

1. IDENTIFICATION OF SUBSTANCE

PRODUCT FORM	Mixture
PRODUCT NAME	Rugged Coatings Polyurea 209
PRODUCT USE	Part A of 2 component polyurethane system
SUPPLIER IDENTIFICATION	Rugged Coatings 3217 Messer Airport Hwy Birmingham, AL 35222
EMERGENCY TELEPHONE	(800) 424-9300, Chemtrec

2. HAZARD(S) IDENTIFICATION

GHS RATINGS:

Acute Toxicity (Inhalation), Category 4
 Target Organ Toxicity (Single exposure), Category 3
 Target Organ Toxicity (Repeated exposure), Category 1
 Respiratory Sensitization, Category 1
 Skin Irritation, Category 2
 Skin Sensitization, Category 2
 Eye Irritation, Category 2

GHS HAZARDS

H315: CAUSES SKIN IRRITATION.
 H372: CAUSES DAMAGE TO ORGANS (RESPIRATORY TRACT) THROUGH
 PROLONGED OR REPEATED EXPOSURE IF INHALED.
 H320: CAUSES EYE IRRITATION.
 H332: HARMFUL IF INHALED.
 H334: MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING
 DIFFICULTIES IF INHALED.
 H317: MAY CAUSE AN ALLERGIC SKIN REACTION.
 H335: MAY CAUSE RESPIRATORY IRRITATION.
 H372: CAUSES DAMAGE TO ORGANS (RESPIRATORY TRACT) THROUGH
 PROLONGED OR REPEATED EXPOSURE IF INHALED.

GHS PRECAUTIONS

PREVENTION:

P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
 P264: Wash skin and face thoroughly after handling.
 P270: Do not eat, drink or smoke when using this product.
 P271: Use only outdoors or in a well-ventilated area.
 P272: Contaminated work clothing should not be allowed out of the workplace.
 P280: Wear protective gloves/protective clothing/eye protection/face
 protection.
 P285: In case of inadequate ventilation wear respiratory protection.

RESPONSE:

P314: Get medical advice/attention if you feel unwell.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.
 Remove contact lenses, if present and easy to do. Continue rinsing.
 P304+P341: IF INHALED: If breathing is difficult, remove victim to fresh air and keep at
 rest in a position comfortable for breathing.
 P302+P350: IF ON SKIN: Gently wash with plenty of soap and water.
 P342: If experiencing respiratory symptoms:
 P337+P313: If eye irritation persists: Get medical advice/attention.
 P332+P313: If skin irritation occurs: Get medical advice/attention.
 P363: Wash contaminated clothing before reuse.

STORAGE:

P403+P233: Store in a well-ventilated place. Keep container tightly closed.
 P405: Store locked up.

DISPOSAL:

P501: Dispose of contents/container in accordance with existing federal, state and
 local environmental control laws.

LABEL ELEMENTS

PICTOGRAM



SIGNAL WORD

DANGER

3. COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURES

Polyurethane Prepolymer (CAS) Trade Secret	45 - 55%
Diphenylmethane diisocyanate (CAS) 26447-40-5	25 - 35%
4,4'-Methylenedi(phenyl isocyanate) (CAS) 101-68-8	15 - 25%

4. FIRST-AID MEASURES

INHALATION	Remove victim to fresh air and provide oxygen if breathing is difficult. Seek medical attention if cough or other symptoms develop.
SKIN CONTACT	Remove contaminated clothing and immediately wash affected skin area with plenty of soap and water. Seek medical attention. Either discard or wash contaminated clothing and shoes before reuse.
EYE CONTACT	Immediately flush with plenty of water for two minutes. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Have eyes examined and tested by medical personnel.
INGESTION	Make sure victim is conscious and alert. If so, give 2-3 glasses of water to dilute. DO NOT INDUCE VOMITING. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Do not leave victim unattended as spontaneous vomiting may occur. Lay victim on side with head lower than waist to prevent aspiration of swallowed product. If victim is conscious and vomiting occurs, give water to further dilute the chemical.
SIGNS AND SYMPTOMS OF OVEREXPOSURE	
ACUTE EFFECTS::	Isocyanates have also been reported to cause hypersensitivity pneumonitis, which is characterized by flulike symptoms, the onset of which may be delayed. Gastrointestinal symptoms include nausea, vomiting and abdominal pain."
CHRONIC EFFECTS	Results from a lifetime study in rats indicate that MDI aerosol was carcinogenic at 6 mg/m ³ , the highest dose tested. This is well above the recommended TLV of 5 ppb (0.05 mg/m ³). Only irritation was noted at the lower concentration of 0.2 and 1 mg/m ³ . No birth defects or teratogenic effects were reported in a teratology study with rats exposed to 1, 4, and 12 mg/m ³ polymeric MDI or 6 hr/day on days 6-15 of gestation. Embryotoxicity and fetotoxicity was reported at the top dose in the presence of maternal toxicity. As a result of the previous repeated overexposures or single large dose, certain individuals will develop isocyanate sensitization (chemical asthma) which will cause them to react to later exposure to isocyanate at levels well below the PEL/TLV. These symptoms, which include chest tightness, wheezing, cough, shortness of breath, or asthmatic attack, could be immediate or delayed up to several hours after exposure. This increased lung sensitivity can persist for weeks and in severe cases for several years.

5. FIRE-FIGHTING MEASURES

FLAMMABLE CLASS::	Not Applicable.
EXTINGUISHING MEDIA	
	Dry Chemical, Foam, or Carbon Dioxide. Water is not recommended due to reaction.
FIRE FIGHTING PROCEDURES	
	Do not release runoff from fire control methods to sewers or waterways.
FIRE FIGHTING EQUIPMENT	
	Fire fighting personnel are required to use respiratory and eye protection. Full fire protective equipment (Bunker Gear) and self contained breathing apparatus (SCBA) is recommended to be used for all indoor fires and any significant outdoor fires. SCBA may not be required for small outdoor fires that may easily be extinguished with a portable fire extinguisher.
HAZARDOUS DECOMPOSITION PRODUCTS	
	Oxides of Nitrogen, Oxides of Carbon.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on absorbent, such as diatomaceous earth, sawdust, vermiculite, or any appropriate readily available material and sweep or shovel absorbed material into closed containers for disposal. After all visible traces, including ignitable vapors, have been removed thoroughly wash the contaminated area. Do not flush to sewer. If area of spill is porous, remove as much contaminated earth and gravel, etc. as necessary and place in closed containers for disposal. Wear the appropriate personal protective equipment designated in Section 8, remove the leaking container to a containment area and place into an appropriate container to prevent any further spill..

LARGE SPILL: Construct temporary dikes of dirt or sand to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on absorbent, such as diatomaceous earth, sawdust, vermiculite, or any appropriate readily available material and sweep or shovel adsorbed material into closed containers for disposal. If area of spill is porous, remove as much contaminated earth and gravel, etc. as necessary and place in closed containers for disposal. Wear the appropriate personal protective equipment designated in Section 8, close or cap leaking valves and/or block or plug hole in leaking container. Remove the leaking containers to a containment area and place into an appropriate container to prevent any further spill. Contain material as described above and call the local fire, police, or appropriate emergency response provider for immediate emergency assistance..

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: Construct temporary dikes of dirt, sand, or any appropriate readily available material to prevent spreading of material into sources of water.

7. HANDLING AND STORAGE

GENERAL PROCEDURES

Store product in original containers. Store container in a secure cool, dry, well ventilated area at 55- 85 deg. F. Opened containers should be blanketed with nitrogen gas at atmospheric pressure to avoid reaction with moisture. Contamination with moisture or "basic" compounds can cause dangerous pressure buildup in closed containers..

HANDLING:

Use with sufficient ventilation to keep employee exposure below recommended limits. Provide adequate ventilation for storage, handling and use, especially for enclosed or low spaces. Avoid contact of liquid with eyes and prolonged skin exposure. Avoid breathing in vapors, mists, and aerosols. Do not allow product to contact open flame or electrical heating elements because dangerous decomposition products may form.

STORAGE

Store and warehouse product in an appropriate area or facility. Segregate like materials together to avoid negative chemical reactions. Protect materials from excessive exposure to heat. Observe proper storage conditions and temperatures.

STORAGE TEMPERATURE: (55°F) Minimum to (85°F) Maximum

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CHEMICAL NAME / CAS NO.	TYPE	PPM LIMITS	MG/M3 LIMITS
4,4'-Methylenedi(phenyl isocyanate)	OSHA PEL (TWA)	.02 ppm	0.2 mg/m3
	OSHA PEL (STEL)	.02 ppm	N/A
4,4'-Methylenedi(phenyl isocyanate)	ACGIH TLV (TWA)	.005 ppm	N/A
4,4'-Methylenedi(phenyl isocyanate)	Supplier OEL (TWA)	Not Established	Not Established
	Supplier OEL (STEL)	Not Established	Not Established

EXPOSURE CONTROLS

ENGINEERING CONTROLS: Proper industrial hygiene practices are required for workers and should be achieved through engineering controls including ventilation with a high turn over rate whenever feasible. When such controls are not available or not feasible to achieve full protection, respirators for workers (and others in the area) and other personal protective equipment is mandated. Exhaust air may need to be scrubbed (cleaned) or filtered to reduce environmental contamination and odors.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Wear safety glasses with side shields (or goggles) and a face shield..

SKIN: For respirator selection and training, seek professional advice. Whenever workplace conditions require a use of a respirator, follow a respiratory protection program that meets OSHA (29CFR 1910.134), MSHA (30 CFR Parts 56 & 57) and ANSI (Z88.2) requirements. Wear an OSHA/NIOSH approved respirator selected on its suitability to provide adequate worker protection for respirable particulates based on airborne workplace concentrations and duration of exposure arising from intended end use.

RESPIRATORY: For respirator selection and training, seek professional advice. Whenever workplace conditions require a use of a respirator, follow a respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements. Wear an OSHA/NIOSH approved respirator selected on its suitability to provide adequate worker protection for the chemicals used and given working conditions including the level of airborne contamination and presence of sufficient oxygen.

WORK HYGIENIC PRACTICES: Always follow "Good personal hygiene practices" when working with this material.

9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Liquid
ODOR:	Faint aromatic odor.
ODOR THRESHOLD:	No data available
COLOR:	Clear to pale yellow
pH:	No data available
FLASHPOINT AND METHOD:	> (200°F) Pensky-Martens CC
FLAMMABLE LIMITS:	No data available
VAPOR PRESSURE:	< 0.001 mmHg at 25°C
VAPOR DENSITY:	No data available
BOILING POINT:	208°C (406.4°F)
FREEZING POINT:	< 0°C (32°F)
SOLUBILITY IN WATER:	Insoluble in water, reacts with evolution of CO ₂
EVAPORATION RATE:	No data available
SPECIFIC GRAVITY:	1.12 g/cm ³ at 25°C (77°F)
VISCOSITY:	No data available
(VOC):	0 g/l Estimated

10. STABILITY AND REACTIVITY

HAZARDOUS POLYMERIZATION:

May occur if material is in contact with moisture. one

STABILITY

This material (product) is stable under normal ambient conditions of temperature and pressure. Follow recommendations for proper storage and use..

CONDITIONS TO AVOID:

Avoid high temperatures, sources of ignition, and moisture..

INCOMPATIBLE MATERIALS

Water, strong bases, strong acids, strong oxidizing agents, alcohols, and amines.

11. TOXICOLOGICAL INFORMATION

4,4'-METHYLENEDI(PHENYL ISOCYANATE))

LD50 Oral Rat	31600 mg/kg,
LD50 Dermal Rabbit	>5000 mg/k
LC50 Inhalation Rat	10 to 20 mg/l
SKIN CORROSION/IRRITATION: Slightly irritating	
SERIOUS EYE DAMAGE/IRRITATION: Slightly Irritating	
GERM CELL MUTAGENICITY: Product is a blend of material that has been shown to be Ames Negative (non mutogenic)	

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA:

No environmental data has been established or is available for this product.

GENERAL COMMENTS:

Avoid contaminating waterways.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: See the manufacturers instructions to mix together with the proper components of multi-component materials, and allow to harden. Dispose solids at an appropriate waste disposal facility according to current applicable laws and regulations..

14. TRANSPORT INFORMATION

DOT REGULATED COMPONENTS:

Not Regulated:

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: Miscellaneous

313 REPORTABLE INGREDIENTS: 101-68-8 Diisocyanates

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: 101-68-8 Diisocyanates

CERCLA RQ: 5000 lbs

TSCA (TOXIC SUBSTANCE CONTROL ACT))

TSCA STATUS: All ingredients in this mixture are listed with the TSCA Chemical Substance Inventory.

REGULATIONS

STATE REGULATIONS:

The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.
Methylene bis(phenylisocyanate) (MDI) CAS# 101-68-8 New Jersey Environmental Hazardous Substances, New Jersey Workplace Hazardous Substances
Pennsylvania Environmental Hazardous Substances, Pennsylvania Hazardous Substances

16. OTHER INFORMATION

SAFETY DATA SHEET ISSUED BY PRODUCT SAFETY DEPARTMENT

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Rugged Coatings. The data on these sheets relates only to the specific material designated herein. Rugged Coatings. assumes no legal responsibility for use or reliance upon this data. It is the user's responsibility to ensure that their activities comply with federal, state, or local laws.