



SAFETY DATA SHEET

SDS No. 90AEU

Revision Date: December 5, 2022 Version: 1.0

According to Regulation (EC)

No. 1907/2006 as amended

Section 1 - Identification of the substance/mixture and of the company

1.1 Product Identifier

Trade Name: **Part A: URE-BOND® II Part A**

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

General Use: Formulated Polyurethane Isocyanate

Restrictions on Use: None known

1.3 Details of the supplier of the safety data sheet:

Company: Smooth-On, Inc.,
5600 Lower Macungie Rd., Macungie, PA 18062, U.S.A.
Telephone: Phone (610) 252-5800

E-mail address of person responsible for the SDS: Visit our website at www.smooth-on.com or email sds@smooth-on.com

1.4 **Emergency Contact:** Chem-Tel Domestic: 800-255-3924 International: 813-248-0585

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Section 2 – Hazard(s) Identification

2.1 Classification of the substance or mixture:

Classification (REGULATION (EC) No 1272/2008) as amended

For the full text of the H-Statements mentioned in this Section, see Section 16

H315 Skin Irritation – Category 2

H317 Skin Sensitization – Category 1

H320 Eye Irritation – Category 2B

H332 Acute Toxicity, Inhalation – Category 4

H334 Respiratory Sensitization – Category 1

H335 Specific Target Organ Toxicity (Single Exposure) – Category 3 (respiratory)

2.2 Label elements, including precautionary statements

Labelling (REGULATION (EC) No 1272/2008) as amended



Pictogram(s):
Signal word: **Danger**

Health Hazards:

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H320 Causes eye irritation

- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation

General Precautions:

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P103 Read label before use.

Prevention Precautions:

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
- P264 Wash skin thoroughly after handling.
- 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.
- P284 In case of inadequate ventilation wear respiratory protection.

Response Precautions:

- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308 + P313 IF exposed or concerned: Get medical advice/ attention.
- P312 Call a POISON CENTER or doctor/physician if you feel unwell.
- P332 + P313 If skin irritation occurs: Get medical advice/attention.
- P337 + P313 If eye irritation persists: Get medical advice/attention.
- P342+P311 IF experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

Storage Precautions:

- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Disposal Precautions:

- P501 Dispose of contents/container according to local, state and federal laws.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Section 3 - Composition / Information on Ingredients

3.1 Substances/Mixtures

Hazardous ingredients according to Regulation (EC) No 1272/2008

Chemical name	CAS-No.	Concentration
Diphenylmethane Diisocyanate, isomers and homologues	9016-87-9	20 – 35
4,4' -Methylenediphenyl diisocyanate	101-68-8	10 – 20

For the full text of the H-Statements mentioned in this Section, see Section 16.

Section 4 - First Aid Measures**4.1 Description of first aid measures****Inhalation**

Remove source(s) of contamination and move victim to fresh air. If breathing has stopped, give artificial respiration, then oxygen if needed. Contact physician immediately.

Eye Contact

Flush eyes with plenty of water. If irritation persists, seek medical attention.

Skin Contact

In case of skin contact, wash thoroughly with soap and water.

Ingestion

Do not induce vomiting unless instructed by a physician. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

None known.

4.3 Indication of any immediate medical attention and specific treatment needed.

None Known.

Section 5 - Fire-Fighting Measures**5.1 Extinguishing Media**

Water Fog, Dry Chemical, and Carbon Dioxide Foam

5.2 Special hazards arising from the substance or mixture

None known.

5.3 Advice for firefighters

Use water spray to cool fire-exposed surfaces and to protect personnel. Shut off "fuel" to fire. If a leak or spill has not ignited, use water spray to disperse the vapors. Either allow fire to burn under controlled conditions or extinguish with foam or dry chemical. Try to cover liquid spills with foam. Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full-face piece operated in pressure demand or positive-pressure mode.

Section 6 - Accidental Release Measures**6.1 Personal precautions, protective equipment and emergency procedures**

Only properly protected personnel should remain in the spill area; dike and contain spill. Stop or reduce discharge if it can be done safely.

6.2 Environmental precautions

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains or unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers. No special environmental precautions required.

6.3 Methods and material for containment and cleaning up

Put on appropriate protective gear including approved self-contained breathing apparatus, rubber boots and heavy rubber gloves. Dike and contain spill; absorb or scrape up excess into suitable container for disposal; wash area with dilute ammonia solution. Stop or reduce discharge if it can be done safely.

6.4 Reference to other sections

See Section 3 for list of Hazardous Ingredients; Sections 8 for Exposure Controls; and Section 13 for Disposal.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Use good general housekeeping procedures. Wash hands after use. Do not get in eyes, on skin or on clothing. Do not breathe vapors or mists. Use good personal hygiene practices.

7.2 Conditions for safe storage, including any incompatibilities

Keep container(s) tightly closed and properly labeled. Store in cool, dry, well ventilated place away from heat, direct sunlight, strong oxidizers and any incompatibles. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet local standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty containers retain residue and may be dangerous. Avoid water contamination.

7.3 Specific end use(s)

These precautions are for room temperature handling. Other uses including elevated temperatures or aerosol/spray applications may require added precautions.

Section 8 - Exposure Controls / Personal Protection

8.1 Control parameters:

Component	CAS-No.	Value	Control Parameters	Basis
Diphenylmethane-4,4'-diisocyanate	101-68-8	TWA	0.0050 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Respiratory sensitization		
		C	0.02 ppm 0.2 mg/m ³	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		C	0.02 ppm 0.2 mg/m ³	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		The value in mg/m ³ is approximate. Ceiling limit is to be determined from breathing-zone air samples.		
		TWA	0.0050 ppm 0.05 mg/m ³	USA. NIOSH Recommended Exposure Limits
		10 minute ceiling value		
		C	0.2 ppm 0.2 mg/m ³	USA. NIOSH Recommended Exposure Limits
		10 minute ceiling value		

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

None defined.

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

None defined.

8.2 Exposure controls:

Engineering measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Skin and body protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Protective measures

Ensure that eye flushing systems and safety showers are located close to the working place.

Section 9 - Physical and Chemical Properties

9.1 Information on basic physical and chemical properties:

Appearance:	Brown liquid	Vapor pressure:	0.00016 mmHg (68 °F)
Odor:	Slight	Vapor density (Air=1):	8.6
pH:	No data	Evaporation rate:	No data
Flash Point:	390°F	Solubility in water:	Insoluble
Melting / freezing point:	37°F	Specific Gravity (H2O=1, at 4 °C):	No data
Low / high boiling point:	No data	Relative density:	No data
Upper flammability limits:	No data	Decomposition temperature:	No data
Lower flammability limits:	No data	Viscosity:	100 centipoise

Section 10 - Stability and Reactivity**10.1 Reactivity**

No hazardous reactions if stored and handled as prescribed/indicated., No corrosive effect on metal. Not fire propagating.

10.2 Chemical stability

These products are stable at room temperature in closed containers under normal storage and handling conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerization cannot occur

10.4 Conditions to avoid

None known

10.5 Incompatible materials

Strong bases and acids

10.6 Hazardous decomposition products

Thermal oxidative decomposition can produce carbon oxides, gasses/vapors, and traces of incompletely burned carbon compounds.

Section 11- Toxicological Information**11.1 Information on toxicological effects:****Acute Toxicity****Acute inhalation toxicity**

At room temperature, vapors are minimal due to low volatility. However, certain operations may generate vapor or mist concentrations sufficient to cause respiratory irritation and other adverse effects. Such operations include those in which the material is heated, sprayed or otherwise mechanically dispersed such as drumming, venting or pumping. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. May cause pulmonary edema (fluid in the lungs.) Effects may be delayed. Decreased lung function has been associated with overexposure to isocyanates.

LC50, Rat, 4 Hour, dust/mist, 0.49 mg/l

For similar material(s): 4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8).

LC50, Rat, 1 Hour, Aerosol, 2.24 mg/l

For similar material(s): 2,4'-Diphenylmethane diisocyanate (CAS 5873-54-1).

LC50, Rat, 4 Hour, Aerosol, 0.387 mg/l

Skin Corrosion/Irritation

Prolonged contact may cause slight skin irritation with local redness. May stain skin.

Serious Eye Damage/Irritation

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

Respiratory/Skin Sensitization

Skin contact may cause an allergic skin reaction. Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization. May cause allergic respiratory reaction. Reexposure to extremely low isocyanate concentrations may cause allergic respiratory reactions in individuals already sensitized. Asthma-like symptoms may include coughing, difficult breathing and a

feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening. Effects may be delayed.

Germ Cell Mutagenicity

No data available

Carcinogenicity

Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI (6 mg/m³) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.

Reproductive Toxicity

No data available

Specific Target Organ Toxicity – Single Exposure

May cause respiratory irritation. Route of Exposure: Inhalation Target Organs: Respiratory Tract

Specific Target Organ Toxicity – Repeated Exposure

Tissue injury in the upper respiratory tract and lungs has been observed in laboratory animals after repeated excessive exposures to MDI/polymeric MDI aerosols.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

Potential Health Effects – Miscellaneous

No data available

Section 12 - Ecological Information

12.1 Toxicity

Acute toxicity to fish

The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species.

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, Danio rerio (zebra fish), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), static test, 24 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

NOEC, Desmodesmus subspicatus (green algae), static test, 72 Hour, Growth rate inhibition, 1,640 mg/l, OECD Test Guideline 201 or Equivalent

12.2 Persistence and Degradability:

Biodegradability: In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates. 10-day Window: Not applicable

Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302C or Equivalent

12.3 Bioaccumulative Potential

Bioconcentration factor (BCF): 92 Cyprinus carpio (Carp) 28 d

Diphenylmethane Diisocyanate, isomers and homologues

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Reacts with water. In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Bioconcentration factor (BCF): 92 Cyprinus carpio (Carp) 28 d

4,4' -Methylenediphenyl diisocyanate

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Reacts with water. In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Bioconcentration factor (BCF): 92 Cyprinus carpio (Carp) 28 d

12.4 Mobility in Soil

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

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other Adverse Effects

No data available

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

Section 14 - Transport Information

14.1 **UN number:** none

14.2 **UN proper shipping name:** none

14.3 **Transport hazard class(es):** not applicable

14.4 **Packing group:** not applicable

14.5 **Environmental hazards:** none known

14.6 **Special precautions for user:** none known

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: not applicable

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006 and EC No. 2020/878.

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorization (Article 59). : Not applicable

REACH Annex XIV: REACH Authorization List : Not applicable

REACH Annex XVII: REACH Restricted Substance List: : Not applicable

Regulation (EC) No 2019/1021 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

Seveso III: Directive: Dangerous substance/hazard categories: H2

15.2 Chemical safety assessment

No chemical safety assessment has been carried out for this substance/mixture by the supplier.

16 - Other Information

Revision Date: December 5, 2022 **Version:** 1.0

Full text of H-Statements referred to under Sections 2 and 3.

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H320	Causes eye irritation
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation

Abbreviations and acronyms

ATE - Acute Toxicity Estimate; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006; EINECS - European Inventory of Existing Commercial Chemical Substances

ELINCS - European List of Notified Chemical Substances; CAS# - Chemical Abstract Service number; PPE - Personal Protection Equipment; Kow - octanol-water partition coefficient; DNEL - Derived No Effect Level; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); NOEC - No Observed Effect Concentration; PNEC - Predicted No Effect Concentration; RMM - Risk Management Measure; OEL - Occupational Exposure Limit; PBT - Persistent, Bioaccumulative and Toxic; vPvB - Very Persistent and Very Bioaccumulative; STOT - Specific Target Organ Toxicity; CSA - Chemical Safety Assessment; EN - European Standard; UN - United Nations; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; IATA - International Air Transport Association; IMDG - International Maritime Dangerous Goods; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; WGK - Water Hazard Class

Disclaimer

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