

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

PU-SYSTEM TYP II (B-Komponente)

Version	Revision Date:	Date of last issue: 13.06.2022
1.1 DE / EN	29.08.2023	Date of first issue: 13.06.2022

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

1.1 Product identifier

Trade name : PU-SYSTEM TYP II (B-Komponente)

Product code : 126.310

Substance name : Diphenylmethanediisocyanate, isomeres and homologues

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

Use of the Sub-
stance/Mixture : Curing chemical

Recommended restrictions on use : Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use.

1.3 Details of the supplier of the safety data sheet

Company : Vosschemie GmbH
Esinger Steinweg 50
25436 Uetersen
Germany
info@vosschemie.de

Telephone : 04122 717 0
Telefax : 04122 717158

Responsible Department : Laboratory

04122 717 0
sds@vosschemie.de

1.4 Emergency telephone

Telephone : Giftinformationszentrum (GIZ)-Nord,
Göttingen, Deutschland
0551 19240

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4	H332: Harmful if inhaled.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Respiratory sensitization, Category 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.

2.2 Label elements

Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal Word : Danger

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 through prolonged or repeated exposure.

Precautionary Statements : **Prevention:**
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P284 In case of inadequate ventilation wear respiratory protection.

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Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and 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.

Storage:

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

Disposal:

P501 Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations.

Additional Labeling

EUH204 Contains isocyanates. May produce an allergic reaction.

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

2.3 Other hazards

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

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name : Diphenylmethanediisocyanate, isomeres and homologues

Chemical nature : Mixture
contains
Isocyanates

Polymer

Components

Chemical name	CAS-No. EC-No.	Concentration (% w/w)	M-Factor, SCL, ATE
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Diphenylmethanediisocyanate, isomeres and homologues	9016-87-9	<= 100	specific concentration limit Eye Irrit. 2; H319 >= 5 % STOT SE 3; H335 >= 5 % Skin Irrit. 2; H315 >= 5 % Resp. Sens. 1; H334 >= 0,1 % Acute toxicity estimate Acute inhalation toxicity (dust/mist): 1,5 mg/l
4,4'-methylenediphenyl diisocyanate	101-68-8 202-966-0	>= 0,1 - < 1	specific concentration limit Eye Irrit. 2; H319 >= 5 % STOT SE 3; H335 >= 5 % Skin Irrit. 2; H315 >= 5 % Resp. Sens. 1; H334 >= 0,1 % Acute toxicity estimate Acute inhalation toxicity (dust/mist): 1,5 mg/l

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
Move out of dangerous area.
Take off contaminated clothing and shoes immediately.
Wash contaminated clothing before re-use.
Do not leave the victim unattended.
Symptoms of poisoning may appear several hours later.
Show this material safety data sheet to the doctor in attendance.

Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing

First Aid responders should pay attention to self-protection

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- and use the recommended protective clothing
- If inhaled : Move to fresh air.
Keep patient warm and at rest.
If breathing is irregular or stopped, administer artificial respiration.
Call a physician immediately.
- In case of skin contact : Wash off immediately with soap and plenty of water.
Call a physician if irritation develops or persists.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Keep eye wide open while rinsing.
If easy to do, remove contact lens, if worn.
Consult a physician.
- If swallowed : Rinse mouth with water.
Do NOT induce vomiting.
Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Shortness of breath
Cough
sensitizing effects
- Risks : Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.
Keep under medical supervision for at least 48 hours.
-

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Carbon dioxide (CO₂)
Dry powder
Alcohol-resistant foam
Water spray in large fire situations
Water spray jet
- Unsuitable extinguishing : High volume water jet
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media

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting : Build-up of dangerous/toxic fumes possible in cases of fire/high temperature.
If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.
Cool closed containers exposed to fire with water spray.

Hazardous combustion products : Hazardous decomposition products due to incomplete combustion
Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
Nitrogen oxides (NOx)
Isocyanates

5.3 Advice for firefighters

Special protective equipment for fire-fighters : In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. Complete suit protecting against chemicals

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Wear personal protective equipment.
Evacuate personnel to safe areas.
Ensure adequate ventilation, especially in confined areas.
Avoid contact with skin, eyes and clothing.
In the case of vapor formation use a respirator with an approved filter.
Contaminated surfaces will be extremely slippery.

6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.
Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Sweep up and shovel into suitable containers for disposal.
After approximately one hour, transfer to waste container and

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do not seal, due to evolution of carbon dioxide.
Waste must NOT be included in a tight way.

6.4 Reference to other sections

For personal protection see section 8., For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Technical measures : Ensure that eyewash stations and safety showers are close to the workstation location.
- Local/Total ventilation : Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
- Advice on safe handling : Avoid exposure - obtain special instructions before use.
All processes must be supervised by specialists or authorized personnel.
Provide sufficient air exchange and/or exhaust in work rooms.
Keep container closed when not in use.
Wear personal protective equipment.
Avoid formation of aerosol.
Do not breathe vapors, aerosols.
Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates.
- Advice on protection against fire and explosion : No special protective measures against fire required.
- Hygiene measures : General industrial hygiene practice. Persons already sensitized 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. Take off all contaminated clothing immediately. Wash contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place.
- Further information on storage conditions : Storage must be in accordance with the BetrSichV (Germany).
Keep locked up or in an area accessible only to qualified or authorized persons. Protect from moisture.
- Advice on common storage : Reacts with water.

Keep away from food and drink.
Incompatible with acids and bases.
- Storage class (TRGS 510) : 10

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Recommended storage temperature : 15 - 25 °C

7.3 Specific end use(s)

Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Diphenylmethanediisocyanate, isomeres and homologues	9016-87-9	AGW (Inhalable fraction)	0,05 mg/m ³ (MDI)	DE TRGS 900
	Peak-limit category: 1;=2=(I)			
	Further information: In well-founded cases also a momentary value can be established, that never can be exceeded. This substance will be indicated by = = in combination with an exceeding value., Skin absorption, When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child, Substance sensitizing through the skin and respiratory system			
4,4'-methylenediphenyl diisocyanate	101-68-8	AGW (Vapour and aerosols)	0,05 mg/m ³	TRGS 430
	Peak-limit category: 1;=2=(I)			
	Further information: In well-founded cases also a momentary value can be established, that never can be exceeded. This substance will be indicated by = = in combination with an exceeding value., airway sensitizing substance			
		AGW (Vapour and aerosols, inhalable fraction)	0,05 mg/m ³	DE TRGS 900
	Peak-limit category: 1;=2=(I)			
	Further information: In well-founded cases also a momentary value can be established, that never can be exceeded. This substance will be indicated by = = in combination with an exceeding value., Skin absorption, When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child, Substance sensitizing through the skin and respiratory system			

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

Substance name	End Use	Routes of exposure	Potential health effects	Value
4,4'-methylenediphenyl diisocyanate	Workers	Inhalation	Long-term local effects	0,05 mg/m ³

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	Workers	Inhalation	Acute local effects	0,1 mg/m ³
	Consumers	Inhalation	Long-term local effects	0,025 mg/m ³
	Consumers	Inhalation	Acute local effects	0,05 mg/m ³

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

Substance name	Environmental Compartment	Value
4,4'-methylenediphenyl diisocyanate	Fresh water	1 mg/l
	Sea water	0,1 mg/l
	Sewage treatment plant (STP)	1 mg/l
	Soil	1 mg/kg
	Intermittent use/release	10 mg/l

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Safety glasses with side-shields conforming to EN166

Hand protection

Material : Nitrile rubber
Break through time : \geq 480 min
Glove thickness : \geq 0,4 mm
Directive : DIN EN 374
Protective index : Class 6

Material : butyl-rubber
Break through time : $>$ 480 min
Glove thickness : \geq 0,7 mm
Directive : DIN EN 374
Protective index : Class 6

Material : Chloroprene
Break through time : \geq 480 min
Glove thickness : \geq 0,5 mm
Directive : DIN EN 374
Protective index : Class 6

Remarks : Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other.

Skin and body protection : Please wear suitable protective clothing, e.g. made of cotton or heat-resistant synthetic fibres.
Long sleeved clothing

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- Respiratory protection : In order to avoid inhalation of spray-mist and sanding dust, all spraying and sanding must be done wearing adequate respirator.
Apply technical measures to comply with the occupational exposure limits.
Equipment should conform to EN 14387
- Filter type : Combined particulates and organic vapor type (A-P)
- Protective measures : Do not breathe vapors or spray mist.
- Ensure that eye flushing systems and safety showers are located close to the working place.
Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

- Soil : Avoid subsoil penetration.
-

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Physical state : liquid
- Color : brown
- Odor : musty
- Solidification / Setting point : < 10 °C
- Boiling point/boiling range : 330 °C (1.013 hPa)
- Flash point : 204 °C
- Autoignition temperature : > 600 °C
- Decomposition temperature : > 230 °C
- pH : Not applicable substance/mixture reacts with water
- Viscosity
- Viscosity, dynamic : 170 - 250 mPa.s (25 °C)
- Viscosity, kinematic : No data available
not determined
- Solubility(ies)
- Water solubility : Reacts with water.
- Partition coefficient: n- : Not applicable

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octanol/water

Vapor pressure : < 0,0001 hPa (20 °C)

Density : 1,23 g/cm³ (20 °C)

9.2 Other information

Explosives : Not explosive

Oxidizing properties : Does not sustain combustion.

Flammability (liquids) : does not ignite
does not ignite

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if used as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

Polymerizes at high temperatures with evolution of carbon dioxide.

10.3 Possibility of hazardous reactions

Hazardous reactions : Amines and alcohols cause exothermic reactions.
Mixture reacts slowly with water resulting in evolution of CO₂.
Evolution of CO₂ in closed containers causes overpressure and produces a risk of bursting.

10.4 Conditions to avoid

Conditions to avoid : Temperature < 15 °C

Avoid moisture.

10.5 Incompatible materials

Materials to avoid : Amines
Alcohols
Acids and bases
Water

10.6 Hazardous decomposition products

Build-up of dangerous/toxic fumes possible in cases of fire/high temperature.

Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

Nitrogen oxides (NO_x)

Isocyanates

Hydrogen cyanide (hydrocyanic acid)

To avoid thermal decomposition, do not overheat.

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SECTION 11: Toxicological information

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

Acute toxicity

Harmful if inhaled.

Product:

Acute inhalation toxicity : Acute toxicity estimate: 1,5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Components:

Diphenylmethanediisocyanate, isomeres and homologues:

Acute oral toxicity : LD50 Oral (Rat): 49.000 mg/kg

Acute inhalation toxicity : Acute toxicity estimate: 1,5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Expert judgment

Acute dermal toxicity : LD50 Dermal (Rabbit): > 9.400 mg/kg
Method: OECD Test Guideline 402

4,4'-methylenediphenyl diisocyanate:

Acute oral toxicity : LD50 Oral (Rat): > 2.000 mg/kg

Acute inhalation toxicity : Acute toxicity estimate: 1,5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Expert judgment

LC50 (Rat): 0,368 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 Dermal (Rabbit): > 9.400 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation

Causes skin irritation.

Components:

Diphenylmethanediisocyanate, isomeres and homologues:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation

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Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

Diphenylmethanediisocyanate, isomeres and homologues:

Result : Moderate eye irritation

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Components:

Diphenylmethanediisocyanate, isomeres and homologues:

Test Type : Local lymph node assay (LLNA)

Routes of exposure : Dermal

Species : Mouse

Assessment : The product is a skin sensitizer, sub-category 1B.

Method : OECD Test Guideline 429

Result : positive

Routes of exposure : inhalation (dust/mist/fume)

Species : Rat

Assessment : The product is a respiratory sensitizer, sub-category 1B.

Result : positive

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Suspected of causing cancer.

Components:

Diphenylmethanediisocyanate, isomeres and homologues:

Carcinogenicity - Assessment : Limited evidence of a carcinogenic effect.

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

May cause respiratory irritation.

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Components:

Diphenylmethanediisocyanate, isomeres and homologues:

Assessment : May cause respiratory irritation.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Components:

Diphenylmethanediisocyanate, isomeres and homologues:

Routes of exposure : Inhalation
Target Organs : Lungs
Assessment : May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Product:

Species : Rat
NOAEL : 0,2 mg/m³
LOAEL : 1 mg/m³
Application Route : Inhalation
Exposure time : 6 h
Number of exposures : day
Method : OECD Test Guideline 453

Aspiration toxicity

Not classified based on available information.

Product:

No aspiration toxicity classification

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Further information

Product:

Remarks : Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates.

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SECTION 12: Ecological information**12.1 Toxicity****Components:****Diphenylmethanediisocyanate, isomers and homologues:**

- | | | |
|--|---|---|
| Toxicity to fish | : | LC0 (Fish): > 1.000 mg/l
Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC0 (Daphnia): > 500 mg/l
Exposure time: 24 h |
| Toxicity to algae/aquatic plants | : | EC0 (Scenedesmus subspicatus): 1.640 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201 |
| Toxicity to microorganisms | : | EC50 (Bacteria): > 100 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: > 10 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea) |

4,4'-methylenediphenyl diisocyanate:

- | | | |
|--|---|--|
| Toxicity to fish | : | LC0 (Oryzias latipes (Orange-red killifish)): > 3.000 mg/l
End point: mortality
Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | LC50 (Daphnia magna (Water flea)): 1.000 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | EC50 (Desmodesmus subspicatus (green algae)): 1.640 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201 |
| Toxicity to microorganisms | : | EC50 (Bacteria): > 100 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: 10 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea) |

12.2 Persistence and degradability**Components:****Diphenylmethanediisocyanate, isomers and homologues:**

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Biodegradability : Result: According to the results of tests of biodegradability this product is not readily biodegradable.
Biodegradation: < 10 %
Exposure time: 28 d

4,4'-methylenediphenyl diisocyanate:

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

12.3 Bioaccumulative potential

Components:

Diphenylmethanediisocyanate, isomers and homologues:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Exposure time: 42 d
Concentration: 0,2 mg/l
Bioconcentration factor (BCF): < 14
Method: OECD Test Guideline 305C
Remarks: Accumulation in aquatic organisms is unlikely.

Partition coefficient: n-octanol/water : log Pow: 4,51 (22 °C)
pH: 7

4,4'-methylenediphenyl diisocyanate:

Bioaccumulation : Bioconcentration factor (BCF): 200
Method: OECD Test Guideline 305

Partition coefficient: n-octanol/water : log Pow: 4,51 (20 °C)

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

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

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

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levels of 0.1% or higher.

12.7 Other adverse effects

Product:

Additional ecological information : No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Do not dispose of with domestic refuse.
Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
Dispose of in accordance with local regulations.
Dispose of wastes in an approved waste disposal facility.
Send to a licensed waste management company.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
Store containers and offer for recycling of material when in accordance with the local regulations.
Packaging that is not properly emptied must be disposed of as the unused product.
Dispose of in accordance with local regulations.

Waste Code : The following Waste Codes are only suggestions:
08 05 01, waste isocyanates

SECTION 14: Transport information

14.1 UN number or ID number

ADN : Not regulated as a dangerous good
ADR : Not regulated as a dangerous good
RID : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA : UN 3334

14.2 UN proper shipping name

ADN : Not regulated as a dangerous good
ADR : Not regulated as a dangerous good
RID : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA : Aviation regulated liquid, n.o.s.

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14.3 Transport hazard class(es)

ADN	:	Not regulated as a dangerous good
ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
		Class Subsidiary risks
IATA	:	9

14.4 Packing group

ADN	:	Not regulated as a dangerous good
ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
IATA (Cargo)		
Packing instruction (cargo aircraft)	:	964
Packing instruction (LQ)	:	Y964
Packing group	:	III
Labels	:	Miscellaneous
IATA (Passenger)		
Packing instruction (passenger aircraft)	:	964
Packing instruction (LQ)	:	Y964
Packing group	:	III
Labels	:	Miscellaneous

14.5 Environmental hazards

ADN	:	Not regulated as a dangerous good
ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

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SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered: Number on list 75, 3

If you intend to use this product as tattoo ink, please contact your vendor.

4,4'-methylenediphenyl diisocyanate (Number on list 74, 56)
Diphenylmethanediisocyanate, isomers and homologues (Number on list 56)

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

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : Not applicable

Water hazard class (Germany) : WGK 1 slightly water endangering
Classification according to AwSV, Annex 1 (5.2)

Other regulations:

Take note of Law on the protection of mothers at work, in education and in studies (Maternity Protection Act - MuSchG).

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Contains a substance which is subject to the TRGS 905 list of carcinogenic, germ cell mutagenic and reproductive toxic substances. : Diphenylmethanediisocyanate, isomers and homologues
carcinogenic: category 2 according

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to Annex I of the CLP Directive
mutagenic: based on the available
data no classification in the cate-
gories of Annex I of the CLP Directive
could be made
Harmful for fertility: based on the
available data no classification in the
categories of Annex I of the CLP
Directive could be made
Harmful for development: based on
the available data no classification in
the categories of Annex I of the CLP
Directive could be made

15.2 Chemical Safety Assessment

A chemical safety assessment according to (EC) regulation 1907/2006 (REACH) has not been carried out for this product.

SECTION 16: Other information

Full text of other abbreviations

DE TRGS 900 : Germany. TRGS 900 - Occupational exposure limit values.
TRGS 430 : Germany. TRGS 430 - Isocyanates
DE TRGS 900 / AGW : Time Weighted Average
TRGS 430 / AGW : Occupational Exposure Limit

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European

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Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Training advice : Provide adequate information, instruction and training for operators.

Classification of the mixture:

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

Classification procedure:

Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method

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