



1. IDENTIFICATION

Product identifier

Product Name ResinForce Polyurea Part B: RF-PLY95-B

Other means of identification

SDS # RESIN-021

Recommended use of the chemical and restrictions on use

Recommended Use Fast-Cure Polyurethane Coating.

Details of the supplier of the safety data sheet

Supplier Address

Resinforce Products LLC
12 Pixley Industrial Parkway
Rochester, NY 14624
Phone: (585) 623-5075

Emergency telephone number

Emergency Telephone INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Dark liquid

Physical state Liquid

Odor Faintly aromatic

Classification

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2

Signal Word

Danger

Hazard statements

Harmful if inhaled
Causes skin irritation
Causes serious eye irritation
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
Suspected of causing cancer
May cause respiratory irritation
May cause damage to organs through prolonged or repeated exposure



Precautionary Statements - Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Use personal protective equipment as required
 Use only outdoors or in a well-ventilated area
 Wash face, hands and any exposed skin thoroughly after handling
 In case of inadequate ventilation wear respiratory protection
 Contaminated work clothing must not be allowed out of the workplace
 Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response

If exposed or concerned: Get medical advice/attention
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention
 IF ON SKIN: Wash with plenty of water and soap
 Take off contaminated clothing and wash before reuse
 If skin irritation or rash occurs: Get medical advice/attention
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

Precautionary Statements - Storage

Store locked up
 Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
4,4- methylenediphenyl diisocyanate (MDI)	101-68-8	50-55
Methylenediphenyl diisocyanate	26447-40-5	3-7

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General Advice	If exposed or concerned: Get medical advice/attention.
Eye Contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin Contact	Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call Poison Control or doctor/physician.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms Harmful if inhaled. Causes skin irritation. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. Suspected of causing cancer. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

In case of fire: water fog, foam, dry chemical powder, carbon dioxide (CO₂).

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

During fire, nitrous gases, fumes/smoke, isocyanates and vapor may be formed.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Clear area. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up For small amounts: Absorb isocyanates with suitable absorbent material. Shovel into open container. Do not make container pressure tight. Move container to a well-ventilated area (outside). Spill area can be decontaminated with the following recommended decontamination solution: Mixture of 90% water, 8% concentrated ammonia, 2% detergent. Add at a 10 to 1 ratio. Allow to stand for at least 48 hours to allow escape of evolved carbon dioxide. For large amounts: If temporary control of isocyanates vapor is required, a blanket of protein foam or other suitable foam may be placed over the spill. Transfer as much liquid as possible via pump or vacuum device into closed but not sealed containers for disposal. For residues: The following measures should be taken for final cleanup: Wash down spill area with decontamination solution. Allow solution to stand for at least 10 minutes. Dike spillage.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Use only outdoors or in a well-ventilated area. Wash face, hands and any exposed skin thoroughly after handling. In case of inadequate ventilation wear respiratory protection. Contaminated work clothing must not be allowed out of the workplace. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep away from water. Segregate from foods and animal feeds. Segregate from foods and animal feeds. Segregate from acids and bases. Segregate from bases. Formation of CO₂ and build-up of pressure possible. Keep container tightly closed and in a well-ventilated place. Outage of containers should be filled with dry inert gas at atmospheric pressure to avoid reaction with moisture.

Incompatible Materials

Acids, amines, alcohols, water, alkalines, strong bases, substances/products that react with isocyanates.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
4,4- methylenediphenyl diisocyanate (MDI) 101-68-8	TWA: 0.005 ppm	Ceiling: 0.02 ppm Ceiling: 0.2 mg/m ³	IDLH: 75 mg/m ³ Ceiling: 0.020 ppm 10 min Ceiling: 0.2 mg/m ³ 10 min TWA: 0.005 ppm TWA: 0.05 mg/m ³
Methylenediphenyl diisocyanate 26447-40-5	-	Ceiling: 0.02 ppm Ceiling: 0.2 mg/m ³	-

Appropriate engineering controls

Engineering Controls

Local exhaust ventilation required. Make up air should be supplied to balance air that is removed by local or general exhaust ventilation. Provide sufficient ventilation to keep vapors below permissible exposure limit. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

Individual protection measures, such as personal protective equipment

Eye/Face Protection

Use tightly sealed goggles or safety glasses with side shields which are resistant to Chemicals. Refer to 29 CFR 1910.133 for eye and face protection regulations.

Skin and Body Protection

Wear chemical resistant protection gloves. Wear impervious clothing as necessary to protect against coming in contact with product. Refer to 29 CFR 1910.138 for appropriate skin and body protection.

Respiratory Protection

If insufficient ventilation, wear respiratory protection. Refer to 29 CFR 1910.134 for respiratory protection requirements.

General Hygiene Considerations

Do not eat, drink or smoke during work. Avoid all contact with skin or eye. If clothing comes into contact with material, do not allow out of the workplace. Clean hands and any exposed skin thoroughly after work and before breaks.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid	Odor	Faintly aromatic
Appearance	Dark liquid	Odor Threshold	Not determined
Color	Dark		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	
Melting point / freezing point	3 °C / 37.4 °F	
Initial boiling point and boiling range	200 °C / 392 °F	
Flash point	220 °C / 428 °F	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Not determined	
Flammability Limit in Air		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor Pressure	0.00016 mmHg	
Vapor Density	No data available	
Relative Density	1.25	
Water Solubility	Reacts with water	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Autoignition temperature	>250 °C / >482 °F	
Decomposition temperature	Not determined	
Kinematic viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Reacts with water, with formation of carbon dioxide. Risk of bursting. Reacts with alcohols. Reacts with acids. Reacts with alkalies. Reacts with amines. Risk of exothermic reaction. Risk of polymerization. Contact with certain rubbers and plastics can cause brittleness of substance/product with subsequent loss in strength.

Conditions to Avoid

Avoid moisture.

Incompatible materials

Acids, amines, alcohols, water, alkalines, strong bases, substances/products that react with isocyanates.

Hazardous decomposition products

Carbon monoxide, carbon dioxide, Nitrogen oxide, hydrogen cyanide, aromatic isocyanates, gases/vapors.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact	Avoid contact with eyes.
Skin Contact	Avoid contact with skin.
Inhalation	Harmful if inhaled.
Ingestion	Do not ingest.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
4,4- methylenediphenyl diisocyanate (MDI) 101-68-8	= 31600 mg/kg (Rat)	-	= 369 mg/m ³ (Rat) 4 h
Methylenediphenyl diisocyanate isomers (Polymeric MDI) 9016-87-9	= 49 g/kg (Rat)	> 9.4 g/kg (Rabbit)	= 490 mg/m ³ (Rat) 4 h
Methylenediphenyl diisocyanate 26447-40-5	> 10000 mg/kg (Rat)	> 10000 mg/kg (Rabbit)	= 490 mg/m ³ (Rat) 4 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Please see section 4 of this SDS for symptoms.
-----------------	--

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Carcinogenicity	Suspected of causing cancer.

Chemical name	ACGIH	IARC	NTP	OSHA
4,4- methylenediphenyl diisocyanate (MDI) 101-68-8		Group 3		
Methylenediphenyl diisocyanate isomers (Polymeric MDI) 9016-87-9		Group 3		
Methylenediphenyl diisocyanate 26447-40-5		Group 3		

Legend

IARC (International Agency for Research on Cancer)
Group 3 IARC components are "not classifiable as human carcinogens"

STOT - single exposure May cause respiratory irritation.

STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

Oral LD50	33,371.60 mg/kg
Dermal LD50	9,947.10 mg/kg
ATEmix (inhalation-dust/mist)	>1.0 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence/Degradability

Not determined.

Bioaccumulation

There is no data for this product.

Mobility

Chemical name	Partition coefficient
4,4- methylenediphenyl diisocyanate (MDI) 101-68-8	4.51
Methylenediphenyl diisocyanate 26447-40-5	4.5

Other adverse effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated Packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT Not regulated

IATA Not regulated

IMDG Not regulated

15. REGULATORY INFORMATION

International Inventories

Chemical name	TSCA	TSCA Inventory Status	DSL/NDSL	EINECS/ELI NCS	ENCS	IECSC	KECL	PICCS	AIC
4,4- methylenediphenyl diisocyanate (MDI)	X	ACTIVE	X	X	X	X	X	X	X
Methylenediphenyl diisocyanate isomers (Polymeric MDI)	X	ACTIVE	X		X	X	X	X	X
Methylenediphenyl diisocyanate	X	ACTIVE	X	X	X	X	X	X	X
Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-hydro-omega-hydroxypoly (oxy-1,2-ethanediy)	X	ACTIVE	X			X			X
1,3-diazetidone-2,4-dione, 1,3-bis [4-[(4-isocyanatophenyl)methyl]phenyl]-	X	ACTIVE	X	X		X		X	X

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

CERCLA

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
4,4- methylenediphenyl diisocyanate (MDI) 101-68-8	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

SARA 313

Chemical name	CAS No	Weight-%	SARA 313 - Threshold Values %
4,4- methylenediphenyl diisocyanate (MDI) - 101-68-8	101-68-8	50-55	1.0
Methylenediphenyl diisocyanate isomers (Polymeric MDI) - 9016-87-9	9016-87-9	30-45	1.0
Methylenediphenyl diisocyanate - 26447-40-5	26447-40-5	3-7	1.0

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
4,4- methylenediphenyl diisocyanate (MDI) 101-68-8	X	X	X
Methylenediphenyl diisocyanate isomers (Polymeric MDI) 9016-87-9	X		
Methylenediphenyl diisocyanate 26447-40-5	X		

16. OTHER INFORMATION

<u>NFPA</u>	Health hazards	Flammability	Instability	Special hazards
	-	-	-	-
<u>HMIS</u>	Health hazards	Flammability	Physical hazards	Personal Protection
	-	-	-	Not determined

Issue Date: 26-Feb-2024
Revision Date: 26-Feb-2024
Revision Note: New format

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet