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East Lansing, MI 48823-5691

8am to 5pm Phone: (517) 351-5900
24-Hour Emergency Phone: 1-888-354-3323

Effective Date: 8/8/05

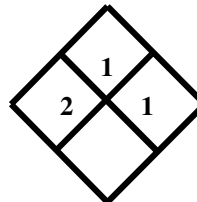
Material Safety Data Sheet

MSDS No: 30360

1. PRODUCT IDENTIFICATION

Trade Name: Ren-Weld 5169 Resin

Chemical Family: Isocyanate



NFPA RATING

Health:	2*
Flammability:	1
Reactivity:	1
Personal Protection:	

HMIS RATING

Intended Use or Product Type: Clear rapid prototyping polyurethane resin

2. COMPOSITION / INFORMATION ON INGREDIENTS

O S H A	CAS No.	CHEMICAL IDENTITY	EXPOSURE LIMITS				CARCINOGEN STATUS			
			ACGIH		OSHA		MFR.	IARC	NTP	OSHA
			TWA	STEL	PEL	STEL				
*	101-68-8	Benzene, 1,1'-Methylenebis[4-Isocyanato-MDI Common Name:	0.005 ppm	NE	0.02 ppm	NE	NE	NR	NR	NR
*	26447-40-5	Benzene, 1,1'-Methylenebis[Isocyanato-Diphenylmethane diisocyanate Common Name:	NE	NE	NE	NE	NE	NR	NR	NR
*	39310-05-9	Benzene, 1,1'-Methylenebis(Isocyanato-, homopolymer Diphenylmethane diisocyanate homopolymer Common Name:	NE	NE	NE	NE	NE	NR	NR	NR
*	52409-10-6	Poly(Oxy(Methyl-1,2-Ethanediy)), alpha, alpha', alpha"-1,2,3-Propanetriyltris(omega-Hydroxy-, Polymer with 1,1'-Methylenebis(4-Isocyanatobenzene) MDI Prepolymer Common Name:	NE	NE	NE	NE	NE	NR	NR	NR

NE = Not Established NR = Not Reviewed * = OSHA Hazardous Ingredient

3. HAZARDS IDENTIFICATION

Emergency Overview: Can cause skin irritation, eye irritation, allergic respiratory reaction, and allergic skin reaction. Can be harmful if inhaled.

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Primary Route(s) of Entry: Dermal; heated product may produce inhalable vapors.

4. FIRST AID MEASURES

Ingestion: If conscious, give 2 - 4 glasses of water to drink. Do not induce vomiting. Call a physician.

Skin: Immediately wash with soap and water. Remove contaminated clothing and launder before reuse. Destroy contaminated shoes.

Inhalation: Remove to fresh air. Call a physician.

Eyes: Immediately flush eyes with water for at least 15 minutes. Call a physician.

Overexposure Effects: Contact with liquid causes eye and skin irritation. If inhaled causes breathlessness, chest discomfort, and reduced pulmonary function. May cause allergic skin and respiratory reactions in some individuals, leading to asthma type spasms of the bronchial tubes and difficulty in breathing.

Medical Conditions Aggravated by Exposure: Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases, eye conditions or recurrent skin eczema or sensitization should be excluded from working with isocyanates.

Additional Information: Referral to a physician is recommended if there is any question about the seriousness of any injury.

5. FIRE FIGHTING MEASURES

Flash Point:	> 200°F (> 93 °C)
Flash Point Method Used:	Estimated
Flammable Limits in Air (Lower - % by volume):	Not established
Flammable Limits in Air (Upper - % by volume):	Not established

Fire Fighting Extinguishing Media: Carbon dioxide, dry chemical, foam, water.

Fire Fighting Equipment: Use self-contained breathing apparatus.

Fire and Explosion Hazards: Decomposition and combustion products may be toxic.

Avoid water contamination in closed containers or confined spaces. Carbon dioxide evolved.

6. ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Remove spillage by absorbing in absorbent material.

7. HANDLING AND STORAGE

Signal Word: Warning!

Precautions: Can cause skin irritation, eye irritation, allergic respiratory reaction, and allergic skin reaction. Can be harmful if inhaled. Avoid breathing vapor or mist. Avoid contact with eyes, skin, and clothing. Keep container closed when not in use. Use with adequate ventilation. Wash thoroughly after handling.

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Other Handling Information: Nuisance dust may be generated when sanding or sawing cured material.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Skin Protection: Wear impermeable gloves.

Respiratory Protection: If a person is concerned with exposure to isocyanates, an organic respirator can provide protection at less than the TLV. It is not a requirement at an exposure level less than the TLV. For exposures in excess of the TLV, an air supplied respirator would be required. Conditions that may create exposures above the TLV are spray applications, the material being strongly heated in excess of 125F before application, or the use of material in poorly ventilated areas.

Eye Protection: Wear splash-proof chemical goggles.

Engineering Controls: General mechanical and local exhaust in accordance with ACGIH recommendations.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Light Amber
Odor:	No Odor
Physical State:	Liquid
Solubility in Water:	Reacts with water
Vapor Pressure:	Not Determined
Specific Gravity:	1.19 (water = 1)
Boiling Point:	Not Determined
Evaporation Rate:	Not Determined
Vapor Density:	Not Determined
VOC:	0 g/L
pH:	Not Determined

Percent Volatile: Negligible.

10. STABILITY AND REACTIVITY

Conditions to Avoid: Avoid prolonged heating over 160 F or storing below 75 F. Avoid water contamination.

Stability: Stable.

Incompatibility: Strong oxidizers, acids and bases.

Hazardous Decomposition Products: Combustion may form toxic materials, such as carbon dioxide, carbon monoxide.

Hazardous Polymerization: May occur.

11. TOXICOLOGICAL INFORMATION

Sensitization: Causes allergic skin and respiratory reactions.

Skin Irritation: Irritant.

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Eye Irritation: Irritant.**12. ECOLOGICAL INFORMATION****13. DISPOSAL CONSIDERATIONS****Waste Disposal Method:** Consult qualified local or corporate personnel for method that will comply with local, state and federal health and environmental regulations.**14. TRANSPORT INFORMATION****DOT: Non-Bulk****Proper Shipping Name:** Resin compounds, N.O.I.**Department of Transportation:** Not regulated as a hazardous material by the U.S. Dept. of Transportation (DOT) 49 CFR 172.101 hazardous materials table.**15. REGULATORY INFORMATION****US Federal Regulations:****Occupational Safety and Health Act (OSHA):** This Material Safety Data Sheet (MSDS) has been prepared in compliance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. This product is considered to be a hazardous chemical under that standard.**Resource Conservation and Recovery Act (RCRA):** Not specifically listed as hazardous waste under RCRA (40 CFR 261). However, it is strongly recommended that compound be treated as a hazardous waste and disposed of accordingly.**SARA Title III: Section 313 Toxic Chemical List (TCL):** This product contains a toxic chemical(s) for routine annual toxic chemical release reporting under section 313 (40 CFR 372). This information must be included in all MSDS's copied or distributed for this material.

Chemical Name: Benzene, 1,1'-Methylenebis[4-Isocyanato-

Common Name: MDI

Percent in Composition: 49.5446 % by wt

Comment:

TSCA Section 8(b) - Inventory Status: All chemical components of this product are in compliance with TSCA inventory requirements.**TSCA Section 12(b) - Export Notification:** This product does not contain any chemical(s) that are subject to a Section 12(b) export notification.**State Regulations:****California Proposition 65:** This product does not contain any chemicals currently on the California list of Known Carcinogens and Reproductive Toxins.

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Pennsylvania Right-to-Know: The following is required composition information:

Chemical Name: Benzene, 1,1'-Methylenebis[4-Isocyanato-
Common Name: MDI
CAS Number: 101-68-8
Comment: Environmental Hazardous Substance

Chemical Name: Poly(Oxy(Methyl-1,2-Ethanediy)), alpha, alpha', alpha"-1,2,3-Propanetriyltris(omega-Hydroxy-, Polymer with
1,1'-Methylenebis(4-Isocyanatobenzene)
Common Name: MDI Prepolymer
CAS Number: 52409-10-6
Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: Benzene, 1,1'-Methylenebis[Isocyanato-
Common Name: Diphenylmethane diisocyanate
CAS Number: 26447-40-5
Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: Benzene, 1,1'-Methylenebis(Isocyanato-, homopolymer
Common Name: Diphenylmethane diisocyanate homopolymer
CAS Number: 39310-05-9
Comment: Not on Pennsylvania Hazardous Substance List

16. OTHER INFORMATION

MSDS No: 30360
Approved By: Dianne Blessing
Title: EHS Specialist

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