

1. Product and company identification

Product identifier

Trade name: PU Gel RN 10055 Comp. B

Relevant identified uses of the substance or mixture and uses advised against

General use: PUR-Liner
For use in industrial installations and professional treatment only.

Details of the supplier of the safety data sheet

Company name: Otto Bock Health Care
Street/POB-No.: 3820 W. Great Lakes Drive
Postal Code, city: Salt Lake City, UT 84120
USA
WWW: www.ottobockus.com
Telephone: +1 (801) 956-2400
Telefax: +1 (801) 956-2401
Department responsible for information:
Quality Department,
Telephone: +1 (801) 954-2304 (7 AM – 3 PM, Mountain Time),
Email: USRegulatory@ottobock.com

Additional information: Corporate headquarters:
Ottobock SE & Co. KGaA
Max-Näder-Straße 15
Duderstadt
Germany

Emergency phone number

CHEMTREC, Telephone: +1 (800) 424-9300

Transport:

CONSULTANK Lutz Harder GmbH (Contract QUALI003)

Telephone: +49 (0)178-4337434 (from USA: 01149 178 4337434)

2. Hazards identification

Emergency overview

Appearance: Form: liquid
Color: colorless
Odor: stinging
Classification: Acute Toxicity - inhalative - Category 4. Sensitization - skin - Category 1.
Specific Target Organ Toxicity (Single Exposure) - Category 3.
Aquatic toxicity - chronic - Category 2.

Hazard symbols:



Signal word:

Warning

Hazard statements:

- May cause an allergic skin reaction.
- Harmful if inhaled.
- May cause respiratory irritation.
- Toxic to aquatic life with long lasting effects.

Precautionary statements:

- Avoid release to the environment.
- Wear protective gloves/protective clothing/eye protection.
- IF ON SKIN: Wash with plenty of water/soap.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- Call a POISON CENTER/doctor if you feel unwell.

Regulatory status

This material is considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards not otherwise classified

Persons with over-sensitive breath ways (e.g. asthma, chronic bronchitis) are not allowed to use the product due to safety regulations.
Respiratory symptoms may still occur several hours after overexposure. Vapors and aerosols are the main dangers to the respiratory tract.
see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterization: Aliphatic Polyisocyanate, Prepolymer(s)

Relevant ingredients:

CAS No.	Designation	Concentration	Classification
CAS 9048-90-2	Aliphatic Polyisocyanate	>= 99 %	Acute Toxicity - inhalative - Category 4. Sensitization - skin - Category 1. Specific Target Organ Toxicity (Single Exposure) - Category 3. Aquatic toxicity - chronic - Category 2.
CAS 822-06-0	Hexamethylene-1,6-diisocyanate	< 0.5 %	Acute Toxicity - oral - Category 4. Acute Toxicity - inhalative - Category 1. Skin Irritation - Category 2. Eye Irritation - Category 2A. Respiratory Sensitizer - Category 1. Sensitization - skin - Category 1. Specific Target Organ Toxicity (Single Exposure) - Category 3.

4. First aid measures

General information: Take off immediately all contaminated clothing.

In case of inhalation: Move victim to fresh air, put at rest and loosen restrictive clothing.
In case of respiratory difficulties seek medical attention.

Following skin contact: After contact with skin, wash immediately with soap and plenty of water.
In case of skin reactions, consult a physician.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. In case of troubles or persistent symptoms, consult an ophthalmologist.

After swallowing: Rinse mouth thoroughly with water.
Do NOT induce vomiting. Seek medical attention.

Most important symptoms/effects, acute and delayed

May cause an allergic skin reaction. Harmful if inhaled. May cause respiratory irritation.

Information to physician

Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range:

> 482 °F (DIN 51755)

Auto-ignition temperature: not applicable

Suitable extinguishing media:

Carbon dioxide, foam, dry chemical powder.
In case of large fires also water spray jet.

Extinguishing media which must not be used for safety reasons:

Full water jet

Specific hazards arising from the chemical

In case of fire may be liberated: Carbon dioxide, Nitrogen oxides (NOx), Isocyanate vapors, traces of hydrogen cyanide, nitrous fumes, carbon monoxide

Protective equipment and precautions for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information:

Use fine water spray to cool endangered containers. Do not breathe fumes.
Do not allow water used to extinguish fire to enter drains, ground or waterways.

6. Accidental release measures

Personal precautions:

Avoid contact with the substance. Wear appropriate protective equipment.
Keep unprotected people away. Provide adequate ventilation.
Do not breathe vapor/aerosol.

Environmental precautions:

Do not allow to penetrate into soil, waterbodies or drains.
In case of release, notify competent authorities.

Methods for clean-up:

Cover with moist liquid binding material (e.g. sand, chemical agent with calcium silicahydrate). After approximately 1 hour, mechanically collect in an open waste container (CO2 build-up). keep moist and allow to stand in a secure area for 7 to 14 days.

7. Handling and storage

Handling

Advices on safe handling:

Provide adequate ventilation, and local exhaust as needed. Use breathing protection with splashing medium. Use local exhaust. Do not breathe vapor/aerosol. Avoid contact with skin and eyes.

If you have allergies, asthma or chronic respiratory illnesses, avoid handling preparations of this type.

Storage

Requirements for storerooms and containers:

Store container tightly closed in a dry and cool place.

Hints on joint storage:

Do not store together with Acids or alkalis.

Keep away from food, drink and animal feedingstuffs.

8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
822-06-0	Hexamethylene-1,6-diisocyanate	USA: ACGIH: TWA	0.034 mg/m ³ ; 0.005 ppm
		USA: NIOSH: Ceiling	0.14 mg/m ³ ; 0.02 ppm
		USA: NIOSH: TWA	0.035 mg/m ³ ; 0.005 ppm

Biological limit values:

CAS No.	Designation	Type	Limit value	Parameter	Sampling
822-06-0	Hexamethylene-1,6-diisocyanate	USA: ACGIH-BEI, urine	15 µg/g creatinine	1,6-Hexamethylene diamine following hydrolysis	end of exposure or end of shift

Engineering controls

Provide good ventilation and/or an exhaust system in the work area.

See also information in chapter 7, section storage.

Personal protection equipment (PPE)

Eye/face protection: Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010.

Skin protection: Wear suitable protective clothing.

Protective gloves according to OSHA Standard - 29 CFR: 1910.138.

Glove material: butyl caoutchouc (butyl rubber)-Layer thickness: 0,5 mm

Possible alternatives: fluoro rubber-Layer thickness: 0,4 mm.

Breakthrough time: >480 min.

Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Respiratory protection: Respiratory protection must be worn whenever the TLV (WEL) levels have been exceeded. Use combination filter type A2-P2 according to OSHA Standard - 29 CFR: 1910.134 or ANSI Z88.2.

General hygiene considerations:

Avoid contact with skin and eyes.

Do not breathe vapor/aerosol. When using do not eat, drink or smoke.

Take off immediately all contaminated clothing.

Separate storage of work clothes.

Wash hands before breaks and after work.

Environmental exposure controls

Refer to 6.: Section "Environmental precautions".

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance:	Form: liquid Color: colorless
Odor:	stinging
Odor threshold:	No data available
pH:	No data available
Melting point/freezing point:	(Pour point) approx. -11.2 °F (ISO 3016)
Initial boiling point and boiling range:	(1013 hPa) > 356 °F
Flash point/flash point range:	> 482 °F (DIN 51755)
Evaporation rate:	No data available
Flammability:	No data available
Explosion limits:	LEL (Lower Explosion Limit): (Hexamethylene-1,6-diisocyanate) 0.90 Vol-% UEL (Upper Explosive Limit): (Hexamethylene-1,6-diisocyanate) 9.50 Vol-%
Vapor pressure:	at 68 °F: approx. 21 hPa
Vapor density:	No data available
Density:	at 68 °F: 1.09 g/cm ³ (DIN 51757)
Water solubility:	at 59 °F: immiscible
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	not applicable
Thermal decomposition:	approx. 356 °F
Viscosity, dynamic:	at 73.4 °F: approx. 4,000 mPa*s (DIN EN ISO 3219/A.3)
Ignition temperature:	approx. 779 °F (DIN 51794)

10. Stability and reactivity

Reactivity:	refer to 10.3
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	Exothermic reactions with amines and alcohols. Reacts with water, forming carbon dioxide, producing bursting hazard in closed containers due to build-up of pressure.
Conditions to avoid:	Protect from humidity. Protect from heat and direct sunlight.
Incompatible materials:	Amines, alcohols, Water
Hazardous decomposition products:	In case of fire may be liberated: Carbon dioxide, Nitrogen oxides (NO _x), Isocyanate vapors, traces of hydrogen cyanide, nitrous fumes, carbon monoxide
Thermal decomposition:	approx. 356 °F

11. Toxicological information

Toxicological tests

Acute toxicity:	LD50 Rat, oral: > 5,000 mg/kg LD50 Rat, dermal: > 2,000 mg/kg (OECD 402) LC50 Rat, inhalative: (dust, mist) 0.39 mg/L/4h (OECD 403)
Toxicological effects:	Acute toxicity (oral): Lack of data. Acute toxicity (dermal): Lack of data. Acute toxicity (inhalative): Acute Toxicity - inhalative - Category 4 = Harmful if inhaled. Skin corrosion/irritation: Based on available data, the classification criteria are not met. Rabbit: mild irritant (OECD 404) Serious eye damage/irritation: Based on available data, the classification criteria are not met. Rabbit: mild irritant (OECD 405) Sensitisation to the respiratory tract: Lack of data. Skin sensitisation: Sensitization - skin - Category 1 = May cause an allergic skin reaction. Substance in the local lymph node assay: Mouse, positive (OECD 429) Germ cell mutagenicity/Genotoxicity: Based on available data, the classification criteria are not met. Bacterial mutagenicity: Ames test negative (OECD 471) Carcinogenicity: Based on available data, the classification criteria are not met. Reproductive toxicity: Based on available data, the classification criteria are not met. Effects on or via lactation: Lack of data. Specific target organ toxicity (single exposure): Specific Target Organ Toxicity (Single Exposure) - Category 3 = May cause respiratory irritation. Specific target organ toxicity (repeated exposure): Based on available data, the classification criteria are not met. Aspiration hazard: Based on available data, the classification criteria are not met.

Symptoms

In case of inhalation:
Irritation of nose, throat, lung, throat dryness. Thoracic oppression, respiratory complaints, headache. Susceptible persons may develop ailments and allergic reactions with some delay.
After contact with skin:
In case of a prolonged contact tanning and irritating effects may occur.

12. Ecological information

Ecotoxicity

Aquatic toxicity:	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Bacterial toxicity:	EC50 activated sludge: 1600 mg/L/3 h (OECD 209)
Daphnia toxicity:	EC50 Daphnia magna (Big water flea): >100 mg/L/48 h (OECD 202)
Fish toxicity:	LC50 Danio rerio (zebrafish) 8,9 mg/L/96 h (OECD 203)

Further details: Forms carbon dioxide and turns into a hard and insoluble by-product (poly urea) on the water's edge. This reaction is intensified by surface-active substances (e.g. liquid soaps) or water soluble solvents. Based upon current knowledge, poly urea is inert and will not decompose.

Mobility in soil

No data available

Persistence and degradability

Further details: Biodegradation: 1 %/28 d (OECD 301 D).
Product is not readily biodegradable.

Additional ecological information

General information: Do not allow to enter into ground-water, surface water or drains.

13. Disposal considerations

Product

Recommendation: Incinerate as hazardous waste according to applicable local, state, and federal regulations. Discharge into the environment must be avoided.

Package

Recommendation: Dispose of waste according to applicable legislation.
Handle contaminated packages in the same way as the substance itself.
Non-contaminated packages may be recycled.

14. Transport information

UN number

ADR/RID, IMDG, IATA-DGR:
UN 3082

UN proper shipping name

ADR/RID, IMDG, IATA-DGR:
UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Aliphatic Polyisocyanate)

Transport hazard class(es)

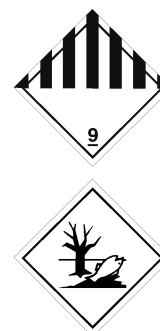
ADR/RID: Class 9, Code: M6
IMDG: Class 9, Subrisk -
IATA-DGR: Class 9

Packing group

ADR/RID, IMDG, IATA-DGR:
III

Environmental hazards

Marine pollutant: yes



Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

USA: Department of Transportation (DOT)

Identification number: UN3082
 Proper shipping name: UN 3082,
 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
 N.O.S. (Aliphatic Polyisocyanate)
 Hazard class or Division: 9
 Packing Group: III
 Labels: 9
 Symbols: G
 Special Provisions: 8, 146, 173, 335, 441, IB3, T4, TP1, TP29
 Packaging – Exceptions: 155
 Packaging – Non-bulk: 203
 Packaging – Bulk: 241
 Quantity limitations – Passenger aircraft / rail: No limit
 Quantity limitations – Cargo only: No limit
 Vessel stowage – Location: A



Sea transport (IMDG)

UN number: UN 3082
 Proper shipping name: UN 3082,
 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
 (Aliphatic Polyisocyanate)
 Class or division, Subsidiary risk: Class 9, Subrisk -
 Packing Group: III
 EmS: F-A, S-F
 Special Provisions: 274 335 375 969
 Limited quantities: 5 L
 Excepted quantities: E1
 Package - Instructions: P001, LP01
 Package - Provisions: PP1
 IBC - Instructions: IBC03
 IBC - Provisions: -
 Tank instructions - IMO: -
 Tank instructions - UN: T4
 Tank instructions - Provisions: TP1, TP29
 Stowage and handling: Category A.
 Properties and observations: -
 Marine pollutant: yes
 Segregation group: none

Air transport (IATA)

UN/ID number:	UN 3082
Proper shipping name::	UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Aliphatic Polyisocyanate)
Class or division, Subsidiary risk:	Class 9
Packing Group:	III
Hazard label:	Miscellaneous & Environmentally hazardous
Excepted Quantity Code:	E1
Passenger and Cargo Aircraft: Ltd.Qty.:	Pack.Instr. Y964 - Max. Net Qty/Pkg. 30 kg G
Passenger and Cargo Aircraft:	Pack.Instr. 964 - Max. Net Qty/Pkg. 450 L
Cargo Aircraft only:	Pack.Instr. 964 - Max. Net Qty/Pkg. 450 L
Special Provisions:	A97 A158 A197 A215
Emergency Response Guide-Code (ERG):	9L

Further information

Protect from humidity. Sensitive to heat and warmth > 40°C.
Keep away from food, drink and animal feedingstuffs.
Keep away from acids and alkalis.

15. Regulatory information

National regulations - U.S. Federal Regulations

Product:	All ingredients of this product are listed on the TSCA inventory.
Hexamethylene-1,6-diisocyanate:	Clean Air Act: CAA Hazardous Air Pollutants: yes Other Environmental Laws: CERCLA: RQ 100 lbs. SARA Title III - Section 313, Toxic Release: Conc. 1.0% / Threshold Standard NIOSH Recommendations: Occupational Health Guideline: 0320

National regulations - U.S. State Regulations

Hexamethylene-1,6-diisocyanate:	California Proposition 65 code: - Delaware Air Quality Management List: DRQ: 100 - RQ State requirements differs from Federal Idaho Air Pollutant List: Title 585: AAC: 0.0015 - EL: 0.002 - OEL: 0.03 - Title 586: - Maine Hazardous Air Pollutants: Me 2005: HAP - Hap Rpt: 20 Massachusetts Haz. Substance codes: 4 F8 F9 Minnesota Haz. Substance: Codes: AN - Ratings: - - Status: Air Pollutant Title III New York List of Hazardous Substances: RQ-Air: 1 - RQ-Land: 1 - Note: No Note Associated with this chemical.
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16. Other information

For use in industrial installations and professional treatment only.

Text for labeling:

Contains ≥ 99 % Aliphatic Polyisocyanate, < 0.5 % Hexamethylene-1,6-diisocyanate.

Contains aliphatic Polyisocyanate

Hazard rating systems:



NFPA Hazard Rating:

Health: 1 (Slight)

Fire: 1 (Slight)

Reactivity: 0 (Minimal)

HMIS Version III Rating:

Health: 1 (Slight)

Flammability: 1 (Slight)

Physical Hazard: 0 (Minimal)

Personal Protection: X = Consult your supervisor

HEALTH	1
FLAMMABILITY	1
PHYSICAL HAZARD	0
	X

Abbreviations and acronyms:

Acute Toxicity: Acute toxicity

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

Aquatic toxicity - chronic: Hazardous to the aquatic environment - chronic

AS/NZS: Australian Standards/New Zealand Standards

CAS: Chemical Abstracts Service

CFR: Code of Federal Regulations

CLP: Classification, Labelling and Packaging

DMEL: Derived minimal effect level

DNEL: Derived no-effect level

EC: European Community

EC50: Effective Concentration 50%

EmS: Emergency Response Procedures for Ships Carrying Dangerous Goods

EN: European Standard

EQ: Excepted quantities

Eye Irritation: Eye irritation

IATA: International Air Transport Association

IATA-DGR: International Air Transport Association – Dangerous Goods Regulations

IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

IMDG Code: International Maritime Dangerous Goods Code

IMO: International Maritime Organization

LC50: Median lethal concentration

LD50: Lethal dose 50%

LEL: Lower Explosion Limit

MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships

OEL: Occupational Exposure Limit Value

OSHA: Occupational Safety and Health Administration

PBT: Persistent, bioaccumulative and toxic

PNEC: Predicted no-effect concentration

Respiratory Sensitizer: Sensitisation to the respiratory tract

RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail

Sensitization - skin: Skin sensitisation

Skin Irritation: Skin irritation

STOT SE: Specific target organ toxicity - single exposure

TLV: Threshold Limit Value

TRGS: Technical Rules for Hazardous Substances

TSCA: Toxic Substance Control Act

UN: United Nations

vPvB: Very persistent and very bioaccumulative

WEL: Workplace Exposure Limit

Reason of change:

Changes in section 14: IMDG 2025

Date of first version:

3/10/2023

Department issuing data sheet

Contact person:

see section 1: Department responsible for information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.