

MATERIAL SAFETY DATA SHEET

According to (EU) 830/2015

HARD TOP PU (hardener)



ADHESIVES • PLASTERS • THERMAL INSULATION

Revision date: 06.01.2020

Issue: 1

Pages (number): 6

1. Identification of the Substance/Mixture and of the Company

1.1. Product identifier – *HARD TOP PU (hardener)*

1.2. Application of the substance

Two-component coating mixture based on waterborne polyurethane – **Component 2 – Hardener.**

1.3. Details of the supplier of the safety data sheet

TERAZID Ltd.

5, 5004 Street, Gara Iskar1528 Sofia, Bulgaria

tel. +359 2 9799971, office@terazid.com

1.4. Emergency telephone number (EU)

UMHATEM “Pirogov” (toxicology) -

112

+3592/9154409; +3592/9154233

2. Hazards Identification

2.1. Classification of the substance or mixture

- *Classification in accordance with Regulation (EO) 1272/2008 – CLP: **The product is classified as “hazardous”.***

2.2. Label elements

Hazard pictograms:



Signal word: **Warning!**

Hazard statements:

H317 - May cause an allergic skin reaction.

H332 - Harmful if inhaled.

H335 - May cause respiratory irritation.

H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements:

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.

P271 - Use only outdoors or in a well-ventilated area.

P273 - Avoid release to the environment.

P280 – Wear protective gloves/protective clothing/eye protection/face protection.

P302 + P352 - IF ON SKIN: Wash with plenty of water.

P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.

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2.3. Other hazards - None.

For all warnings and recommendations, see **Section 15**.

3. Composition/information on ingredients

General chemical description: N/A.

Information of the substances in accordance with CLP 1272/2008/EC

CAS №/ EINECS №	Name	Concentration (%)	Signal word	H-codes
28182-81-2/ 500-060-2	Hexamethylene diisocyanate, oligomers	≤ 70	Warning	H332, H317, H335
160994-68-3/ -	Hidrophilic aliphatic polyisocyanate	≤ 70	Warning	H332, H317, H335, H412
111109-77-4/ 404-640-5	Dipropylene glycol dimethyl ether	20 - 40	-	-
822-06-0/ 212-485-8	Hexamethylene-di-isocyanate	< 0.28	Danger	H331, H319, H335, H315, H334, H317

Note: 1. The concentration of isocyanate stated is the percentage by weight of the free monomer calculated with reference to the total weight of the mixture.

Note: 2. Specific concentration limits of Hexamethylene-di-isocyanate - (C ≥ 0.5) Resp. Sens. 1, H334
(C ≥ 0.5) Skin Sens. 1, H317

4. First Aid Measures

4.1. Description of the first aid measures - Call a poison center or a doctor if you feel unwell.

Inhalation – Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.

Skin contact – Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs, get medical advice/attention.

Eye contact – Rinse eyes with water as a precaution.

Ingestion – Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation - May cause respiratory irritation.

Symptoms/injuries after skin contact - May cause an allergic skin reaction.

4.3. Indication of any immediate medical attention and special treatment needed – see p. 4.1.

Treat symptomatically.

5. Firefighting Measures

5.1. Extinguishing media

Water mist, water spray – sprayer, dry chemical, foam, carbon dioxide.

5.2. Special hazards, arising from the substance or mixture

Hazardous decomposition products in case of fire - Toxic fumes may be released.

5.3. Advice for firefighters:

Protection during firefighting - Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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6. Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures - Ventilate spillage area. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment - Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up - Take up liquid spill into absorbent material.

Other information - Dispose of materials or solid residues at an authorized site.

7. Handling and Storage

7.1. Precautions for safe handling

Precautions for safe handling – Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Wear personal protective equipment.

Hygiene measures - Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

It should be stored in ventilated places, into the originally sealed packages. Store locked up and away from direct sunlight. Keep container tightly closed. Keep cool. Temperatures lower than 5°C and higher than +40°C should be avoided. It should be separately stored from food and drinks.

7.3. Specific Usage

There is no specific usage. It should be used only according to its main purpose.

8. Exposure Controls/Personal Protection

8.1. Control parameters – N/A

8.2. Exposure controls

Ensure good ventilation of the work station.

8.2.1. Respiratory protection – use a protective mask, filter P2.

8.2.2. Skin protection – skin contact should be avoided, wear protective gloves.

8.2.3. Eye protection – eye contact should be avoided, wear safety glasses.

8.2.4. Common protection – it should be stored away from food, drinks and food for animals.

The substance is not classified for human health hazards or for environment effects and it is not PBT or vPvB so that no exposure assessment or risk characterisation is required. For tasks where the intervention of workers is required, the substance must be handled in accordance with good industrial hygiene and safety procedures.

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9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

- Physical state - liquid
- Appearance – liquid
- Color – transparent
- Density - $\approx 1 \text{ g/cm}^3$

9.2. Other information – no data.

10. Stability and reactivity

10.1. Reactivity – The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability – The product is stable under storage and usage in accordance with the indications.

10.3. Possibility of hazardous reactions – No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid – None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials – No additional information available.

10.6. Hazardous decomposition products – Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological Information

11.1. Information for the toxicological effects

Acute toxicity - Inhalation - dust, mist: Harmful if inhaled.

Hexamethylene diisocyanate, oligomers (28182-81-2)

ATE CLP (dust, mist)	1.065 mg/l/4h
LD50 oral rat	> 5 mg/kg
LC50 inhalation rat (mg/l)	0.402 mg/l/4h
NOAEL (chronic, oral, animal/male, 2 years)	3.4 mg/kg bodyweight affordable concentration without disabilities

Skin corrosion/irritation - Not classified

Serious eye damage/irritation - Avoid eye contact

Respiratory or skin sensitisation - May cause an allergic skin reaction.

Germ cell mutagenicity - Not classified

Carcinogenicity - Not classified

12. Ecological Information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

Hexamethylene diisocyanate, oligomers (28182-81-2)

LC50 fish 1	> 100 g/l
EC50 Daphnia 1	23 g/l
EC50 72h algae (2)	> 100 mg/l
ErC50 (other aquatic plants)	> 100 mg/l

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12.2. Persistence and degradability – No additional information available.

Hexamethylene diisocyanate, oligomers (28182-81-2)

Biodegradation 1 %

12.3. Bio-accumulative potential – No additional information available.

12.4. Mobility in soil – No additional information available.

12.5. Results of PBT and vPvB assessment – the product does not meet the criteria of PBT (persistent, bio-accumulative and toxic) and vPvB (very persistent and very bio-accumulative).

12.6. Other adverse effects – No additional information available.

13. Disposal Considerations

Product waste, such as residual quantities and packages, should be collected into a special, tightly sealed and labelled containers, temporarily stored, and after that to be transferred to people, holding a permit in accordance with article 37 of the Waste Management Act (publication SG, issue 53, 2012).

Waste code, in accordance with Regulation №2 from 23.07.2014 for Waste Classification:

08 01 20 – liquid suspensions of paints, others than those mentioned in 08 01 19

Waste Packages code:

15 01 02 – plastic packages.

Completely empty the packages and dispose them in accordance with the local regulations.

14. Transport Information

It is not a hazardous load, in accordance with RID, ADR, ADN, IMDG, IATA-DGR.

It should be transported under the respective rules for transportation, concerning the respective type of transport and ensuring the safety of the load.

15. Regulatory information

15.1 Classification and labeling of the product in accordance with Regulation (EO) 1272/2008 - CLP / full text of the codes/

GHS Pictograms:



Signal word: Warning!

Recommendations for danger (N - codes): None.

Hazard statements (H - codes):

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Precautionary statements (P - codes):

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15.3. Legislation

National Legislation:

- Law of Protection from the Harmful Impact of the Chemical Substances and Preparations.
- Environmental Protection Law.
- Health and Safety at Work Act.
- Ordinance №3 on the minimum requirements for safety and protection of the workers when using personal protective equipment at the workplace.
- Waste Management Act.
- Ordinance №2 from 23.07.2014 for Waste Classification.
- Ordinance on the order and the method of classification, labeling and packaging of chemical substances and preparations.

European Legislation:

- Regulation (EO) 1272/2008 – CLP from 16th December 2008, concerning the classification, labelling and packaging of substances and preparations.
- Regulation (EO) 830/2015 from 28th May 2015.

16. Other Informaiton

16.1. Indication of changes

Format in accordance with Regulation (EO) 830/2015 from 28th May 2015 amending Regulation № 1907/2006 (REACH) of the European Parliament.

16.2. Training advice

In addition to the training programs on environment and health and safety of the workers, the companies need to be sure that their workers read, understand and apply the requirements of the MSDS.

16.3. Additional information

See the application(s) of exposure scenarios for the following substances:

The basic information of the exposure scenarios of the substances in the mixture are included in points 1, 2, 3, 8, 11 and 12.

16.4. Disclaimer

This safety data sheet and the data inside of it are based on industrial and commercial experience of many years and are fully complied with the current active legislation of the Republic of Bulgaria and the European Union. This safety data sheet is not intended to guarantee any specific properties and qualities of the product. The information inside of it is reliable but, on the circumstance, that the product is used in accordance with the indicated conditions and the application, specified on the package and/or in the technical literature. Responsibility of any other use of the product, including when using it in combination with another product or process is completely under the responsibility of the user. It is understood that the user is responsible for defining the appropriate precautions and for applying the legislation, concerning his own activity.