




UPR NF

Flyleaf

Date of compilation: 2022-10-04

Bill of materials

Name of substance	Identifier	Number of pieces	Classification acc. to GHS	Pictograms	Page
UPR-NF Part A		1	Acute Tox. 4 / H332 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Resp. Sens. 1 / H334 Skin Sens. 1 / H317 Carc. 2 / H351 STOT SE 3 / H335 STOT RE 2 / H373	 	2 - 23
UPR-NF Part B		1	Aquatic Chronic 2 / H411		24 - 40

UPR-NF Part A

Version number: 2.0
Replaces version of: 2020-08-11 (1)

Revision: 2022-09-27

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

1.1 Product identifier

Trade name	UPR-NF Part A
Registration number (REACH)	Not relevant (mixture)
Unique formula identifier (UFI)	VX00-W08V-700G-AQ88

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

Relevant identified uses	Professional use
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1.3 Details of the supplier of the safety data sheet

Polywater Europe BV
Zuidhaven 9-11 Unit B2
4761 CR Zevenbergen
Netherlands

Telephone: +31 (0)10 2330578
e-mail: sds@polywater.com
Website: www.polywater.com

e-mail (competent person)

sds@polywater.com

1.4 Emergency telephone number

Emergency information service

+31 (0)10 2330578
This number is only available during the following office hours: Mon-Fri 09:00 - 17:00

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	Hazard class	Category	Hazard class and category	Hazard statement
3.1I	acute toxicity (inhal.)	4	Acute Tox. 4	H332
3.2	skin corrosion/irritation	2	Skin Irrit. 2	H315
3.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319
3.4R	respiratory sensitisation	1	Resp. Sens. 1	H334
3.4S	skin sensitisation	1	Skin Sens. 1	H317
3.6	carcinogenicity	2	Carc. 2	H351
3.8R	specific target organ toxicity - single exposure (respiratory tract irritation)	3	STOT SE 3	H335
3.9	specific target organ toxicity - repeated exposure	2	STOT RE 2	H373

For full text of H-phrases: see SECTION 16

Code	Supplemental hazard information
EUH204	contains isocyanates. May produce an allergic reaction

The most important adverse physicochemical, human health and environmental effects

Delayed or immediate effects can be expected after short or long-term exposure.

2.2 Label elements

UPR-NF Part A

Version number: 2.0
Replaces version of: 2020-08-11 (1)

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Labelling according to Regulation (EC) No 1272/2008 (CLP)

- signal word Danger

- pictograms

GHS07, GHS08



- hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs (respiratory system) through prolonged or repeated exposure (if inhaled).

- precautionary statements

P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.
P302+P352	IF ON SKIN: Wash with plenty of water/...
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P311	Call a POISON CENTER/doctor/...

- supplemental hazard information

EUH204 Contains isocyanates. May produce an allergic reaction.

- hazardous ingredients for labelling

Contains: Diphenylmethanediisocyanate, isomers and homologues; 4,4'-methylenediphenyl diisocyanate; Methylene diphenyl diisocyanate; Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-hydro-omega-hydroxypoly(oxy-1,2-ethanediy); 2,4-dioxo-1,3-diazetidone-1,3-diylbis[p-phenylenemethylene-p-phenylene] diisocyanate.

Labelling according to Regulation (EC) No. 1907/2006 (REACH) Annex XVII

Restriction R74:

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

2.3 Other hazards

There is no additional information.

Results of PBT and vPvB assessment

Does not contain any substances that are assessed to be a PBT or a vPvB \geq 0.1%.

Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of \geq 0.1%.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

Molar mass

360 g/mol

3.2 Mixtures

The product does not contain (other) ingredients which are classified according to present knowledge of the supplier and contribute to the classification of the product and hence require reporting in this section.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

UPR-NF Part A

Version number: 2.0
Replaces version of: 2020-08-11 (1)

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Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Diphenylmethanediisocyanate, isomers and homologues	CAS No 32055-14-4 EC No 500-079-6 REACH Reg. No 01-2119457024-46-xxxx	50 - < 75	Acute Tox. 4 / H332 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Resp. Sens. 1 / H334 Skin Sens. 1 / H317 Carc. 2 / H351 STOT SE 3 / H335 STOT RE 2 / H373 EUH204		
4,4'-methylenediphenyl diisocyanate	CAS No 101-68-8 EC No 202-966-0 Index No 615-005-00-9 REACH Reg. No 01-2119457014-47-xxxx	25 - < 50	Acute Tox. 4 / H332 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Resp. Sens. 1 / H334 Skin Sens. 1 / H317 Carc. 2 / H351 STOT SE 3 / H335 STOT RE 2 / H373 EUH204		
Methylene diphenyl diisocyanate	CAS No 26447-40-5 EC No 247-714-0 Index No 615-005-00-9	3 - < 15	Acute Tox. 4 / H332 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Resp. Sens. 1 / H334 Skin Sens. 1 / H317 Carc. 2 / H351 STOT SE 3 / H335 STOT RE 2 / H373		2 C(a) GHS-HC
2,4-dioxo-1,3-diazetid-ine-1,3-diylbis[p-phenylenemethylene-p-phenylene] diisocyanate	CAS No 17589-24-1 EC No 241-559-2	1 - < 3	Acute Tox. 4 / H332 Skin Irrit. 2 / H315 Resp. Sens. 1 / H334 Skin Sens. 1B / H317 Carc. 2 / H351 STOT SE 3 / H335 STOT RE 2 / H373		
Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-hydro-omega-hydroxypoly(oxy-1,2-ethanediyl)	CAS No 57636-09-6 EC No 854-154-6	1 - < 3	Acute Tox. 4 / H332 Skin Irrit. 2 / H315 Resp. Sens. 1 / H334 Skin Sens. 1B / H317 Carc. 2 / H351 STOT SE 3 / H335 STOT RE 2 / H373		

Notes

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.

C(a): Mixture of isomers

GHS-HC: Harmonised classification (the classification of the substance corresponds to the entry in the list according to 1272/2008/EC, Annex VI)

Name of substance	Identifier	Specific Conc. Limits	M-Factors	ATE	Exposure route
Diphenylmethanediisocyanate, isomers and homologues	CAS No 32055-14-4 EC No 500-079-6	Skin Irrit. 2; H315: C ≥ 5 % Eye Irrit. 2; H319: C ≥ 5 % Resp. Sens. 1; H334: C ≥ 0.1 %	-	11 mg _i /4h 1.5 mg _i /4h	inhalation: vapour inhalation: dust/ mist
4,4'-methylenediphenyl diisocyanate	CAS No 101-68-8 EC No 202-966-0	Skin Irrit. 2; H315: C ≥ 5 % Eye Irrit. 2; H319: C ≥ 5 % Resp. Sens. 1; H334: C ≥ 0.1 %	-	1.5 mg _i /4h	inhalation: dust/ mist

UPR-NF Part A

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Name of sub-stance	Identifier	Specific Conc. Limits	M-Factors	ATE	Exposure route
Methylene diphen-yl diisocyanate	CAS No 26447-40-5 EC No 247-714-0	Skin Irrit. 2; H315: C ≥ 5 % Eye Irrit. 2; H319: C ≥ 5 %	-	11 mg//4h	inhalation: vapour
2,4-dioxo-1,3-diazetidino-1,3-diylbis[p-phenylenemethyl-ene-p-phenylene] diisocyanate	CAS No 17589-24-1 EC No 241-559-2	-	-	11 mg//4h	inhalation: vapour
Isocyanic acid, polymethyle-nepolyphenylene ester, polymer with alpha-hydro-omega-hydroxy-poly(oxy-1,2-eth-enediyl)	CAS No 57636-09-6 EC No 854-154-6	-	-	11 mg//4h	inhalation: vapour

Remarks

All the percentages given are percentages by weight unless stated otherwise. For full text of H-phrases: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Immediately call a POISON CENTER/doctor.

Following skin contact

Take off contaminated clothing. Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

Following eye contact

Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. IF SWALLOWED: Immediately call a POISON CENTER/doctor.

4.2 Most important symptoms and effects, both acute and delayed

Allergic reactions (such as skin rashes, hives, asthma or anaphylactic shock). Asthmatic complaints. See section 11: Toxicological information.

4.3 Indication of any immediate medical attention and special treatment needed

For specialist advice physicians should contact the poison centre.

UPR-NF Part A

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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray; Dry extinguishing powder; Carbon dioxide (CO₂);
Co-ordinate firefighting measures to the fire surroundings.

Unsuitable extinguishing media

Water jet.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

During fire hazardous fumes/smoke could be produced. Nitrogen oxides (NO_x). Isocyanate.

5.3 Advice for firefighters

Keep containers cool with water spray. In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

Self-contained breathing apparatus (EN 133). Standard protective clothing for firefighters.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety. Ventilate affected area.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases. Use personal protective equipment as required.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Bunding. Covering of drains.

Advice on how to clean up a spill

For small amounts: Absorb isocyanate with suitable absorbent material (see § 40 CFR, sections 260, 264 and 265 for further information). Shovel into open container. Do not make container pressure tight. Move container to a well-ventilated area (outside). Spill area can be decontaminated with the following recommended decontamination solution: Mixture of 90 % water, 8 % concentrated ammonia, 2 % detergent. Add at a 10 to 1 ratio. Allow to stand for at least 48 hours to allow escape of evolved carbon dioxide.

For large amounts: If temporary control of isocyanate vapor is required, a blanket of protein foam or other suitable foam (available from most fire departments) may be placed over the spill. Transfer as much liquid as possible via pump or vacuum device into closed but not sealed containers for disposal.

For residues: The following measures should be taken for final cleanup: Wash down spill area with decontamination solution. Allow solution to stand for at least 10 minutes. Dike spillage.

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

UPR-NF Part A

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- measures to prevent fire as well as aerosol and dust generation
Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- flammability hazards
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- incompatible substances or mixtures
Keep away from alkalis, oxidising substances, acids.

Control of effects

Protect against external exposure, such as

High temperatures. UV-radiation/sunlight.

Consideration of other advice

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

- ventilation requirements
Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.
- specific designs for storage rooms or vessels
- storage temperature
Recommended storage temperature: 0 – 43.3 °C
- packaging compatibilities
Keep only in original container.

7.3 Specific end use(s)

There is no additional information.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)									
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Notation	Source
IE	4,4'-methylenediphenyl diisocyanate	101-68-8	OELV	0.005				NCO	S.I. No. 619 of 2001

Notation

NCO measured total-NCO (isocyanate)

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

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Relevant DNELs/DMELs/PNECs and other threshold levels

Relevant DNELs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Diphenylmethane diisocyanate, isomers and homologues	32055-14-4	DNEL	0.05 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
Diphenylmethane diisocyanate, isomers and homologues	32055-14-4	DNEL	0.1 mg/m ³	human, inhalatory	worker (industry)	acute - local effects
Diphenylmethane diisocyanate, isomers and homologues	32055-14-4	DNEL	0.025 mg/m ³	human, inhalatory	consumer (private households)	chronic - local effects
Diphenylmethane diisocyanate, isomers and homologues	32055-14-4	DNEL	0.05 mg/m ³	human, inhalatory	consumer (private households)	acute - local effects
4,4'-methylenediphenyl diisocyanate	101-68-8	DNEL	0.05 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
4,4'-methylenediphenyl diisocyanate	101-68-8	DNEL	0.1 mg/m ³	human, inhalatory	worker (industry)	acute - local effects
4,4'-methylenediphenyl diisocyanate	101-68-8	DNEL	0.025 mg/m ³	human, inhalatory	consumer (private households)	chronic - local effects
4,4'-methylenediphenyl diisocyanate	101-68-8	DNEL	0.05 mg/m ³	human, inhalatory	consumer (private households)	acute - local effects

Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Diphenylmethane diisocyanate, isomers and homologues	32055-14-4	PNEC	1 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Diphenylmethane diisocyanate, isomers and homologues	32055-14-4	PNEC	3.7 µg/l	aquatic organisms	freshwater	short-term (single instance)
Diphenylmethane diisocyanate, isomers and homologues	32055-14-4	PNEC	0.37 µg/l	aquatic organisms	marine water	short-term (single instance)
Diphenylmethane diisocyanate, isomers and homologues	32055-14-4	PNEC	11.7 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Diphenylmethane diisocyanate, isomers and homologues	32055-14-4	PNEC	1.17 mg/kg	aquatic organisms	marine sediment	short-term (single instance)

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Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Diphenylmeth- anediisocyanate, iso- mers and homo- logues	32055-14-4	PNEC	2.33 mg/kg	terrestrial organ- isms	soil	short-term (single instance)
4,4'-methylenedi- phenyl diisocyanate	101-68-8	PNEC	1 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
4,4'-methylenedi- phenyl diisocyanate	101-68-8	PNEC	3.7 µg/l	aquatic organisms	freshwater	short-term (single instance)
4,4'-methylenedi- phenyl diisocyanate	101-68-8	PNEC	0.37 µg/l	aquatic organisms	marine water	short-term (single instance)
4,4'-methylenedi- phenyl diisocyanate	101-68-8	PNEC	11.7 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
4,4'-methylenedi- phenyl diisocyanate	101-68-8	PNEC	1.17 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
4,4'-methylenedi- phenyl diisocyanate	101-68-8	PNEC	2.33 mg/kg	terrestrial organ- isms	soil	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection (EN 166).

Skin protection



Protective clothing (EN 340 & EN ISO 13688).

- hand protection



Wear suitable gloves. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Chemical protection gloves are suitable, which are tested according to EN 374. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- type of material

PVC: polyvinyl chloride, IIR: isobutene-isoprene (butyl) rubber, Nitrile rubber, NP: neoprene

- material thickness

Use gloves with a minimum material thickness: $\geq 0,38$ mm.

- breakthrough time of the glove material

Use gloves with a minimum breakthrough time of the glove material: >480 minutes (permeation: level 6).

- other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling. Provide eyewash stations and safety showers at the workplace.

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Respiratory protection

In case of inadequate ventilation wear respiratory protection. Type: ABEK (combined filters against gases and vapours, colour code: Brown/Grey/Yellow/Green).

Environmental exposure controls

Take appropriate precautions to avoid uncontrolled release into the environment. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	dark amber
Odour	faintly perceptible - aromatic
Melting point/freezing point	3 °C at 1 atm
Boiling point or initial boiling point and boiling range	200 °C at 5 mmHg
Evaporation rate	not determined
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	LEL: UEL: not determined
Flash point	220 °C (o.c.)
Auto-ignition temperature	>250 °C (auto-ignition temperature (liquids and gases))
Decomposition temperature	no data available
pH (value)	not determined
Kinematic viscosity	not determined
Dynamic viscosity	200 mPa s at 20 °C
Solubility(ies)	not determined

Partition coefficient n-octanol/water (log value)	this information is not available
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Vapour pressure	0.00016 Pa at 20 °C
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Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

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Density	1.22 ^g / _{cm³} at 20 °C
Relative density	1.22 at 25 °C (water = 1)
Bulk density	10.17 ^{lb} / _{gal}

Particle characteristics	not relevant (liquid)
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9.2 Other information

Information with regard to physical hazard classes	hazard classes acc. to GHS (physical hazards): not relevant
Other safety characteristics	there is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Material reacts slowly with water, releasing carbon dioxide which can cause pressure buildup and rupture of closed containers. Elevated temperatures accelerate this reaction. Reacts with: alcohols, acids, alkalines, amines. Risk of exothermic reaction. Risk of polymerization.

10.4 Conditions to avoid

Protect against humidity.

10.5 Incompatible materials

Water. Acids. Bases. Oxidisers. Amines. Alcohols.

10.6 Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO₂). Nitrogen oxides (NO_x). Hydrogen cyanide (HCN, prussic acid). Aromatic isocyanates. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

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

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Harmful if inhaled.

- acute toxicity estimate (ATE)

Exposure route	ATE
Inhalation: vapour	15.54 ^{mg} / _l /4h

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- acute toxicity of components of the mixture

Acute toxicity estimate (ATE) of components of the mixture			
Name of substance	CAS No	Exposure route	ATE
Diphenylmethanediisocyanate, isomers and homologues	32055-14-4	inhalation: vapour	11 mg/l/4h
Diphenylmethanediisocyanate, isomers and homologues	32055-14-4	inhalation: dust/mist	1.5 mg/l/4h
4,4'-methylenediphenyl diisocyanate	101-68-8	inhalation: dust/mist	1.5 mg/l/4h
Methylene diphenyl diisocyanate	26447-40-5	inhalation: vapour	11 mg/l/4h
2,4-dioxo-1,3-diazetidone-1,3-diylbis[p-phenylene-methylene-p-phenylene] diisocyanate	17589-24-1	inhalation: vapour	11 mg/l/4h
Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-hydro-omega-hydroxypoly(oxy-1,2-ethanediyl)	57636-09-6	inhalation: vapour	11 mg/l/4h

Acute toxicity of components of the mixture					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Diphenylmethanediisocyanate, isomers and homologues	32055-14-4	oral	LD50	>2,000 mg/kg	rat
Diphenylmethanediisocyanate, isomers and homologues	32055-14-4	inhalation: dust/mist	LC50	368 mg/m ³ /4h	rat
Diphenylmethanediisocyanate, isomers and homologues	32055-14-4	dermal	LD50	>9,400 mg/kg	rabbit
4,4'-methylenediphenyl diisocyanate	101-68-8	oral	LD50	>2,000 mg/kg	rat
4,4'-methylenediphenyl diisocyanate	101-68-8	dermal	LD50	>9,400 mg/kg	rabbit
4,4'-methylenediphenyl diisocyanate	101-68-8	inhalation: dust/mist	LC50	368 mg/m ³ /4h	rat

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

May cause respiratory irritation.

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Specific target organ toxicity - repeated exposure

May cause damage to organs (respiratory system) through prolonged or repeated exposure (if inhaled).

Hazard category	Target organ	Exposure route
2	respiratory system	if inhaled

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0.1\%$.

Other information

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Diphenylmethanediisocyanate, isomers and homologues	32055-14-4	LC50	$>1,000 \text{ mg/l}$	fish	96 h
Diphenylmethanediisocyanate, isomers and homologues	32055-14-4	EC50	129.7 mg/l	aquatic invertebrates	24 h
4,4'-methylenediphenyl diisocyanate	101-68-8	LC50	$>1,000 \text{ mg/l}$	fish	96 h
4,4'-methylenediphenyl diisocyanate	101-68-8	EC50	129.7 mg/l	aquatic invertebrates	24 h
4,4'-methylenediphenyl diisocyanate	101-68-8	LL50	$>100 \text{ mg/l}$	fish	96 h
4,4'-methylenediphenyl diisocyanate	101-68-8	EL50	9 mg/l	aquatic invertebrates	48 h
4,4'-methylenediphenyl diisocyanate	101-68-8	NOELR	$\geq 100 \text{ mg/l}$	algae	72 h

Aquatic toxicity (chronic) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Diphenylmethanediisocyanate, isomers and homologues	32055-14-4	ErC50	$>1,640 \text{ mg/l}$	algae	3 d
Diphenylmethanediisocyanate, isomers and homologues	32055-14-4	EC50	$>100 \text{ mg/l}$	microorganisms	3 h
Diphenylmethanediisocyanate, isomers and homologues	32055-14-4	NOEC	$\geq 10 \text{ mg/l}$	aquatic invertebrates	21 d
4,4'-methylenediphenyl diisocyanate	101-68-8	ErC50	$>1,640 \text{ mg/l}$	algae	3 d

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Aquatic toxicity (chronic) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
4,4'-methylenediphenyl diisocyanate	101-68-8	EC50	>1,000 mg/l	microorganisms	180 min
4,4'-methylenediphenyl diisocyanate	101-68-8	NOELR	1,640 mg/l	algae	3 d
4,4'-methylenediphenyl diisocyanate	101-68-8	NOEC	≥10 mg/l	aquatic invertebrates	21 d
4,4'-methylenediphenyl diisocyanate	101-68-8	growth (EbCx) 10%	260 mg/l	microorganisms	180 min

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Does not contain any substances that are assessed to be a PBT or a vPvB ≥ 0.1%.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0.1%.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment.

Waste treatment of containers/packageings

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number or ID number	not assigned
14.2 UN proper shipping name	not relevant
14.3 Transport hazard class(es)	not assigned
14.4 Packing group	not assigned
14.5 Environmental hazards	non-environmentally hazardous acc. to the dangerous goods regulations
14.6 Special precautions for user	There is no additional information.

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14.7 Maritime transport in bulk according to IMO instruments

No data available.

Information for each of the UN Model Regulations

International Maritime Dangerous Goods Code (IMDG) - additional information

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR) - additional information

Not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Name	Name acc. to inventory	Restriction	No
UPR-NF Part A	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC	R3	3
4,4'-methylenediphenyl diisocyanate	4,4'-methylenediphenyl diisocyanate	R56	56a
4,4'-methylenediphenyl diisocyanate	diisocyanates	R74	74
4,4'-methylenediphenyl diisocyanate	substances in tattoo inks and permanent make-up	R75	75
Methylene diphenyl diisocyanate	methylenediphenyl diisocyanate, mixture of isomers (MDI)	R56	56
Methylene diphenyl diisocyanate	diisocyanates	R74	74
Methylene diphenyl diisocyanate	substances in tattoo inks and permanent make-up	R75	75
Diphenylmethanediisocyanate, isomers and homologues	diisocyanates	R74	74
Diphenylmethanediisocyanate, isomers and homologues	substances in tattoo inks and permanent make-up	R75	75
Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-hydro-omega-hydroxypoly(oxy-1,2-ethanediyl)	substances in tattoo inks and permanent make-up	R75	75

Legend

R3

- Shall not be used in:
 - ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ash-trays,
 - tricks and jokes,
 - games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
- Articles not complying with paragraph 1 shall not be placed on the market.
- Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
 - can be used as fuel in decorative oil lamps for supply to the general public, and
 - present an aspiration hazard and are labelled with H304.
- Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
- Without prejudice to the implementation of other Union provisions relating to the classification, labelling and packaging of substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
 - lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: "Keep lamps filled with this liquid out of the reach of children"; and, by 1 December 2010, "Just a sip of lamp oil – or even sucking the wick of lamps – may lead to life-threatening lung damage";
 - grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter fluid may lead to life threatening lung damage';
 - lamps oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.;

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Legend

R56

1. Shall not be placed on the market after 27 December 2010, as a constituent of mixtures in concentrations equal to or greater than 0,1 % by weight of MDI for supply to the general public, unless suppliers shall ensure before the placing on the market that the packaging:
 - (a) contains protective gloves which comply with the requirements of Council Directive 89/686/EEC (9);
 - (b) is marked visibly, legibly and indelibly as follows, and without prejudice to other Community legislation concerning the classification, packaging and labelling of substances and mixtures:
 - Persons already sensitised to diisocyanates may develop allergic reactions when using this product.
 - Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.
 - This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.'
2. By way of derogation, paragraph 1(a) shall not apply to hot melt adhesives.

UPR-NF Part A

Version number: 2.0
Replaces version of: 2020-08-11 (1)

Revision: 2022-09-27

Legend

R74

1. Shall not be used as substances on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) after 24 August 2023, unless:
 - (a) the concentration of diisocyanates individually and in combination is less than 0,1 % by weight, or
 - (b) the employer or self-employed ensures that industrial or professional user(s) have successfully completed training on the safe use of diisocyanates prior to the use of the substance(s) or mixture(s).
2. Shall not be placed on the market as substances on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) after 24 February 2022, unless:
 - (a) the concentration of diisocyanates individually and in combination is less than 0,1 % by weight, or
 - (b) the supplier ensures that the recipient of the substance(s) or mixture(s) is provided with information on the requirements referred to in point (b) of paragraph 1 and the following statement is placed on the packaging, in a manner that is visibly distinct from the rest of the label information: "As from 24 August 2023 adequate training is required before industrial or professional use".
3. For the purpose of this entry "industrial and professional user(s)" means any worker or self-employed worker handling diisocyanates on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) or supervising these tasks.
4. The training referred to in point (b) of paragraph 1 shall include the instructions for the control of dermal and inhalation exposure to diisocyanates at the workplace without prejudice to any national occupational exposure limit value or other appropriate risk management measures at national level. Such training shall be conducted by an expert on occupational safety and health with competence acquired by relevant vocational training. That training shall cover as a minimum:
 - (a) the training elements in point (a) of paragraph 5 for all industrial and professional use(s).
 - (b) the training elements in points (a) and (b) of paragraph 5 for the following uses:
 - handling open mixtures at ambient temperature (including foam tunnels);
 - spraying in a ventilated booth;
 - application by roller;
 - application by brush;
 - application by dipping and pouring;
 - mechanical post treatment (e.g. cutting) of not fully cured articles which are not warm anymore;
 - cleaning and waste;
 - any other uses with similar exposure through the dermal and/or inhalation route;
 - (c) the training elements in points (a), (b) and (c) of paragraph 5 for the following uses:
 - handling incompletely cured articles (e.g. freshly cured, still warm);
 - foundry applications;
 - maintenance and repair that needs access to equipment;
 - open handling of warm or hot formulations (> 45 °C);
 - spraying in open air, with limited or only natural ventilation (includes large industry working halls) and spraying with high energy (e.g. foams, elastomers);
 - and any other uses with similar exposure through the dermal and/or inhalation route.
5. Training elements:
 - (a) general training, including on-line training, on:
 - chemistry of diisocyanates;
 - toxicity hazards (including acute toxicity);
 - exposure to diisocyanates;
 - occupational exposure limit values;
 - how sensitisation can develop;
 - odour as indication of hazard;
 - importance of volatility for risk;
 - viscosity, temperature, and molecular weight of diisocyanates;
 - personal hygiene;
 - personal protective equipment needed, including practical instructions for its correct use and its limitations;
 - risk of dermal contact and inhalation exposure;
 - risk in relation to application process used;
 - skin and inhalation protection scheme;
 - ventilation;
 - cleaning, leakages, maintenance;
 - discarding empty packaging;
 - protection of bystanders;
 - identification of critical handling stages;
 - specific national code systems (if applicable);
 - behaviour-based safety;
 - certification or documented proof that training has been successfully completed
 - (b) intermediate level training, including on-line training, on:
 - additional behaviour-based aspects;
 - maintenance;
 - management of change;
 - evaluation of existing safety instructions;
 - risk in relation to application process used;
 - certification or documented proof that training has been successfully completed
 - (c) advanced training, including on-line training, on:
 - any additional certification needed for the specific uses covered;
 - spraying outside a spraying booth;
 - open handling of hot or warm formulations (> 45 °C);
 - certification or documented proof that training has been successfully completed
6. The training shall comply with the provisions set by the Member State in which the industrial or professional user(s) operate. Member States may implement or continue to apply their own national requirements for the use of the substance(s) or mixture(s), as long as the minimum requirements set out in paragraphs 4 and 5 are met.
7. The supplier referred to in point (b) of paragraph 2 shall ensure that the recipient is provided with training material and courses pursuant to paragraphs 4 and 5 in the official language(s) of the Member State(s) where the substance(s) or mixture(s) are supplied. The training shall take into consideration the specificity of the products supplied, including composition, packaging, and design.
8. The employer or self-employed shall document the successful completion of the training referred to in paragraphs 4 and 5. The training shall be renewed at least every five years.

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9. Member States shall include in their reports pursuant to Article 117(1) the following information:

- (a) any established training requirements and other risk management measures related to the industrial and professional uses of diisocyanates foreseen in national law;
 - (b) the number of cases of reported and recognised occupational asthma and occupational respiratory and dermal diseases in relation to diisocyanates;
 - (c) national exposure limits for diisocyanates, if there are any;
 - (d) information about enforcement activities related to this restriction.
10. This restriction shall apply without prejudice to other Union legislation on the protection of safety and health of workers at the workplace.

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Revision: 2022-09-27

Legend

R75

1. Shall not be placed on the market in mixtures for use for tattooing purposes, and mixtures containing any such substances shall not be used for tattooing purposes, after 4 January 2022 if the substance or substances in question is or are present in the following circumstances:

(a) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;

(b) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as reproductive toxicant category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;

(c) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin sensitiser category 1, 1A or 1B, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;

(d) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2, or as serious eye damage category 1 or eye irritant category 2, the substance is present in the mixture in a concentration equal to or greater than:

(i) 0,1 % by weight, if the substance is used solely as a pH regulator;

(ii) 0,01 % by weight, in all other cases;

(e) in the case of a substance listed in Annex II to Regulation (EC) No 1223/2009 (*1), the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;

(f) in the case of a substance for which a condition of one or more of the following kinds is specified in column g (Product type, Body parts) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight:

(i) "Rinse-off products";

(ii) "Not to be used in products applied on mucous membranes";

(iii) "Not to be used in eye products";

(g) in the case of a substance for which a condition is specified in column h (Maximum concentration in ready for use preparation) or column i (Other) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration, or in some other way, that does not accord with the condition specified in that column;

(h) in the case of a substance listed in Appendix 13 to this Annex, the substance is present in the mixture in a concentration equal to or greater than the concentration limit specified for that substance in that Appendix.

2. For the purposes of this entry use of a mixture "for tattooing purposes" means injection or introduction of the mixture into a person's skin, mucous membrane or eyeball, by any process or procedure (including procedures commonly referred to as permanent make-up, cosmetic tattooing, micro-blading and micro-pigmentation), with the aim of making a mark or design on his or her body.

3. If a substance not listed in Appendix 13 falls within more than one of points (a) to (g) of paragraph 1, the strictest concentration limit laid down in the points in question shall apply to that substance. If a substance listed in Appendix 13 also falls within one or more of points (a) to (g) of paragraph 1, the concentration limit laid down in point (h) of paragraph 1 shall apply to that substance.

4. By way of derogation, paragraph 1 shall not apply to the following substances until 4 January 2023:

(a) Pigment Blue 15:3 (CI 74160, EC No 205-685-1, CAS No 147-14-8);

(b) Pigment Green 7 (CI 74260, EC No 215-524-7, CAS No 1328-53-6).

5. If Part 3 of Annex VI to Regulation (EC) No 1272/2008 is amended after 4 January 2021 to classify or re-classify a substance such that the substance then becomes caught by point (a), (b), (c) or (d) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the date of application of that new or revised classification is after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect on the date of application of that new or revised classification.

6. If Annex II or Annex IV to Regulation (EC) No 1223/2009 is amended after 4 January 2021 to list or change the listing of a substance such that the substance then becomes caught by point (e), (f) or (g) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the amendment takes effect after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect from the date falling 18 months after entry into force of the act by which that amendment was made.

7. Suppliers placing a mixture on the market for use for tattooing purposes shall ensure that, after 4 January 2022, the mixture is marked with the following information:

(a) the statement "Mixture for use in tattoos or permanent make-up";

(b) a reference number to uniquely identify the batch;

(c) the list of ingredients in accordance with the nomenclature established in the glossary of common ingredient names pursuant to Article 33 of Regulation (EC) No 1223/2009, or in the absence of a common ingredient name, the IUPAC name. In the absence of a common ingredient name or IUPAC name, the CAS and EC number. Ingredients shall be listed in descending order by weight or volume of the ingredients at the time of formulation. "Ingredient" means any substance added during the process of formulation and present in the mixture for use for tattooing purposes. Impurities shall not be regarded as ingredients. If the name of a substance, used as ingredient within the meaning of this entry, is already required to be stated on the label in accordance with Regulation (EC) No 1272/2008, that ingredient does not need to be marked in accordance with this Regulation;

(d) the additional statement "pH regulator" for substances falling under point (d)(i) of paragraph 1;

(e) the statement "Contains nickel. Can cause allergic reactions." if the mixture contains nickel below the concentration limit specified in Appendix 13;

(f) the statement "Contains chromium (VI). Can cause allergic reactions." if the mixture contains chromium (VI) below the concentration limit specified in Appendix 13;

(g) safety instructions for use insofar as they are not already required to be stated on the label by Regulation (EC) No 1272/2008.

The information shall be clearly visible, easily legible and marked in a way that is indelible.

The information shall be written in the official language(s) of the Member State(s) where the mixture is placed on the market, unless the Member State(s) concerned provide(s) otherwise.

Where necessary because of the size of the package, the information listed in the first subparagraph, except for point (a), shall be included instead in the instructions for use.

Before using a mixture for tattooing purposes, the person using the mixture shall provide the person undergoing the procedure with the information marked on the package or included in the instructions for use pursuant to this paragraph.

8. Mixtures that do not contain the statement "Mixture for use in tattoos or permanent make-up" shall not be used for tattooing purposes.

9. This entry does not apply to substances that are gases at temperature of 20 °C and pressure of 101,3 kPa, or generate a vapour pressure of more than 300 kPa at temperature of 50 °C, with the exception of formaldehyde (CAS No 50-00-0, EC No 200-001-8).

10. This entry does not apply to the placing on the market of a mixture for use for tattooing purposes, or to the use of a mixture for tattooing purposes, when placed on the market exclusively as a medical device or an accessory to a medical device, within the meaning of Regulation (EU) 2017/745, or when used exclusively as a medical device or an accessory to a medical device, within the same meaning. Where the placing on the market or use may not be exclusively as a medical device or an accessory to a medical device, the require-

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ments of Regulation (EU) 2017/745 and of this Regulation shall apply cumulatively.

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

None of the ingredients are listed.

Seveso Directive

2012/18/EU (Seveso III)			
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements	Notes
	not assigned		

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

None of the ingredients are listed.

Water Framework Directive (WFD)

List of pollutants (WFD)				
Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
4,4'-methylenediphenyl diisocyanate	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	
Methylene diphenyl diisocyanate	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	
Diphenylmethanediisocyanate, isomers and homologues	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	
2,4-dioxo-1,3-diazetidino-1,3-diyldis[p-phenylenemethylene-p-phenylene] diisocyanate	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	
Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha-hydro-omega-hydroxypoly(oxy-1,2-ethanediyl)	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	

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Legend

A) Indicative list of the main pollutants

Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors, amending Regulation (EC) No 1907/2006 and repealing Regulation (EU) No 98/2013

None of the ingredients are listed.

Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

15.2 Chemical Safety Assessment

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

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Restructuring: section 9 (acc. to: GHS-EU). Complete revision of the safety data sheet.

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	Acute toxicity
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
Carc.	Carcinogenicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
EL50	Effective Loading 50 %: the EL50 corresponds to the loading rate required to produce a response in 50% of the test organisms
ELINCS	European List of Notified Chemical Substances
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
GHS-EU	Regulation on classification, labelling and packaging of substances and mixtures (1272/2008/EC)
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)

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Abbr.	Descriptions of used abbreviations
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LEL	Lower explosion limit (LEL)
LL50	Lethal Loading 50 %: the LL50 corresponds to the loading rate causing 50 % lethality
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
NOELR	No Observed Effect Loading Rate
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Resp. Sens.	Respiratory sensitisation
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
S.I. No. 619 of 2001	Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
Skin Sens.	Skin sensitisation
STEL	Short-term exposure limit
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure
SVHC	Substance of Very High Concern
TWA	Time-weighted average
UEL	Upper explosion limit (UEL)
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

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according to Regulation (EC) No. 1907/2006 (REACH)

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Version number: 2.0
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Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs (respiratory system) through prolonged or repeated exposure (if inhaled).

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

UPR-NF Part B

Version number: 2.1
Replaces version of: 2020-08-11 (1)

Revision: 2022-10-04

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

1.1 Product identifier

Trade name **UPR-NF Part B**
Registration number (REACH) Not relevant (mixture)

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

Relevant identified uses Professional use

1.3 Details of the supplier of the safety data sheet

Polywater Europe BV
Zuidhaven 9-11 Unit B2
4761 CR Zevenbergen
Netherlands

Telephone: +31 (0)10 2330578
e-mail: sds@polywater.com
Website: www.polywater.com

e-mail (competent person) sds@polywater.com

1.4 Emergency telephone number

Emergency information service +31 (0)10 2330578
This number is only available during the following office hours: Mon-Fri 09:00 - 17:00

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	Hazard class	Category	Hazard class and category	Hazard statement
4.1C	hazardous to the aquatic environment - chronic hazard	2	Aquatic Chronic 2	H411

For full text of H-phrases: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

- signal word Not required.

- pictograms

GHS09



- hazard statements

H411 Toxic to aquatic life with long lasting effects.

- precautionary statements

P273 Avoid release to the environment.

P391 Collect spillage.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

There is no additional information.

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Results of PBT and vPvB assessment

Does not contain any substances that are assessed to be a PBT or a vPvB $\geq 0.1\%$.

Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0.1\%$.



SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

The product does not contain (other) ingredients which are classified according to present knowledge of the supplier and contribute to the classification of the product and hence require reporting in this section.

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
diethylmethylbenzene-diamine	CAS No 68479-98-1 EC No 270-877-4 Index No 612-130-00-0 REACH Reg. No 01-2119486805- 25-xxxx	5 - < 10	Acute Tox. 4 / H302 Acute Tox. 4 / H312 Eye Irrit. 2 / H319 STOT RE 2 / H373 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410		C(a) GHS-HC
bis(2-dimethylaminoethyl)(methyl)amine	CAS No 3030-47-5 EC No 221-201-1 Index No 612-109-00-6 REACH Reg. No 01-2119979537- 18-xxxx	< 1	Acute Tox. 4 / H302 Acute Tox. 3 / H311 Acute Tox. 3 / H331 Skin Corr. 1B / H314 Eye Dam. 1 / H318 Aquatic Chronic 3 / H412		GHS-HC

Notes

C(a): Mixture of isomers

GHS-HC: Harmonised classification (the classification of the substance corresponds to the entry in the list according to 1272/2008/EC, Annex VI)

Name of substance	Identifier	Specific Conc. Limits	M-Factors	ATE	Exposure route
diethylmethylbenzenediamine	CAS No 68479-98-1 EC No 270-877-4	-	-	500 mg/kg 1,100 mg/kg	oral dermal
bis(2-dimethylaminoethyl)(methyl)amine	CAS No 3030-47-5 EC No 221-201-1	-	-	1,330 mg/kg >200 mg/kg 3 mg/l/4h	oral dermal inhalation: vapour

Remarks

All the percentages given are percentages by weight unless stated otherwise. For full text of H-phrases: see SECTION 16.

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SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Immediately call a POISON CENTER/doctor/....

Following ingestion

Rinse mouth with water (only if the person is conscious).

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

For specialist advice physicians should contact the poison centre.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray; Dry extinguishing powder; Carbon dioxide (CO₂);
Co-ordinate firefighting measures to the fire surroundings.

Unsuitable extinguishing media

Water jet.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

During fire hazardous fumes/smoke could be produced.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

Self-contained breathing apparatus (EN 133). Standard protective clothing for firefighters.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety. Ventilate affected area.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases. Use personal protective equipment as required.

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6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece).

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- measures to prevent fire as well as aerosol and dust generation
- Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- flammability hazards
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- incompatible substances or mixtures
- Keep away from alkalis, oxidising substances, acids.

Control of effects

Protect against external exposure, such as

High temperatures. UV-radiation/sunlight.

Consideration of other advice

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

- packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

There is no additional information.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

No information available.

Relevant DNELs/DMELs/PNECs and other threshold levels

Relevant DNELs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
diethylmethylbenzenediamine	68479-98-1	DNEL	0.13 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
diethylmethylbenzenediamine	68479-98-1	DNEL	1 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
diethylmethylbenzenediamine	68479-98-1	DNEL	0.1 mg/m ³	human, inhalatory	consumer (private households)	chronic - systemic effects
diethylmethylbenzenediamine	68479-98-1	DNEL	1 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
diethylmethylbenzenediamine	68479-98-1	DNEL	0.1 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	DNEL	1.058 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	DNEL	0.3 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	DNEL	0.261 mg/m ³	human, inhalatory	consumer (private households)	chronic - systemic effects
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	DNEL	0.15 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	DNEL	0.15 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects

Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
diethylmethylbenzenediamine	68479-98-1	PNEC	0.001 mg/l	aquatic organisms	freshwater	short-term (single instance)
diethylmethylbenzenediamine	68479-98-1	PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
diethylmethylbenzenediamine	68479-98-1	PNEC	17 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
diethylmethylbenzenediamine	68479-98-1	PNEC	0.029 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
diethylmethylbenzenediamine	68479-98-1	PNEC	0.003 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
diethylmethylbenzenediamine	68479-98-1	PNEC	5.6 µg/kg	terrestrial organisms	soil	short-term (single instance)
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	PNEC	0.055 mg/l	aquatic organisms	freshwater	short-term (single instance)

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Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	PNEC	0.005 mg/l	aquatic organisms	marine water	short-term (single instance)
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	PNEC	100 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	PNEC	0.398 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	PNEC	0.04 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	PNEC	0.047 mg/kg	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection (EN 166).

Skin protection



Protective clothing (EN 340 & EN ISO 13688).

- hand protection



Wear suitable gloves. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Chemical protection gloves are suitable, which are tested according to EN 374. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- type of material

Nitrile rubber, NP: neoprene

- breakthrough time of the glove material

Use gloves with a minimum breakthrough time of the glove material: >480 minutes (permeation: level 6).

- other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling. Provide eyewash stations and safety showers at the workplace.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Full face mask/half mask/quarter mask (EN 136/140).

Environmental exposure controls

Take appropriate precautions to avoid uncontrolled release into the environment. Keep away from drains, surface and ground water.

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according to Regulation (EC) No. 1907/2006 (REACH)

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	various
Odour	characteristic
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	not determined
Evaporation rate	not determined
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	LEL: UEL: not determined
Flash point	not determined
Auto-ignition temperature	not determined
Decomposition temperature	no data available
pH (value)	not determined
Kinematic viscosity	not determined
Solubility(ies)	not determined

Partition coefficient n-octanol/water (log value)	this information is not available
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Vapour pressure	not determined
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Density	not determined
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Particle characteristics	not relevant (liquid)
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9.2 Other information

Information with regard to physical hazard classes	hazard classes acc. to GHS (physical hazards): not relevant
Other safety characteristics	there is no additional information

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SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

Oxidisers.

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

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

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Shall not be classified as acutely toxic.

- acute toxicity of components of the mixture

Acute toxicity estimate (ATE) of components of the mixture			
Name of substance	CAS No	Exposure route	ATE
diethylmethylbenzenediamine	68479-98-1	oral	500 mg/kg
diethylmethylbenzenediamine	68479-98-1	dermal	1,100 mg/kg
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	oral	1,330 mg/kg
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	dermal	>200 mg/kg
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	inhalation: vapour	3 mg/l/4h

Acute toxicity of components of the mixture					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	oral	LD50	1,330 mg/kg	rat
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	dermal	LD50	>200 – <1,000 mg/kg	rabbit

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

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Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0.1\%$.

Other information

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
diethylmethylbenzenediamine	68479-98-1	LC50	200 mg/l	fish	48 h
diethylmethylbenzenediamine	68479-98-1	EC50	0.5 mg/l	aquatic invertebrates	48 h
diethylmethylbenzenediamine	68479-98-1	growth (EbCx) 10%	170 mg/l	microorganisms	24 h
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	LC50	157 mg/l	fish	96 h
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	EC50	>100 mg/l	aquatic invertebrates	24 h
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	ErC50	78.3 mg/l	algae	72 h
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	NOEC	35 mg/l	aquatic invertebrates	24 h

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Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	NOEC	1,000 mg/l	microorganisms	30 min
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	growth (EbCx) 20%	>1,000 mg/l	microorganisms	30 min

12.2 Persistence and degradability

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time	Method
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	DOC removal	<10 %	28 d	

12.3 Bioaccumulative potential

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
diethylmethylbenzenediamine	68479-98-1	2.75	1.37 (pH value: 8.5, 25 °C)	
bis(2-dimethylaminoethyl)(methyl)amine	3030-47-5	3.16	<-2.1 (pH value: 7.5, 25 °C)	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0.1\%$.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

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SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID	UN 3082
IMDG-Code	UN 3082
ICAO-TI	UN 3082

14.2 UN proper shipping name

ADR/RID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
IMDG-Code	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
ICAO-TI	Environmentally hazardous substance, liquid, n.o.s.
Technical name (Hazardous ingredients)	diethylmethylbenzenediamine, Octamethylcyclotetrasiloxane

14.3 Transport hazard class(es)

ADR/RID	9
IMDG-Code	9
ICAO-TI	9

14.4 Packing group

ADR/RID	III
IMDG-Code	III
ICAO-TI	III

14.5 Environmental hazards

	hazardous to the aquatic environment
Environmentally hazardous substance (aquatic environment)	diethylmethylbenzenediamine, Octamethylcyclotetrasiloxane

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Maritime transport in bulk according to IMO instruments

No data available.

Information for each of the UN Model Regulations

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) - additional information

Classification code	M6
Danger label(s)	9, fish and tree





Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	274, 335, 375, 601
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	3
Tunnel restriction code (TRC)	-
Hazard identification No	90

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Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) - additional information

Classification code	M6
Danger label(s)	9, fish and tree
 	
Environmental hazards	yes (hazardous to water)
Special provisions (SP)	274, 335, 375, 601
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	3
Hazard identification No	90

International Maritime Dangerous Goods Code (IMDG) - additional information

Marine pollutant	yes (hazardous to the aquatic environment) (diethylmethylbenzenediamine)
Danger label(s)	9, fish and tree
 	
Special provisions (SP)	274, 335, 969
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-A, S-F
Stowage category	A

International Civil Aviation Organization (ICAO-IATA/DGR) - additional information

Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	9, fish and tree
 	
Special provisions (SP)	A97, A158, A197, A215
Excepted quantities (EQ)	E1
Limited quantities (LQ)	30 kg

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Name	Name acc. to inventory	Restriction	No
UPR-NF Part B	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC	R3	3
diethylmethylbenzenediamine	substances in tattoo inks and permanent make-up	R75	75

Legend

R3 1. Shall not be used in:

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according to Regulation (EC) No. 1907/2006 (REACH)

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Legend

- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ash-trays,
 - tricks and jokes,
 - games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
2. Articles not complying with paragraph 1 shall not be placed on the market.
3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
- can be used as fuel in decorative oil lamps for supply to the general public, and
 - present an aspiration hazard and are labelled with H304.
4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
5. Without prejudice to the implementation of other Union provisions relating to the classification, labelling and packaging of substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
- (a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: "Keep lamps filled with this liquid out of the reach of children"; and, by 1 December 2010, "Just a sip of lamp oil – or even sucking the wick of lamps – may lead to life-threatening lung damage";
 - (b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter fluid may lead to life threatening lung damage';
 - (c) lamps oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.;

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Legend

R75

1. Shall not be placed on the market in mixtures for use for tattooing purposes, and mixtures containing any such substances shall not be used for tattooing purposes, after 4 January 2022 if the substance or substances in question is or are present in the following circumstances:

(a) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;

(b) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as reproductive toxicant category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;

(c) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin sensitiser category 1, 1A or 1B, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;

(d) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2, or as serious eye damage category 1 or eye irritant category 2, the substance is present in the mixture in a concentration equal to or greater than:

(i) 0,1 % by weight, if the substance is used solely as a pH regulator;

(ii) 0,01 % by weight, in all other cases;

(e) in the case of a substance listed in Annex II to Regulation (EC) No 1223/2009 (*1), the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;

(f) in the case of a substance for which a condition of one or more of the following kinds is specified in column g (Product type, Body parts) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight:

(i) "Rinse-off products";

(ii) "Not to be used in products applied on mucous membranes";

(iii) "Not to be used in eye products";

(g) in the case of a substance for which a condition is specified in column h (Maximum concentration in ready for use preparation) or column i (Other) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration, or in some other way, that does not accord with the condition specified in that column;

(h) in the case of a substance listed in Appendix 13 to this Annex, the substance is present in the mixture in a concentration equal to or greater than the concentration limit specified for that substance in that Appendix.

2. For the purposes of this entry use of a mixture "for tattooing purposes" means injection or introduction of the mixture into a person's skin, mucous membrane or eyeball, by any process or procedure (including procedures commonly referred to as permanent make-up, cosmetic tattooing, micro-blading and micro-pigmentation), with the aim of making a mark or design on his or her body.

3. If a substance not listed in Appendix 13 falls within more than one of points (a) to (g) of paragraph 1, the strictest concentration limit laid down in the points in question shall apply to that substance. If a substance listed in Appendix 13 also falls within one or more of points (a) to (g) of paragraph 1, the concentration limit laid down in point (h) of paragraph 1 shall apply to that substance.

4. By way of derogation, paragraph 1 shall not apply to the following substances until 4 January 2023:

(a) Pigment Blue 15:3 (CI 74160, EC No 205-685-1, CAS No 147-14-8);

(b) Pigment Green 7 (CI 74260, EC No 215-524-7, CAS No 1328-53-6).

5. If Part 3 of Annex VI to Regulation (EC) No 1272/2008 is amended after 4 January 2021 to classify or re-classify a substance such that the substance then becomes caught by point (a), (b), (c) or (d) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the date of application of that new or revised classification is after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect on the date of application of that new or revised classification.

6. If Annex II or Annex IV to Regulation (EC) No 1223/2009 is amended after 4 January 2021 to list or change the listing of a substance such that the substance then becomes caught by point (e), (f) or (g) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the amendment takes effect after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect from the date falling 18 months after entry into force of the act by which that amendment was made.

7. Suppliers placing a mixture on the market for use for tattooing purposes shall ensure that, after 4 January 2022, the mixture is marked with the following information:

(a) the statement "Mixture for use in tattoos or permanent make-up";

(b) a reference number to uniquely identify the batch;

(c) the list of ingredients in accordance with the nomenclature established in the glossary of common ingredient names pursuant to Article 33 of Regulation (EC) No 1223/2009, or in the absence of a common ingredient name, the IUPAC name. In the absence of a common ingredient name or IUPAC name, the CAS and EC number. Ingredients shall be listed in descending order by weight or volume of the ingredients at the time of formulation. "Ingredient" means any substance added during the process of formulation and present in the mixture for use for tattooing purposes. Impurities shall not be regarded as ingredients. If the name of a substance, used as ingredient within the meaning of this entry, is already required to be stated on the label in accordance with Regulation (EC) No 1272/2008, that ingredient does not need to be marked in accordance with this Regulation;

(d) the additional statement "pH regulator" for substances falling under point (d)(i) of paragraph 1;

(e) the statement "Contains nickel. Can cause allergic reactions." if the mixture contains nickel below the concentration limit specified in Appendix 13;

(f) the statement "Contains chromium (VI). Can cause allergic reactions." if the mixture contains chromium (VI) below the concentration limit specified in Appendix 13;

(g) safety instructions for use insofar as they are not already required to be stated on the label by Regulation (EC) No 1272/2008.

The information shall be clearly visible, easily legible and marked in a way that is indelible.

The information shall be written in the official language(s) of the Member State(s) where the mixture is placed on the market, unless the Member State(s) concerned provide(s) otherwise.

Where necessary because of the size of the package, the information listed in the first subparagraph, except for point (a), shall be included instead in the instructions for use.

Before using a mixture for tattooing purposes, the person using the mixture shall provide the person undergoing the procedure with the information marked on the package or included in the instructions for use pursuant to this paragraph.

8. Mixtures that do not contain the statement "Mixture for use in tattoos or permanent make-up" shall not be used for tattooing purposes.

9. This entry does not apply to substances that are gases at temperature of 20 °C and pressure of 101,3 kPa, or generate a vapour pressure of more than 300 kPa at temperature of 50 °C, with the exception of formaldehyde (CAS No 50-00-0, EC No 200-001-8).

10. This entry does not apply to the placing on the market of a mixture for use for tattooing purposes, or to the use of a mixture for tattooing purposes, when placed on the market exclusively as a medical device or an accessory to a medical device, within the meaning of Regulation (EU) 2017/745, or when used exclusively as a medical device or an accessory to a medical device, within the same meaning. Where the placing on the market or use may not be exclusively as a medical device or an accessory to a medical device, the require-

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Legend

ments of Regulation (EU) 2017/745 and of this Regulation shall apply cumulatively.

Seveso Directive

2012/18/EU (Seveso III)				
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes
E2	environmental hazards (hazardous to the aquatic environment, cat. 2)	200	500	57)

Notation

57) hazardous to the Aquatic Environment in category Chronic 2

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

None of the ingredients are listed.

Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors, amending Regulation (EC) No 1907/2006 and repealing Regulation (EU) No 98/2013

None of the ingredients are listed.

Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

15.2 Chemical Safety Assessment

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

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)
2.3	Results of PBT and vPvB assessment: Containing a PBT-/vPvB-substance in a concentration of $\geq 0,1\%$.	Results of PBT and vPvB assessment: Does not contain any substances that are assessed to be a PBT or a vPvB $\geq 0.1\%$.
12.3	Bioaccumulative potential: The substance fulfils the very bioaccumulative criterion.	Bioaccumulative potential
12.5	Results of PBT and vPvB assessment: The mixture contains a substance that was identified as a PBT (persistent, bioaccumulative and toxic). The mixture contains a substance that was identified as vPvB (very persistent and very bioaccumulative).	Results of PBT and vPvB assessment: Data are not available.
16		Abbreviations and acronyms: change in the listing (table)

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	Acute toxicity
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
Aquatic Acute	Hazardous to the aquatic environment - acute hazard
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard

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Abbr.	Descriptions of used abbreviations
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LEL	Lower explosion limit (LEL)
log KOW	n-Octanol/water
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration

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Abbr.	Descriptions of used abbreviations
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STOT RE	Specific target organ toxicity - repeated exposure
UEL	Upper explosion limit (UEL)
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.