Immediate) Effects:

May cause moderate eye irritation.

May cause mild to moderate skin irritation.

Chronic (Delayed) Effects:

Carcinogenicity:

IARC: Not regulated.

NTP: Not regulated.

OSHA: Not regulated.

ACGIH: Not regulated.

Mutagenicity: Not determined.

Reproductive toxicity: Not determined.

Section 12: Ecological Information

Toxicity:

6-Methyl-2,4-Bis(Methylthio)Phenylene-1,3-Diamine:

LC₅₀ (rainbow trout) 7.3 mg/L (96h)

EC₅₀ (Daphnia) 0.9 mg/L (48h)

EC₅₀ (algae) 7.6 mg/L (72h)

Toxicity effects: Very toxic to aquatic organisms.

Persistence and Degradability: Not readily biodegradable.

Bioaccumulative Potential: No data.

Mobility in soil: No data.

Other adverse effects: May cause long-term effects in the aquatic environment.

Section 13: Disposal Considerations

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

RCRA Hazard: If discarded in its purchased form, this material is not a hazardous waste according to RCRA 40 CFR 261.

Section 14: Transport Information

U.S. DOT: Not regulated in non-bulk container unless any part of shipment will be by vessel. A bulk container has >119 gallon capacity.

ICAO/IATA: Not regulated in non-bulk container unless any part of shipment will be by vessel.

IMO/IMDG: UN3082, Environmentally Hazardous Substances, Liquid, N.O.S. (6-Methyl-2,4-bis(methylthio)phenylene-1,3-diamine)), 9, III, Marine Pollutant.

Section 15: Regulatory Information

United States Federal Regulations:

SARA Title III (Superfund Amendments and Reauthorization Act)

311/312 Hazard Categories: Acute (Immediate), Chronic (Delayed)

313 Reportable Components: None.

CERCLA (Comprehensive Environmental Response and Liability Act): None.

TSCA (Toxic Substances Control Act): All components are on TSCA inventory.

Section 16: Other Information

HMIS Rating: Health - *2, Flammability - 1, Physical Hazard - 0

Rating system: 0 = Low hazard to 4 = High hazard * = Chronic health hazard

Manufacturer Disclaimer: The information in this MSDS was obtained from sources that we believe are reliable. The information is provided without warranty, implied or expressed, concerning accuracy. The manufacturer or supplier assumes no legal responsibility for use or reliance on this information. This MSDS is provided solely for the purpose of conveying health, safety, and environmental information. This MSDS is not a specification data sheet. Some of the information and conclusions may be derived from sources other than test data on the material itself.

Abbreviations and Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service
EC ₅₀	Median effective concentration
EINECS	European Inventory of Existing Commercial Chemical Substances
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
LC ₅₀	Lethal dose to 50% of exposed laboratory animals
LD ₅₀	Median lethal dose
TWA	Time-weighted average
TLV	Threshold limit value
NIOSH	US National Institute of Occupational Safety and Health
NE	Not established
NTP	US National Toxicology Program
OSHA	US Occupational Safety Health Administration
PEL	Permissible Exposure Limit
RQ	Reportable quantity
STEL	Short term exposure limit
U.S. DOT	United States Department of Transportation

PREPARED BY: L. Priest

DATE ISSUED: February 11, 2005

REVISION # and DATE: Rev #7, October 24, 2012

CHANGES FROM LAST VERSION: Section 2, Section 5, Section 6, Section 9, Section 14

MATERIAL SAFETY DATA SHEET

SPAL-PRO RSF "B"

Section 1: Product and Company Identification

Product name: Spal-Pro RSF "B"

Product Description: Isocyanate part of a two-component poured polyurethane elastomer.

Manufacturer:

Metzger McGuire Co., Inc.

557 Route 3-A

Bow, NH 03304

Phone 800-223-6680

www.metzgermcguire.com

24 Hour Emergency Contact Number:

CHEMTREC: United States/Canada 800-424-9300

Section 2: 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: Moderate irritant. Liquids, vapors, or mists are irritating to the eyes and can cause stinging, burning, lachrymation, or tearing.

Skin: Moderate irritant. Contact may cause minor irritation consisting of transient redness and/or swelling. 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.

Routes of Entry: Inhalation, skin contact, eye contact, ingestion.

Section 3: Composition/Information on Ingredients

Component	% (weight)	Product Identifier
MDI Prepolymer	50-60	
Polymeric Diphenylmethane Diisocyanate	10-16	CAS No. 9016-87-9
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	13-15	CAS No. 6846-50-0 EINECS No. 229-934-9
Diphenylmethane Diisocyanate Mixed Isomers	6-10	CAS No. 26447-40-5
4,4'-Diphenylmethane Diisocyanate	6-9	CAS No. 101-68-8 EINECS No. 202-966-0

Section 4: First Aid Measures

Eye Contact: Immediately flush eyes with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Seek immediate medical attention.

Skin Contact: Remove material from skin immediately by washing with soap and plenty of water. Seek medical attention if irritation persists. 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: Move person to fresh air. If dizzy or shows signs of respiratory distress, seek immediate medical attention. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours.

Section 5: Firefighting Measures

Suitable Extinguishing Media: Water fog or spray, foam, dry chemical or carbon dioxide

Unusual Fire and Explosion Hazards: Product reacts slowly with water to produce carbon dioxide which may rupture closed containers. This reaction accelerates at higher temperatures

Fire Fighting Procedures: Exposed firefighters must wear NIOSH-approved positive pressure self-contained breathing apparatus with full-face mask and full protective clothing. Use water spray to cool fire-exposed surfaces and containers.

Hazardous Combustion Products: Thermal decomposition will produce carbon and nitrogen oxides and HCN.

Flash Point: > 200 °F (93 °C) - Closed Cup

Section 6: Accidental Release Measures

Personal Protection: Wear protective equipment listed in Section 8.

Spill Procedures: Isolate the hazard and deny entry to unnecessary and unprotected personnel. Do not walk through or otherwise scatter spilled material. Avoid prolonged skin contact. Small spills: Take up with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: Dike far ahead of liquid spill. Take up with sand or other noncombustible absorbent material and place into containers for later disposal. 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.

Environmental Precautions and Cleanup Methods: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. Clean spill area with a solution of concentrated ammonia (5%), detergent (2%), and water (93%)

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

Section 7: Handling and Storage

Handling: Do not get in eyes, on skin or on clothing. Do not breathe vapors or mists. Keep container closed. Use only with adequate ventilation. Use good personal hygiene practices. Wash hands before eating, drinking, smoking. Keep away from heat and flame.

Storage: Store in tightly closed containers in cool, dry, well-ventilated area away from heat, sources of ignition and incompatibles. Store 60 °F - 120 °F (15.6 °C – 48.9 °C) . Keep out of direct sunlight. Protect against physical damage.

Section 8: Exposure Controls/Personal Protection

Exposure limits:

Component	CAS No.	OSHA/PEL	ACGIH/TLV
4,4'-Diphenylmethane Diisocyanate	101-68-8	0.02 ppm 0.20 mg/m ³ (Ceiling)	0.005 ppm 0.051 mg/m ³

Engineering Controls: Local exhaust ventilation used in combination with general ventilation as necessary to control air contaminants.

Eye/Face Protection: Wear chemical safety goggles and face shield.

Skin Protection: Wear impervious gloves. Cover exposed skin.

Respiratory Protection: Under normal working conditions with airborne exposures below

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.

Section 9: Physical and Chemical Properties

Appearance	Amber liquid
Odor	Slightly musty
Odor Threshold	Not determined
pH	Not applicable
Melting Point	Not applicable
Freezing Point	Not determined
Boiling Point	Not determined
Flash Point (Closed Cup)	> 200 °F (93 °C)
Evaporation Rate	Not determined
Vapor Pressure	< 0.0001 mmHg at 74 °F (22.3 °C)
Vapor Density (air = 1)	Heavier than air
Specific Gravity (water = 1)	1.070 - 1.110 at 74 °C 77 °F (22.3 °C)
Viscosity	1200 - 1500 Centipoise at 74 °F (22.3 °C)
Solubility in water	Insoluble, reacts with water
Partition coefficient, n-octanol/water (log Pow)	Not determined
Autoignition Temperature	Not determined
Decomposition Temperature	Not determined

Section 10: Stability and Reactivity

Stability: Stable under normal use and storage conditions.

Hazardous Polymerization: Elevated temperatures can cause hazardous polymerization.

Hazardous Decomposition Products: Oxides of carbon, nitrogen, sulfur, HCN, and MDI vapors.

Incompatibilities: Acids, alcohols, amines, water, ammonia, strong oxidizers, strong bases, water or moisture and temperatures above 400 °F (204.4 °C).

Section 11: Toxicological Information

Acute Toxicity:

Component	Oral LD ₅₀ (rat)	Dermal LD ₅₀ (rabbit)	Inhalation LC ₅₀ (rat)
4,4'-Diphenylmethane Diisocyanate	> 5000 mg/kg	> 5000 mg/kg	490 mg/m ³ /4h (respirable aerosol)
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	> 3200 mg/kg	> 20 mL/kg	453 ppm/6h

Acute (Immediate) Effects:

May cause moderate eye irritation. May cause slight temporary corneal injury.

May cause moderate skin irritation.

At room temperature, vapors are minimal due to low volatility. At elevated temperatures and if sprayed, concentrations may be sufficient to cause respiratory irritation.

Chronic (Delayed) Effects:

Sensitization: May cause isocyanate sensitization by inhalation and skin contact.

Repeated dose toxicity: Danger of serious damage to health by prolonged exposure through inhalation.

Carcinogenicity:

IARC: Not regulated.

NTP: Not regulated.

OSHA: Not regulated.

ACGIH: Not regulated.

Mutagenicity: Not determined.

Reproductive toxicity: Not determined.

Section 12: Ecological Information**Toxicity:**MDI

LC₅₀ > 500 mg/L (Brachydanio rerio) (24 h)

EC₅₀ > 500 mg/L (Daphnia magna) (24 h)

Persistence and Degradability: In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable.

Bioaccumulative Potential: In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Mobility in soil: No data.

Section 13: Disposal Considerations

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

RCRA Hazard: If discarded in its purchased form, this material is not a hazardous waste according to RCRA 40 CFR 261.

Section 14: Transport Information

U.S. DOT: Not regulated if shipped below RQ.

ICAO/IATA: Not regulated.

IMO/IMDG: Not regulated.

Section 15: Regulatory Information

United States Federal Regulations:

SARA Title III (Superfund Amendments and Reauthorization Act)

311/312 Hazard Categories: Acute (Immediate), Chronic (Delayed), Sensitizing substance

313 313 Reportable Components

Component	CAS No.
Polymeric Diphenylmethane Diisocyanate (Category Diisocyanate Compounds)	9016-87-9
4,4'-Diphenylmethane Diisocyanate (Category Diisocyanate Compounds)	101-68-8

CERCLA (Comprehensive Environmental Response and Liability Act)

Component	RQ (lbs)
Diphenylmethane 4,4'-di-isocyanate	5000

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

Reportable spill quantity: 55555 lbs

TSCA (Toxic Substances Control Act): All components are on TSCA inventory.

Section 16: Other Information

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

Rating system: 0 = Low hazard to 4 = High hazard * = Chronic health hazard

Manufacturer Disclaimer: The information in this MSDS was obtained from sources that we believe are reliable. The information is provided without warranty, implied or expressed, concerning accuracy. The manufacturer or supplier assumes no legal responsibility for use or reliance on this information. This MSDS is provided solely for the purpose of conveying health, safety, and environmental information. This MSDS is not a specification data sheet. Some of the information and conclusions may be derived from sources other than test data on the material itself.

Abbreviations and Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service
EC ₅₀	Median effective concentration
EINECS	European Inventory of Existing Commercial Chemical Substances
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association

ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
LC ₅₀	Lethal dose to 50% of exposed laboratory animals
LD ₅₀	Median lethal dose
TWA	Time-weighted average
TLV	Threshold limit value
NIOSH	US National Institute of Occupational Safety and Health
NE	Not established
NTP	US National Toxicology Program
OSHA	US Occupational Safety Health Administration
PEL	Permissible Exposure Limit
RQ	Reportable quantity
STEL	Short term exposure limit
U.S. DOT	United States Department of Transportation

PREPARED BY: L. Priest

DATE ISSUED: June 29, 2005

REVISION # and DATE: Rev #6, October 24, 2012

CHANGES FROM LAST VERSION: Section 6, Section 7, Section 9