SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Mixture identification:

Trade name: MAPECOAT PU 20 N /B

Trade code: 904UN9999

UFI: MP01-Q070-P00D-R221

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

Recommended use: Crosslinking agent

Uses advised against: Data not available.

1.3. Details of the supplier of the safety data sheet

Company: MAPEI S.p.A. - Via Cafiero, 22 - 20158 Milano

Tel. +(39)02376731 (office hours) - Fax: +39-02-37673.214 - www.mapei.it

Responsable: sicurezza@mapei.it

1.4. Emergency telephone number

Centro antiveleni, Azienda ospedaliera "Antonio Cardarelli", III Servizio di anestesia e rianimazione, via Antonio Cardarelli 9, Napoli - Tel. 081 5453333

Centro antiveleni, Azienda ospedaliera universitaria Careggi, U.O. Tossicologia medica, via Largo Brambilla 3, Firenze - Tel. 055 7947819

Centro antiveleni, Centro nazionale d'informazione tossicologica, IRCCS Fondazione Salvatore Maugeri Clinica del lavoro e della riabilitazione, via Salvatore Maugeri 10, Pavia - Tel. 0382 24444

Centro antiveleni, Azienda ospedaliera Niguarda Ca' Granda, piazza Ospedale Maggiore 3, Milano - Tel. 02 66101029

Centro antiveleni, Azienda ospedaliera "Papa Giovanni XXIII", Tossicologia clinica, Dipartimento di farmacia clinica e farmacologia, piazza OMS 1, Bergamo - Tel. 800 883300

Centro antiveleni Policlinico "Umberto I", PRGM tossicologia d'urgenza, viale del Policlinico 155, Roma - Tel. 06 49978000

Centro antiveleni del Policlinico "Agostino Gemelli", Servizio di tossicologia clinica, largo Agostino Gemelli 8, Roma - Tel. 06 3054343

Centro antiveleni, Azienda ospedaliera universitaria Riuniti, viale Luigi Pinto 1, Foggia - Tel. 800 183459

Centro antiveleni, Ospedale pediatrico Bambino Gesù, Dipartimento emergenza e accettazione DEA, piazza Sant'Onofrio 4, Roma - Tel. 06 68593726

Centro antiveleni dell'Azienda ospedaliera universitaria integrata (AOUI) di Verona sede di Borgo Trento, piazzale Aristide Stefani, 1 - 37126 Verona - Tel. 800 011858

SECTION 2: Hazards identification



2.1. Classification of the substance or mixture

Regulation (EC) n. 1272/2008 (CLP)

Flam. Liq. 3	Flammable liquid and vapour.
Acute Tox. 4	Harmful if inhaled.
Skin Irrit. 2	Causes skin irritation.
Eye Irrit. 2	Causes serious eye irritation.
Skin Sens. 1	May cause an allergic skin reaction.
STOT SE 3	May cause respiratory irritation.
STOT RE 2	May cause damage to organs through prolonged or repeated exposure if inhaled, in contact with skin and if swallowed.

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

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Regulation (EC) No 1272/2008 (CLP):

Hazard pictograms and Signal Word



Warning

Hazard statements

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled, in contact with skin and if swallowed.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing dust or mist.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/clothing and eye/face protection.
P370+P378	In case of fire, use a CO2 fire extinguisher to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.

Special Provisions:

EUH204 Contains isocyanates. May produce an allergic reaction.

Contains

Hexamethylene diisocyanate, oligomers

xylene

hexamethylene-di-isocyanate

Special provisions according to Annex XVII of REACH and subsequent amendments:

As from 24 August 2023 adequate training is required before industrial or professional use.

2.3. Other hazards

No PBT, vPvB or endocrine disruptor substances present in concentration >= 0.1%

Other Hazards: No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

Not Relevant

3.2. Mixtures

Mixture identification: MAPECOAT PU 20 N /B

Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Numb.	Classification	Registration Number
≥75 - <100 %	Hexamethylene diisocyanate, oligomers	CAS:28182-81-2 EC:500-060-2	Acute Tox. 4, H332; STOT SE 3, H335; Skin Sens. 1, H317	01-2119970543-34-XXXX
≥10 - <20 %	reaction mass of ethylbenzene and xylene	EC:905-588-0	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 Asp. Tox. 1, H304 Specific Concentration Limits: C ≥ 10%: STOT RE 2 H373	01-2119539452-40-XXXX
≥10 - <20 %	2-methoxy-1-methylethyl acetate	CAS:108-65-6 EC:203-603-9 Index:607-195-00-7	Flam. Liq. 3, H226	01-2119475791-29-XXXX
≥0.1 - <0.25 %	hexamethylene-di-isocyanate	CAS:822-06-0 EC:212-485-8 Index:615-011-00-1	Acute Tox. 4, H302 Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Resp. Sens. 1, H334 Skin Sens. 1, H317 Acute Tox. 1, H330 Specific Concentration Limits: 0.5% ≤ C < 100%: Resp. Sens. 1	01-2119457571-37-XXXX

H334
0.5% ≤ C < 100%: Skin Sens. 1
H317

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

Wash thoroughly the body (shower or bath).

Remove contaminated clothing immediately and dispose of safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an opthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and the hazard label.

In case of Inhalation:

If breathing is irregular or stopped, administer artificial respiration.

In case of inhalation, consult a doctor immediately and show him packing or label.

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

Eye irritation

Eye damages

Skin Irritation

Erythema

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

(see paragraph 4.1)

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

In case of fire, use a CO2 fire extinguisher to extinguish.

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non emergency personnel:

Wear personal protection equipment.

Remove all sources of ignition.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Provide adequate ventilation.

Use appropriate respiratory protection.

See protective measures under point 7 and 8.

For emergency responders:

Wear personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Limit leakages with earth or sand.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

Suitable material for taking up: absorbing material, organic, sand

Wash with plenty of water.

Retain contaminated washing water and dispose it.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Use localized ventilation system.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

Advice on general occupational hygiene:

7.2. Conditions for safe storage, including any incompatibilities

Always keep in a well ventilated place.

Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Community Occupational Exposure Limits (OEL)

	OEL Type	Country	Occupational Exposure Limit
2-methoxy-1-methylethyl acetate CAS: 108-65-6	DFG	GERMANY	Short Term: Ceiling - 270 mg/m3 - 50 ppm
	National	SWEDEN	Long Term: 275 mg/m3 - 50 ppm
	National	FRANCE	Long Term: 275 mg/m3 - 50 ppm; Short Term: 550 mg/m3 - 100 ppm
	National	SPAIN	Long Term: 275 mg/m3 - 50 ppm; Short Term: 550 mg/m3 - 100 ppm
	National	GREECE	Long Term: 275 mg/m3 - 50 ppm; Short Term: 550 mg/m3 - 100 ppm
	National	DENMARK	Long Term: 275 mg/m3 - 50 ppm
	National	FINLAND	Long Term: 270 mg/m3 - 50 ppm; Short Term: 550 mg/m3 - 100 ppm
	National	GERMANY	Long Term: 270 mg/m3 - 50 ppm
	National	PORTUGAL	Long Term: 275 mg/m3 - 50 ppm; Short Term: 550 mg/m3 - 100 ppm
	National	NORWAY	Long Term: 270 mg/m3 - 50 ppm; Short Term: 337.5 mg/m3 - 75 ppm
	National	BELGIUM	Long Term: 275 mg/m3 - 50 ppm; Short Term: 550 mg/m3 - 100 ppm
	NDS	POLAND	Long Term: 260 mg/m3
	NDSCh	POLAND	Short Term: 520 mg/m3
	CHE	SWITZERLAND	Short Term: 275 mg/m3 - 50 ppm
	NDS	NETHERLANDS	Long Term: 550 mg/m3
	National	CZECH REPUBLIC	Long Term: 270 mg/m3

	National	HUNGARY	Long Term: 275 mg/m3; Short Term: 550 mg/m3
	National	ESTONIA	Long Term: 275 mg/m3 - 50 ppm; Short Term: 550 mg/m3 - 100 ppm
	National	LATVIA	Long Term: 275 mg/m3 - 50 ppm; Short Term: 550 mg/m3 - 100 ppm
	National	CZECH REPUBLIC	Short Term: Ceiling - 550 mg/m3
	National	SLOVAKIA	Short Term: Ceiling - 550 mg/m3
	National	SLOVAKIA	Long Term: 275 mg/m3 - 50 ppm
	National	SLOVENIA	Long Term: 275 mg/m3 - 50 ppm; Short Term: 550 mg/m3 - 100 ppm
	National	UNITED KINGDOM	Long Term: 274 mg/m3 - 50 ppm; Short Term: 548 mg/m3 - 100 ppm
	National	BULGARIA	Long Term: 275 mg/m3 - 50 ppm; Short Term: 550 mg/m3 - 100 ppm
	National	ROMANIA	Long Term: 275 mg/m3 - 50 ppm; Short Term: 550 mg/m3 - 100 ppm
	TUR	TURKEY	Long Term: 275 mg/m3 - 50 ppm; Short Term: 550 mg/m3 - 100 ppm
	National	LITHUANIA	Long Term: 250 mg/m3 - 50 ppm; Short Term: 400 mg/m3 - 75 ppm
	National	CROATIA	Long Term: 275 mg/m3 - 50 ppm; Short Term: 550 mg/m3 - 100 ppm
	EU		Long Term: 275 mg/m3 - 50 ppm; Short Term: 550 mg/m3 - 100 ppm Behaviour Indicative Possibility of significant uptake through the skin;
	EU		Long Term: 275 mg/m3 - 50 ppm; Short Term: 550 mg/m3 - 100 ppm Behaviour Indicative Possibility of significant uptake through the skin
hexamethylene-di-isocyanate CAS: 822-06-0	ACGIH		Long Term: 0.005 ppm URT irr, resp sens
	National	SWEDEN	Long Term: 0.02 mg/m3 - 0.002 ppm; Short Term: Ceiling - 0.03 mg/m3 - 0.005 ppm SWEDEN, Ceiling limit value
	National	NORWAY	Long Term: 0.035 mg/m3 - 0.005 ppm NORWAY, A 4
	National	NORWAY	Long Term: 0.035 mg/m3 - 0.005 ppm; Short Term: 0.07 mg/m3 - 0.01 ppm
	DFG	GERMANY	Short Term: Ceiling - 0.035 mg/m3 - 0.005 ppm
	ACGIH		Long Term: 0.005 ppm respiratory sensitization;upper respiratory tract irritation
	National	SWEDEN	Long Term: 0.02 mg/m3 - 0.002 ppm
	National	FRANCE	Long Term: 0.075 mg/m3 - 0.01 ppm; Short Term: 0.15 mg/m3 - 0.02 ppm
	National	SPAIN	Long Term: 0.035 mg/m3 - 0.005 ppm
	National	GREECE	Long Term: 0.075 mg/m3 - 0.01 ppm; Short Term: 0.15 mg/m3 - 0.02 ppm
	National	DENMARK	Long Term: 0.035 mg/m3 - 0.005 ppm
	National	GERMANY	Long Term: 0.035 mg/m3 - 0.005 ppm
	National	PORTUGAL	Long Term: 0.005 ppm
	National	NORWAY	Long Term: 0.035 mg/m3 - 0.005 ppm; Short Term: 0.01 ppm
	National	BELGIUM	Long Term: 0.034 mg/m3 - 0.005 ppm
	NDS	POLAND	Long Term: 0.04 mg/m3
	NDSCh	POLAND	Short Term: 0.08 mg/m3
	National	CZECH REPUBLIC	Long Term: 0.035 mg/m3
	National	HUNGARY	Long Term: 0.035 mg/m3; Short Term: 0.035 mg/m3
	Malaysia OEL	MALAYSIA	Long Term: 0.034 mg/m3 - 0.005 ppm
	National	ESTONIA	Long Term: 0.03 mg/m3 - 0.005 ppm; Short Term: 0.07 mg/m3 - 0.01 ppm
	National	LATVIA	Long Term: 0.05 mg/m3
	National	CZECH REPUBLIC	Short Term: Ceiling - 0.07 mg/m3
	National	SLOVAKIA	Long Term: 0.035 mg/m3 - 0.005 ppm
	National	SLOVENIA	Long Term: 0.035 mg/m3 - 0.005 ppm; Short Term: 0.035 mg/m3 - 0.005 ppm
	National	BULGARIA	Long Term: 0.1 mg/m3

	National ROMANIA	Long Term: 0.05 mg/m3 - 0.007 ppm; Short Term: 1 mg/m3 - 0.14 ppm
	National LITHUANIA	Long Term: 0.03 mg/m3 - 0.005 ppm
	National LITHUANIA	Short Term: Ceiling - 0.07 mg/m3 - 0.01 ppm

Biological limit values

hexamethylene-di-isocyanate CAS: 822-06-0	Biological Indicator: 1,6-Hexamethylenediamine with hydrolysis; Sampling Period: End of turn Value: 15 MICROGGCREAT; Medium: Urine Remark: Not Specific

Predicted No Effect Concentration (PNEC) values

Hexamethylene diisocyanate, oligomers CAS: 28182-81-2	Exposure Route: Fresh Water; PNEC Limit: 0.127 mg/l
	Exposure Route: Marine water; PNEC Limit: 0.0127 mg/l
	Exposure Route: Soil; PNEC Limit: 53182 mg/kg
	Exposure Route: Freshwater sediments; PNEC Limit: 266700 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 26670 mg/kg
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 38.3 mg/l
	Exposure Route: Intermittent release; PNEC Limit: 1.27 mg/l
2-methoxy-1-methylethyl acetate CAS: 108-65-6	Exposure Route: Fresh Water; PNEC Limit: 0.635 mg/l
	Exposure Route: Marine water; PNEC Limit: 0.0635 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 3.29 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 0.329 mg/kg
	Exposure Route: Soil; PNEC Limit: 0.29 mg/kg
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 100 mg/l
	Exposure Route: Intermittent release; PNEC Limit: 6.35 mg/l
hexamethylene-di-isocyanate CAS: 822-06-0	Exposure Route: Fresh Water; PNEC Limit: 0.077 mg/l
	Exposure Route: Marine water; PNEC Limit: 0.008 mg/l
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 8.42 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 0.013 mg/kg
	Exposure Route: Marine water; PNEC Limit: 0.001 mg/kg
	Exposure Route: Soil; PNEC Limit: 0.003

Derived No Effect Level (DNEL) values

Hexamethylene diisocyanate, oligomers CAS: 28182-81-2	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects Worker Industry: 1 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Industry: 0.5 mg/m3
2-methoxy-1-methylethyl acetate CAS: 108-65-6	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Industry: 153.5 mg/kg; Consumer: 54.8 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Industry: 275 mg/m3; Consumer: 33 mg/m3
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 1.67 mg/kg
hexamethylene-di-isocyanate CAS: 822-06-0	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Industry: 0.035 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Worker Industry: 0.07 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Industry: 0.035 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects Worker Industry: 0.07 mg/m3

8.2. Exposure controls

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Suitable materials for safety gloves; EN ISO 374:

Polychloroprene - CR: thickness >=0,5mm; breakthrough time >=480min.

Nitrile rubber - NBR: thickness >=0,35mm; breakthrough time >=480min.

Butyl rubber - IIR: thickness >=0,5mm; breakthrough time >=480min.

Fluorinated rubber - FKM: thickness >=0,4mm; breakthrough time >=480min.

Neoprene gloves are suggested (0,5 mm) not recommended gloves: not waterproof gloves

Respiratory protection:

Personal Protective Equipment should comply with relevant CE standards (as EN ISO 374 for gloves and EN ISO 166 for goggles), correctly maintained and stored. Consult the supplier to check the suitability of equipment against specific chemicals and for user information.

Respiratory protection must be used where exposure levels exceed workplace exposure limits. Refer to appropriate EN standards, like EN 136, 140, 143, 149, 14387 for information on selection and use of appropriate respiratory protection equipment.

In case of insufficient ventilation use mask with ABEKP filters (EN 14387).

Use adequate protective respiratory equipment.

Hygienic and Technical measures

Not available

Appropriate engineering controls:

Not available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid

Appearance: liquid

Color: clear

Odour: solvent like

Melting point / freezing point: Not available

Initial boiling point and boiling range: 145 °C (293 °F)

Flammability: The product is classified Flam. Liq. 3 H226

Lower and upper explosion limit: Not available

Flash point: 38 °C (100 °F)

Auto-ignition temperature: Not available

Decomposition temperature: Not available

pH: Not available

Viscosity: 320.00 cPs

Kinematic viscosity: Not available

Solubility in water: immiscible

Solubility in oil: Not available

Partition coefficient (n-octanol/water): Not available

Vapour pressure: 10.00

Relative density: 1.07 g/cm3

Vapour density: Not available

Particle characteristics:

Particle size: Not available

9.2. Other information

Miscibility: Not available

Conductivity: Not available

No other relevant information

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

Stable under normal conditions.

10.5. Incompatible materials

Avoid contact with combustible materials. The product could catch fire.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicological Information of the Preparation

a) acute toxicity	The product is classified: Acute Tox. 4(H332)
	ATEmix - Inhalation (Mist) : 1.77096 mg/l
b) skin corrosion/irritation	The product is classified: Skin Irrit. 2(H315)
c) serious eye damage/irritation	The product is classified: Eye Irrit. 2(H319)
d) respiratory or skin sensitisation	The product is classified: Skin Sens. 1(H317)
e) germ cell mutagenicity	Not classified
	Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified
	Based on available data, the classification criteria are not met
g) reproductive toxicity	Not classified
	Based on available data, the classification criteria are not met
h) STOT-single exposure	The product is classified: STOT SE 3(H335)
i) STOT-repeated exposure	The product is classified: STOT RE 2(H373)
j) aspiration hazard	Not classified
	Based on available data, the classification criteria are not met

Toxicological information on main components of the mixture:

Hexamethylene diisocyanate, oligomers	a) acute toxicity	LD50 Oral Rat > 2500 mg/kg	ratto femmina
		LD50 Skin Rat > 2000 mg/kg	
		LD50 Skin Rabbit > 2000 mg/kg	
		LC50 Inhalation Mist Rat = 0.39 mg/l 4h	ratto femmina
		LC50 Inhalation Rat = 18500 mg/m3 1h	
2-methoxy-1-methylethyl acetate	a) acute toxicity	LD50 Oral Rat > 5000 mg/kg	
		LD50 Skin Rabbit > 5 g/kg	
		LD50 Oral Rat = 8532 mg/kg	
hexamethylene-di-isocyanate	a) acute toxicity	LD50 Oral Rat = 746 mg/kg	
		LC50 Inhalation Vapour Rat = 0.124 mg/l 4h	
		LD50 Skin Rat > 7000 mg/kg	
		LD50 Skin Rat > 7000 mg/kg	
		LC50 Inhalation Rat = 0.06 mg/l 4h	
		LD50 Oral Rat = 738 mg/kg	

11.2. Information on other hazards

Endocrine disrupting properties:

No endocrine disruptor substances present in concentration >= 0.1%

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

List of Eco-Toxicological properties of the product

Not classified for environmental hazards.

Based on available data, the classification criteria are not met

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
Hexamethylene diisocyanate, oligomers	CAS: 28182-81-2 - EINECS: 500-060-2	a) Aquatic acute toxicity : LC50 Fish > 100 mg/L 96
		a) Aquatic acute toxicity : EC50 Daphnia > 100 mg/L 48
		a) Aquatic acute toxicity : EC50 Algae > 1000 mg/L 72
		c) Bacteria toxicity : EC50 Bacteria = 3828 mg/L 3
2-methoxy-1-methylethyl acetate	CAS: 108-65-6 - EINECS: 203-603-9 - INDEX: 607-195-00-7	a) Aquatic acute toxicity : EC50 Daphnia = 408 mg/L 48h
		a) Aquatic acute toxicity : LC50 Fish = 130 mg/L 96h
		b) Aquatic chronic toxicity : NOEC Fish = 47.5 mg/L 14d
		b) Aquatic chronic toxicity : NOEC Daphnia >= 100 mg/L 21d
		b) Aquatic chronic toxicity : NOEC Algae >= 1000 mg/L
hexamethylene-di-isocyanate	CAS: 822-06-0 - EINECS: 212-485-8 - INDEX: 615-011-00-1	a) Aquatic acute toxicity : EC50 Algae = 77.4 mg/L 72
		a) Aquatic acute toxicity : LC50 Fish = 8.8 mg/L 96
		a) Aquatic acute toxicity : LC50 Fish Brachydanio rerio = 26.1 mg/L 96h IUCLID
		a) Aquatic acute toxicity : LC50 Fish Brachydanio rerio = 26.1 mg/L 96h IUCLID - static

12.2. Persistence and degradability

N.A.

12.3. Bioaccumulative potential

N.A.

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

No PBT, vPvB or endocrine disruptor substances present in concentration >= 0.1%

12.6. Endocrine disrupting properties

No endocrine disruptor substances present in concentration >= 0.1%

12.7. Other adverse effects

Not available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Recover if possible.

A waste code (EWC) according to European List of Waste (LoW) cannot be specified, due to dependence on the usage. Contact and send to an authorized waste disposal service.

Methods of disposal:

Disposal of this product, solutions, packaging and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor.

Do not dispose of waste into sewers.

Hazardous waste: Yes

Disposal considerations:

Do not allow to enter drains or watercourses.

Dispose of product according to all federal, state and local applicable regulations.

If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.

Dispose of containers contaminated by the product in accordance with local or national legal provisions. For further information,

contact your local waste authority.

Special precautions:

This material and its container must be disposed of in a safe way. Care should be taken when handling untreated empty containers.

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Empty containers or liners may retain some product residues. Do not re-use empty containers.

SECTION 14: Transport information

14.1. UN number or ID number

1139

14.2. UN proper shipping name

ADR-Shipping Name: COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under coating, drum or barrel lining) (having a flash-point below 23 °C and viscous according to 2.2.3.1.4) (vapour pressure at 50 °C more than 110 kPa, boiling point of more than 35 °C)

IATA-Technical name: COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining)

IMDG-Technical name: COATING SOLUTION (includes surface treatments or coatings used for industrial or other purposes such as vehicle under-coating, drum or barrel lining)

14.3. Transport hazard class(es)

ADR-Class: 3

IATA-Class: 3

IMDG-Class: 3

14.4. Packing group

ADR-Packing Group: III

IATA-Packing group: III

IMDG-Packing group: III

14.5. Environmental hazards

Marine pollutant: No

Environmental Pollutant: No

IMDG-EMS: F-E, S-E

14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: 3

ADR-Hazard identification number: 30

ADR-Special Provisions: -

ADR-Transport category (Tunnel restriction code): 3 (D/E)

ADR-Limited Quantity threshold: 5 L

Air (IATA):

IATA-Passenger Aircraft: 355

IATA-Cargo Aircraft: 366

IATA-Label: 3

IATA-Subsidiary hazards: -

IATA-Erg: 3L

IATA-Special Provisions: A3

Sea (IMDG):

IMDG-Stowage Code: Category A

IMDG-Stowage Note: -

IMDG-Subsidiary hazards: -

IMDG-Special Provisions: 955

IMDG-EMS: F-E, S-E

14.7. Maritime transport in bulk according to IMO instruments

Not Applicable

SECTION 15: Regulatory information

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

VOC (2004/42/EC) : 340 g/l

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EU) n. 2020/878
Regulation (EC) n. 1272/2008 (CLP)
Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
Regulation (EU) n. 286/2011 (ATP 2 CLP)
Regulation (EU) n. 618/2012 (ATP 3 CLP)
Regulation (EU) n. 487/2013 (ATP 4 CLP)
Regulation (EU) n. 944/2013 (ATP 5 CLP)
Regulation (EU) n. 605/2014 (ATP 6 CLP)
Regulation (EU) n. 2015/1221 (ATP 7 CLP)
Regulation (EU) n. 2016/918 (ATP 8 CLP)
Regulation (EU) n. 2016/1179 (ATP 9 CLP)
Regulation (EU) n. 2017/776 (ATP 10 CLP)
Regulation (EU) n. 2018/669 (ATP 11 CLP)
Regulation (EU) n. 2019/521 (ATP 12 CLP)
Regulation (EU) n. 2018/1480 (ATP 13 CLP)
Regulation (EU) n. 2020/217 (ATP 14 CLP)
Regulation (EU) n. 2020/1182 (ATP 15 CLP)
Regulation (EU) n. 2021/643 (ATP 16 CLP)
Regulation (EU) n. 2021/849 (ATP 17 CLP)
Regulation (EU) n. 2022/692 (ATP 18 CLP)

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1	Lower-tier threshold (tonnes)	Upper-tier threshold (tonnes)
Product belongs to category: P5c	5000	50000

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product: 3, 40

Restrictions related to the substances contained: 74, 75

SVHC Substances:

SVHC substances not present in a concentration ≥ 0.1% (w/w)

National regulations

Produktregisteret Norge: 647611

MAL-kode: 5-3 (1993), A+B: 5-3 (1993)

German Water Hazard Class.

2

Regulation (UE) 2019/1148 (Explosive precursors): No substances contained

Regulation (CE) 273/2004 and 111/2005 (Drug percursors): No substances contained

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: Other information

Code	Description
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled, in contact with skin and if swallowed.

Code	Hazard class and hazard category	Description

2.6/3	Flam. Liq. 3	Flammable liquid, Category 3
3.1/1/Inhal	Acute Tox. 1	Acute toxicity (inhalation), Category 1
3.1/4/Dermal	Acute Tox. 4	Acute toxicity (dermal), Category 4
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4
3.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
3.10/1	Asp. Tox. 1	Aspiration hazard, Category 1
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.1/1	Resp. Sens. 1	Respiratory Sensitisation, Category 1
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3
3.9/2	STOT RE 2	Specific target organ toxicity — repeated exposure, Category 2

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Flam. Liq. 3, H226	On basis of test data
Acute Tox. 4, H332	Calculation method
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Calculation method
STOT SE 3, H335	Calculation method
STOT RE 2, H373	Calculation method

If appropriate, specific provisions in relation to possible training for workers are mentioned in section 2. Any training related to safety in the workplace must in any case refer to a risk assessment that must be carried out by a company safety officer taking into account the specific operating and environmental conditions in which the products are used.

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This SDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

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

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

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

DNEL: Derived No Effect Level.

DPD: Dangerous Preparations Directive

DSD: Dangerous Substances Directive

EC50: Half Maximal Effective Concentration

ECHA: European Chemicals Agency

EINECS: European Inventory of Existing Commercial Chemical Substances.

ES: Exposure Scenario
GefStoffVO: Ordinance on Hazardous Substances, Germany.
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
IC50: half maximal inhibitory concentration
ICAO: International Civil Aviation Organization.
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG: International Maritime Code for Dangerous Goods.
INCI: International Nomenclature of Cosmetic Ingredients.
IRCCS: Scientific Institute for Research, Hospitalization and Health Care
KAFH: KAFH
KSt: Explosion coefficient.
LC50: Lethal concentration, for 50 percent of test population.
LD50: Lethal dose, for 50 percent of test population.
LDLo: Leathal Dose Low
N.A.: Not Applicable
N/A: Not Applicable
N/D: Not defined/ Not available
NA: Not available
NIOSH: National Institute for Occupational Safety and Health
NOAEL: No Observed Adverse Effect Level
OSHA: Occupational Safety and Health Administration
PBT: Persistent, Bioaccumulative and Toxic
PGK: Packaging Instruction
PNEC: Predicted No Effect Concentration.
PSG: Passengers
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
vPvB: Very Persistent, Very Bioaccumulative.
WGK: German Water Hazard Class.

Paragraphs modified from the previous revision:

- SECTION 2: Hazards identification
- SECTION 3: Composition/information on ingredients
- SECTION 5: Firefighting measures
- SECTION 6: Accidental release measures
- SECTION 7: Handling and storage
- SECTION 8: Exposure controls/personal protection
- SECTION 9: Physical and chemical properties
- SECTION 11: Toxicological information
- SECTION 12: Ecological information
- SECTION 14: Transport information
- SECTION 15: Regulatory information
- SECTION 16: Other information