

Safety data sheet

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 PRODUCT IDENTIFIER

Product name

MITOPUR E20

UFI:

RQXJ-S7HK-PA1U-AV2H



<https://my.chemius.net/p/1Nw-sjE/en/pd/en>

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Relevant identified uses

One-component adhesive / primer / sealant for industrial, professional and consumer end-use.

Uses advised against

No information.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Manufacturer

MITOL, tovarna lepil, d.o.o., Sežana
Partizanska c. 78
6210 Sežana, Slovenia
+386 5 73 12 300 (8:00-16:00)
lilijana.kocjan@mitol.si

1.4 EMERGENCY TELEPHONE NUMBER

Emergency

112

Manufacturer

+386 5 73 12 300 (8:00-16:00)

SECTION 2: HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

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

Skin Irrit. 2; H315 Causes skin irritation.
Skin Sens. 1; H317 May cause an allergic skin reaction.
Eye Irrit. 2; H319 Causes serious eye irritation.
Acute Tox. 4; H332 Harmful if inhaled.
Resp. Sens. 1; H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
STOT SE 3; H335 May cause respiratory irritation.
Carc. 2; H351 Suspected of causing cancer.
STOT RE 2; H373 May cause damage to organs through prolonged or repeated exposure.

2.2 LABEL ELEMENTS

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



Signal word: DANGER

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.
P102 Keep out of reach of children.
P260 Do not breathe vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P284 In case of inadequate ventilation wear respiratory protection.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor.
P501 Dispose of contents/container in accordance with national regulation.

Contains:



Safety data sheet

isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy(methyl-1,2-ethanediyl))
 polymeric MDI
 '4,4'-methylenediphenyl diisocyanate
 reaction mass of 4,4'- methylenediphenyl diisocyanate and o-(pisocyanatobenzyl) phenyl isocyanate

Special provisions

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.

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

2.3 OTHER HAZARDS

PBT/vPvB

No information.

Endocrine disrupting properties

The product does not contain substances with the potential for endocrine disorders.

Additional information

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. Persons who have problems with sensitivity of the airways (asthma, chronic bronchitis), should avoid contact with the product.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 SUBSTANCES

For mixtures see 3.2.

3.2 MIXTURES

Name	CAS EC Index Reach	%	Classification according to Regulation (EC) No 1272/2008 (CLP)	Specific Concentration Limits	Notes for substances
isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy(methyl-1,2-ethanediyl))	53862-89-8 - -	50-<70	Skin Irrit. 2; H315 Skin Sens. 1; H317 Eye Irrit. 2; H319 Acute Tox. 4; H332 Resp. Sens. 1; H334 STOT SE 3; H335 Carc. 2; H351 STOT RE 2; H373	/	/
polymeric MDI	9016-87-9 - -	30-<50	Skin Irrit. 2; H315 Skin Sens. 1; H317 Eye Irrit. 2; H319 Acute Tox. 4; H332 Resp. Sens. 1; H334 STOT SE 3; H335 Carc. 2; H351 STOT RE 2; H373	/	/
'4,4'-methylenediphenyl diisocyanate	101-68-8 202-966-0 615-005-00-9 01-2119457014-47	5-<10	Skin Irrit. 2; H315 Skin Sens. 1; H317 Eye Irrit. 2; H319 Acute Tox. 4; H332 Resp. Sens. 1; H334 STOT SE 3; H335 Carc. 2; H351 STOT RE 2; H373	Skin Irrit. 2; H315; C ≥ 5% Eye Irrit. 2; H319; C ≥ 5% Resp. Sens. 1; H334; C ≥ 0.1% STOT SE 3; H335; C ≥ 5%	C
reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(pisocyanatobenzyl) phenyl isocyanate	- - - 01-2119457015-45	1-<5	Skin Irrit. 2; H315 Skin Sens. 1; H317 Eye Irrit. 2; H319 Acute Tox. 4; H332 Resp. Sens. 1; H334 STOT SE 3; H335 Carc. 2; H351 STOT RE 2; H373	/	/
bis(isopropyl)naphthalene	38640-62-9 254-052-6 - 01-2119565150-48	<0,25	Asp. Tox. 1; H304 Aquatic Chronic 1; H410; M = 1	/	/

Notes for substances



Safety data sheet

C	Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers. In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers.
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SECTION 4: FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

General notes

Never give anything by mouth to an unconscious person. Place patient in recovery position and ensure airway patency. Symptoms of poisoning may even occur after several hours; therefore medical observation is required at least 48 hours after the event. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Person who provides first aid should wear protective gear. See section 8.

Following inhalation

Remove patient to fresh air - move out of dangerous area. If victim is not breathing, give artificial respiration. In case of difficulty breathing, give oxygen to the victim. In case of irritation or asthma-like symptoms seek medical advice. If symptoms develop and persist, seek medical attention. The exposed person may need to be kept under medical surveillance for 48 hours.

Following skin contact

Immediately remove contaminated clothing. Wash affected skin areas immediately with plenty of water and soap. Rinse with a polyglycol-based skin cleanser or corn oil. Wash contaminated clothes and shoes before reuse. If symptoms develop and persist, seek medical attention.

Following eye contact

Immediately flush eyes with running water, keeping eyelids apart. After 5 minutes of rinsing, remove contact lenses, if present, and continue rinsing. Protect the undamaged eye. If irritation persists, seek professional medical attention.

Following ingestion

Rinse mouth thoroughly with water. Do not induce vomiting without prior consultation with a doctor. Never give anything by mouth to an unconscious person. Maintain an open airway. If the affected person is lying on his back, put him into a stable side position in the case of spontaneous vomiting. Immediately consult a doctor. Show the physician the safety data sheet or label.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Following inhalation

Harmful. Coughing, sneezing, nasal discharge, labored breathing. Intoxication, vertigo, headache, nausea. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Inhalation intoxication has a variety of allergic effects, such as allergic rhinitis, asthma-like obstructive bronchitis, pneumonitis, and, in the most severe cases, anaphylactic shock. The symptoms may be delayed and can subsequently occur several hours after the exposure.

Following skin contact

Irritating to the skin. Itching, redness, pain. May cause sensitisation by skin contact (symptoms: itching, redness, rashes).

Following eye contact

Causes severe eye irritation. Redness, tearing, pain.

Following ingestion

Irritates mucous membranes in the mouth, throat, esophagus and in gastrointestinal area. May cause nausea/vomiting and diarrhea. May cause abdominal discomfort.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Symptoms of poisoning may appear several hours later. Keep under medical supervision for at least 48 hours.

SECTION 5: FIREFIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Foam.

Carbon dioxide (CO₂).

Fire extinguishing powder.

Unsuitable extinguishing media

Full water jet. Water. The reaction between water and hot isocyanates may be dangerous.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Hazardous combustion products

In case of heating harmful vapours/gases can be generated. In the event of fire the following can be generated: carbon monoxide (CO), carbon dioxide (CO₂).

Nitrogen oxides (NO_x). Hydrocarbons.

Hydrogen cyanide (HCN). Under special combustion conditions (temperatures above 500 ° C), toxic gas can be produced: aniline.

5.3 ADVICE FOR FIREFIGHTERS

Protective actions

In case of fire or heating do not breathe fumes/vapours. Cool containers at risk with water spray. If possible remove containers from endangered area. The



Safety data sheet

reaction with water produces CO₂, which can cause a dangerous increase in pressure, if contaminated containers are closed again. Closed containers may explode if they are overheated. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Firefighters should wear appropriate protective clothing for firefighters (including helmets, protective boots and gloves) (EN 469) and self-contained breathing apparatus (SCBA) with a full face-piece (EN 137). Wear positive-pressure self-contained breathing apparatus (SCBA).

Additional information

Contaminated firefighting water must be disposed of in accordance with the regulations; do not allow to reach the sewage system. Contaminated firefighting water and fire residues must be disposed of in accordance with the local regulations.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

For non-emergency personnel

Protective equipment

Use personal protective equipment (Section 8).

Precautionary measures

Ensure adequate ventilation.

Emergency procedures

Remove all unauthorized persons upwind to a safe distance. Do not touch or walk through spilled material. Avoid contact with skin and eyes. Do not breathe vapour or mist. Prevent access to unprotected personnel. Prevent access to unauthorised personnel.

For emergency responders

During intervention, use personal protective equipment (Section 8). No action shall be taken involving any personal risk or without suitable training.

6.2 ENVIRONMENTAL PRECAUTIONS

Do not allow product to reach water/drains/sewage systems or permeable soil. If accidental large entry into water or ground occurs, inform responsible authorities.

6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

For containment

Stem the spill if this does not pose risks.

For cleaning up

Cover contaminated surface with inert material (wet soil, sand), leave for about 30 minutes and collect in special containers and hand over to an authorised waste collector. After approx. one hour collect in a waste container, which should not be closed (CO₂ formation!). Keep wet in a safe ventilated area.

Spillage area can be decontaminated with a solution for neutralization. The solution for decontamination (not flammable): 5% of sodium carbonate and 95% water. Rinse contaminated area with water! You can also use: yellow liquid soap (potassium soap with approx. 15% anionic surfactants): 20 ml + Water 700 ml + PEG 400: 350 ml.

Other information

No information.

6.4 REFERENCE TO OTHER SECTIONS

See also sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Protective measures

Measures to prevent fire

Ensure adequate ventilation. The usual measures for preventive fire protection.

Measures to prevent aerosol and dust generation

Use general or local exhaust ventilation to prevent inhaling high concentrations of vapours and aerosols.

Measures to protect the environment

Avoid release to the environment. Do not discharge into drains, surface water and soil. After use immediately close container tightly.

Other measures

No information.

Advice on general occupational hygiene

Use good personal hygiene practices – wash hands at breaks and when done working with material. Do not eat, drink or smoke while working. Avoid contact with skin, eyes and clothes. Product is not for eating – do not ingest! Do not breathe vapours/mist. Remove contaminated clothes and wash them before reuse. Contaminated work clothing should not be allowed out of the workplace. Persons with a history of skin sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. For the use of the product, a suitable training for working with diisocyanates is required. For the use of the product, a suitable training for working with diisocyanates is required.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Technical measures and storage conditions

Keep in a locked place. Storage temperature: +5 - 25 ° C. Keep in tightly closed container. Store in a dry, cool and well-ventilated area, away from



Safety data sheet

incompatible materials. Protect from direct sunlight. Keep away from food, drink and animal feeding stuffs.

Packaging materials

Store only in original container. Keep in containers of the same material as the original one.

Requirements for storage rooms and vessels

Do not store in unlabelled containers. Close opened containers after use. Put the containers upright to prevent from leaking. Contact with moisture initiates a cross-linking reaction, releasing carbon dioxide gas.

Storage class

No information.

Further information on storage conditions

No information.

7.3 SPECIFIC END USE(S)

Recommendations

See identified uses in Section 1.2. Follow the instructions / measures in the safety data sheet.

Industrial sector specific solutions

No information.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Occupational Exposure limit values

No information.

Information on monitoring procedures

BS EN 14042:2003 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. BS EN 689:2018 Workplace exposure. Measurement of exposure by inhalation to chemical agents. Strategy for testing compliance with occupational exposure limit values. BS EN 482:2021 Workplace exposure. Procedures for the determination of the concentration of chemical agents. Basic performance requirements.

DNEL/DMEL values

For product

No information.

For components

Name	Type	Exposure route	exp. frequency	Remark	value
polymeric MDI	Worker	dermal	short term systemic effects	/	50 mg/kg bw/day
polymeric MDI	Worker	inhalation	short term systemic effects	/	0.1 mg/m ³
polymeric MDI	Worker	dermal	short term local effects	/	27.8 mg/kg bw/day
polymeric MDI	Worker	inhalation	short term local effects	/	0.1 mg/m ³
polymeric MDI	Worker	inhalation	long term systemic effects	/	0.05 mg/m ³
polymeric MDI	Worker	inhalation	long term local effects	/	0.05 mg/m ³
polymeric MDI	Consumer	dermal	short term systemic effects	/	25 mg/kg bw/day
polymeric MDI	Consumer	inhalation	short term systemic effects	/	0.05 mg/m ³
polymeric MDI	Consumer	oral	short term systemic effects	/	20 mg/kg bw/day
polymeric MDI	Consumer	dermal	short term local effects	/	17.2 mg/cm ²
polymeric MDI	Consumer	inhalation	short term local effects	/	0.05 mg/m ³
polymeric MDI	Consumer	inhalation	long term systemic effects	/	0.025 mg/m ³
polymeric MDI	Consumer	inhalation	long term local effects	/	0.025 mg/m ³
'4,4'-methylenediphenyl diisocyanate	Worker	inhalation	short term local effects	/	0.1 mg/m ³
'4,4'-methylenediphenyl diisocyanate	Worker	inhalation	long term local effects	/	0.05 mg/m ³
'4,4'-methylenediphenyl diisocyanate	Consumer	inhalation	short term local effects	/	0.05 mg/m ³



Safety data sheet

Name	Type	Exposure route	exp. frequency	Remark	value
'4,4'-methylenediphenyl diisocyanate	Consumer	inhalation	long term local effects	/	0.025 mg/m ³

PNEC values

For product

No information.

For components

Name	Exposure route	Remark	value
polymeric MDI	fresh water	/	1 mg/L
polymeric MDI	marine water	/	0.1 mg/L
polymeric MDI	soil	/	1 mg/kg
polymeric MDI	water treatment plant	/	1 mg/L
polymeric MDI	water, intermittent release	fresh water	10 mg/L
'4,4'-methylenediphenyl diisocyanate	fresh water	/	1 mg/L
'4,4'-methylenediphenyl diisocyanate	marine water	/	0.1 mg/L
'4,4'-methylenediphenyl diisocyanate	soil	dry weight	1 mg/kg
'4,4'-methylenediphenyl diisocyanate	water treatment plant	/	1 mg/L
'4,4'-methylenediphenyl diisocyanate	water, intermittent release	fresh water	10 mg/L

8.2 EXPOSURE CONTROLS

Appropriate engineering control

Substance/mixture related measures to prevent exposure during identified uses

Use good personal hygiene practices – wash hands at breaks and when done working with material. Avoid contact with skin, eyes and clothes. Do not breathe vapours/aerosols. Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke while working. Keep away from direct sun-light or other heat sources and sources of ignition.

Structural measures to prevent exposure

No information.

Organisational measures to prevent exposure

Remove all contaminated clothes immediately and wash them before reuse. Keep eyewash bottles or personal eyewash units and emergency showers available.

Technical measures to prevent exposure

Provide good ventilation and local exhaust in areas with increased concentration.

Personal protective equipment

Eye and face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Safety glasses with side protection (EN 166). An eye wash station must be available where this product is used.

Hand protection

Protective gloves (EN 374). Observe the manufacturer's instructions regarding the use, storage, maintenance and replacement of gloves. In case of damage or at the first signs of wear and tear, change the gloves immediately. 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. The penetration time is determined by the protective glove manufacturer and must be observed.

Appropriate materials

Skin protection

Cotton protective clothing and shoes that cover the entire foot (EN ISO 20345). We recommend the use of heavy cotton clothing or disposable Tyvek. Choose body protection according to the activity and possible exposure. At high risk of skin exposure chemical suits (EN ISO 6530:2005) and boots may be required (EN ISO 20345:2012).

Respiratory protection

At elevated concentrations of vapours/aerosols in the air wear a mask (EN 140) with filter A2-P2 (EN 14387). 'High/elevated concentrations' means that the occupational exposure limit values have been exceeded. For dust/gas/ vapor concentrations above the applicable filter limit, in case of oxygen concentrations below 17% or in vague conditions, autonomous self-contained breathing apparatus should be used, according to standard BS EN 137, BS EN 138.

Thermal hazards

No information.

Environmental exposure controls

Substance/mixture related measures to prevent exposure



Safety data sheet

No information.

Instruction measures to prevent exposure

No information.

Organisational measures to prevent exposure

No information.

Technical measures to prevent exposure

Do not allow product to reach drains, sewage systems or ground water.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Important health, safety and environmental information

Physical state	liquid
Shape	No information.
Colour	brown
Odour	characteristic
Odour threshold	No information.
Melting/freezing point or softening point	No information.
Boiling point or initial boiling point and boiling range	No information.
Flammability (solid, gas)	No information.
Explosion limits (vol%)	No information.
Flash point	> 121 °C (Closed cup)
Auto-ignition temperature	No information.
Decomposition temperature	No information.
pH	substance/mixture reacts with water
Viscosity (dynamic)	2000 — 5000 mPas at 23 °C
Solubility	No information.
Partition coefficient n-octanol/water (log value)	No information.
Vapour pressure	No information.
Density	1.13 g/cm ³ at 25 °C
Relative density	1.12 g/cm ³
Relative vapour/gas density	No information.
Particle characteristics	No information.

9.2 OTHER INFORMATION

Information with regard to physical hazard classes

No information.

Other safety characteristics

No information.

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY

Reacts with water: may cause overpressure in closed vessel (CO₂).

10.2 CHEMICAL STABILITY

Product is stable under normal conditions of use, recommended handling and storage conditions.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

Product reacts slowly with water, releasing CO₂, which can cause overpressure in closed containers. Danger of explosion. MDI is not soluble in water and is heavier than water. It reacts with water, creating polyurea and CO₂.

10.4 CONDITIONS TO AVOID

Protect from heat, direct sunlight, open fire, sparks. Protect from moisture and water - keep in dry place.

10.5 INCOMPATIBLE MATERIALS

Water.
Acids.
Amines.
Bases.
Metals.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS



Safety data sheet

Under normal use conditions no hazardous decomposition products are expected. In case of fire/explosion vapours/gases that pose a health hazard are released. Carbon dioxide; Carbon monoxide.

Nitrogen oxides.

Hydrocarbons. HCN.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON HAZARD CLASSES AS DEFINED IN REGULATION (EC) NO 1272/2008

(a) Acute toxicity

For product

Exposure route	Type	Species	Time	value	Method	Remark
inhalation (dusts/mists)	ATE	/	4 h	1.5 mg/l	/	/

For components

Name	Exposure route	Type	Species	Time	value	Method	Remark
isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxymethyl-1,2-ethanediy)]	oral	LD ₅₀	rat (male)	/	> 10000 mg/kg	OECD 401 OECD 401	/
isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxymethyl-1,2-ethanediy)]	dermal	LD ₅₀	rabbit	/	> 9400 mg/kg	OECD 402	/
polymeric MDI	dermal	LD ₅₀	rabbit	/	> 9400 mg/kg	OECD 402	/
polymeric MDI	oral	LD ₅₀	rat (male)	/	> 10000 mg/kg	OECD 401 OECD 401	/
reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl) phenyl isocyanate	dermal	LD ₅₀	rabbit	/	> 9400 mg/kg	OECD 402	/
reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl) phenyl isocyanate	oral	LD ₅₀	rat (male/female)	/	> 2000 mg/kg	/	/
4,4'-methylenediphenyl diisocyanate	oral	LD ₅₀	rat (male)	/	> 10000 mg/kg	OECD 401 OECD 401	/
4,4'-methylenediphenyl diisocyanate	dermal	LD ₅₀	rabbit	/	> 9400 mg/kg	OECD 402	/

Additional information

Harmful if inhaled.

(b) Skin corrosion/irritation

For components



Safety data sheet

Name	Species	Time	result	Method	Remark
isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy(methyl-1,2-ethanediy))]	rabbit	/	Irritating.	OECD 404	/
polymeric MDI	rabbit	/	Irritating.	OECD 404	/
reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(pisocyanatobenzyl) phenyl isocyanate	rabbit	/	Irritating.	OECD 404	/
'4,4'-methylenediphenyl diisocyanate	rabbit	/	Irritating.	OECD 404	/

Additional information

Causes skin irritation.

(c) Serious eye damage/irritation

For components

Name	Exposure route	Species	Time	result	Method	Remark
isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy(methyl-1,2-ethanediy))]	/	rabbit	/	Mild irritating.	OECD 405	/
polymeric MDI	/	rabbit	/	Mild irritating.	OECD 405	/
reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(pisocyanatobenzyl) phenyl isocyanate	/	rabbit	/	Mild irritating.	OECD 405	/
'4,4'-methylenediphenyl diisocyanate	/	rabbit	/	Mild irritating.	/	/

Additional information

Causes serious eye irritation.

(d) Respiratory or skin sensitisation

For components

Name	Exposure route	Species	Time	result	Method	Remark
isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy(methyl-1,2-ethanediy))]	dermal	guinea pig	/	Sensitizing.	OECD 406	/
isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy(methyl-1,2-ethanediy))]	inhalation	rat	/	Sensitizing.	/	/



Safety data sheet

Name	Exposure route	Species	Time	result	Method	Remark
isocyanic acid, polymethylenepoly phenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy(methyl-1,2-ethanediy))	inhalation	/	/	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	/	/
polymeric MDI	inhalation	guinea pig	/	Sensitizing.	/	/
polymeric MDI	dermal	mouse	/	Causes sensitization.	/	/
reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(pisocyanatobenzyl) phenyl isocyanate	dermal	guinea pig	/	Sensitizing.	OECD 406	/
reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(pisocyanatobenzyl) phenyl isocyanate	inhalation	guinea pig	/	Sensitizing.	/	/
'4,4'-methylenediphenyl diisocyanate	dermal	mouse	/	Sensitizing.	OECD 429	/
'4,4'-methylenediphenyl diisocyanate	inhalation	guinea pig	/	Sensitizing.	/	/
'4,4'-methylenediphenyl diisocyanate	dermal	/	/	Sensitizing.	/	/
'4,4'-methylenediphenyl diisocyanate	inhalation	/	/	Causes sensitization.	/	/

Additional information

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

(e) (Germ cell) mutagenicity

For components

Name	Type	Species	Time	result	Method	Remark
isocyanic acid, polymethylenepoly phenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy(methyl-1,2-ethanediy))	Genotoxicity	/	/	Negative.	Directive 67/548/EEC, Annex V, B.12.	/
isocyanic acid, polymethylenepoly phenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy(methyl-1,2-ethanediy))	Genotoxicity	/	3 weeks	Negative.	OECD 474	inhalation dose: 113 mg/m3
polymeric MDI	Genotoxicity	/	/	Negative.	Directive 67/548/EEC, Annex V, B.12.	/
polymeric MDI	Genotoxicity	/	3 weeks	Negative.	OECD 474	inhalation dose: 118 mg/m3



Safety data sheet

Name	Type	Species	Time	result	Method	Remark
reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl) phenyl isocyanate	Genotoxicity	/	/	Negative.	Directive 67/548/EEC, Annex V, B.12.	/
reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl) phenyl isocyanate	Genotoxicity	/	3 weeks	Negative.	OECD 474	inhalation dose: 118 mg/m ³
'4,4'-methylenediphenyl diisocyanate	Genotoxicity	/	/	Negative.	Directive 67/548/EEC, Annex V, B.12.	/
'4,4'-methylenediphenyl diisocyanate	Genotoxicity	/	3 weeks	Negative.	OECD 474	inhalation dose: 118 mg/m ³

(f) Carcinogenicity

For product

Exposure route	Type	Species	Time	value	result	Method	Remark
inhalation	/	rat	/	/	Increased lung cancer incidence.	/	/

For components

Name	Exposure route	Type	Species	Time	value	result	Method	Remark
isocyanic acid, polymethylene polyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy(methyl-1,2-ethanediy))]	/	/	/	/	/	Suspected of causing cancer.	/	/
polymeric MDI	/	/	/	/	/	Suspected of causing cancer.	/	/
reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl) phenyl isocyanate	/	/	/	/	/	Suspected of causing cancer.	/	/
'4,4'-methylenediphenyl diisocyanate	/	/	/	/	/	Suspected of causing cancer.	/	/

(g) Reproductive toxicity

For components



Safety data sheet

Name	Reproductive toxicity type	Type	Species	Time	value	result	Method	Remark
isocyanic acid, polymethylene polyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy(methyl-1,2-ethanediy))	inhalation	/	rat (male/female)	/	4 mg/m ³	No effect	OECD 414	/
polymeric MDI	inhalation	/	rat (male/female)	/	mg/m ³	No effect	OECD 414	/
reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl) phenyl isocyanate	inhalation	/	rat (male/female)	/	4 mg/m ³	No effect	OECD 414	/
'4,4'-methylenediphenyl diisocyanate	inhalation	/	rat (male/female)	/	4 mg/m ³	No effect	OECD 414	/

Summary of evaluation of the CMR properties

Suspected of causing cancer. Rats were exposed to inhalation of the polymeric MDI nebula for two years, resulting in chronic pulmonary irritation at high concentrations. Only the highest level (6 mg/m³) showed the appearance of benign lung tumors (adenoma) and one malignant tumor (adenocarcinoma). There were no lung tumors at 1 mg/m³ and no effects at 0.2 mg/m³. The overall incidence of tumors, benign and malignant, and the number of animals with a tumor were not different from that of the control group. The increased incidence of lung tumors is associated with prolonged respiratory irritation and the parallel accumulation of yellow matter in the lung that occurred during the study.

(h) STOT-single exposure

For components

Name	Exposure route	Type	Species	Time	Exposure organ	value	result	Method	Remark
isocyanic acid, polymethylene polyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy(methyl-1,2-ethanediy))	inhalation	-	/	/	/	/	May cause respiratory irritation.	/	/
polymeric MDI	inhalation	-	/	/	/	/	May cause respiratory irritation.	/	/
reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl) phenyl isocyanate	inhalation	-	/	/	/	/	May cause respiratory irritation.	/	/
'4,4'-methylenediphenyl diisocyanate	inhalation	-	/	/	/	/	May cause respiratory irritation.	/	/

Additional information



Safety data sheet

STOT SE (single exposure): Not classified.

(i) STOT-repeated exposure

For components

Name	Exposure route	Type	Species	Time	Exposure	organ	value	result	Method	Remark
isocyanic acid, polymethyl enepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxy poly(oxy(methyl-1,2-ethanediyl))	-	-	/	/	/	/	/	May cause damage to organs through prolonged or repeated exposure.	/	/
polymeric MDI	inhalation	-	/	/	/	Respiratory tract	/	May cause damage to organs through prolonged or repeated exposure.	/	/
reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl) phenyl isocyanate	inhalation	-	/	/	/	Respiratory tract	/	May cause damage to organs through prolonged or repeated exposure.	/	/
4,4'-methylenediphenyl diisocyanate	-	-	/	/	/	/	/	May cause damage to organs through prolonged or repeated exposure.	/	/

Additional information

May cause damage to organs through prolonged or repeated exposure.

(j) Aspiration hazard

No information.

Additional information

Aspiration hazard: Not classified.

Symptoms related to the physical, chemical and toxicological characteristics

No information.

Interactive effects

No information.

11.2 INFORMATION ON OTHER HAZARDS

Endocrine disrupting properties

The product does not contain substances with the potential for endocrine disorders.

Other information

No information.

SECTION 12: ECOLOGICAL INFORMATION

12.1 TOXICITY

Acute (short-term) toxicity

For components



Safety data sheet

Name	Type	value	Exposure time	Species	organism	Method	Remark
isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro.-omega.-hydroxypoly(oxymethyl-1,2-ethanediy)]	LC ₅₀	> 1000 mg/L	96 h	fish	<i>Danio rerio</i>	OECD 203 OECD / 203	/
isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro.-omega.-hydroxypoly(oxymethyl-1,2-ethanediy)]	LC0	> 1000 mg/L	96 h	fish	/	/	/
isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro.-omega.-hydroxypoly(oxymethyl-1,2-ethanediy)]	EC ₅₀	> 1000 mg/L	24 h	crustacea	<i>Daphnia magna</i>	OECD 202	/
isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro.-omega.-hydroxypoly(oxymethyl-1,2-ethanediy)]	EC ₅₀	> 1640 mg/L	72 h	algae	<i>Desmodesmus subspicatus</i>	OECD 201	/
isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro.-omega.-hydroxypoly(oxymethyl-1,2-ethanediy)]	EC ₅₀	> 100 mg/L	3 h	bacteria	Activated sludge	OECD 209	/
polymeric MDI	EC ₅₀	> 100 mg/kg	3 h	bacteria	/	OECD 209	/
polymeric MDI	EC ₅₀	> 1000 mg/L	24 h	crustacea	<i>Daphnia magna</i>	OECD 202	/
polymeric MDI	LC ₅₀	> 1000 mg/L	96 h	fish	<i>Danio rerio</i>	OECD 203 OECD / 203	/
reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(pisocyanatobenzyl) phenyl isocyanate	EC ₅₀	> 100 mg/L	3 h	bacteria	Activated sludge	OECD 209	/
reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(pisocyanatobenzyl) phenyl isocyanate	EC ₅₀	> 1000 mg/L	24 h	crustacea	<i>Daphnia magna</i>	OECD 202	/
reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(pisocyanatobenzyl) phenyl isocyanate	LC ₅₀	> 1000 mg/L	96 h	fish	<i>Danio rerio</i>	OECD 203 OECD / 203	/



Safety data sheet

Name	Type	value	Exposure time	Species	organism	Method	Remark
reaction mass of 4,4'-methylene diphenyl diisocyanate and o-(piscyanatobenzyl) phenyl isocyanate	EC ₅₀	> 1640 mg/L	72 h	algae	<i>Desmodesmus subspicatus</i>	OECD 201	/
'4,4'-methylene diphenyl diisocyanate	LC ₅₀	> 1000 mg/L	96 h	fish	<i>Danio rerio</i>	OECD 203 OECD / 203	/
'4,4'-methylene diphenyl diisocyanate	EC ₅₀	> 1000 mg/L	24 h	crustacea	<i>Daphnia magna</i>	OECD 202	/

Chronic (long-term) toxicity

For components

Name	Type	value	Exposure time	Species	organism	Method	Remark
isocyanic acid, polymethylene polyphenylene ester, polymer with .alpha.-hydro.-omega.-hydroxypoly(oxymethyl-1,2-ethanediyl)]	NOEC	≥ 10 mg/l	21 days	crustacea	<i>Daphnia magna</i>	OECD 211	/
isocyanic acid, polymethylene polyphenylene ester, polymer with .alpha.-hydro.-omega.-hydroxypoly(oxymethyl-1,2-ethanediyl)]	EC ₅₀	> 1000 mg/kg	14 days	earthworms	<i>Eisenia fetida</i>	OECD 207	/
polymeric MDI	NOEC	≥ 10 mg/l	21 days	crustacea	<i>Daphnia magna</i>	OECD 211	/
polymeric MDI	NOEC	≥ 1000 mg/kg	14 days	earthworms	<i>Eisenia fetida</i>	OECD 207	/
reaction mass of 4,4'-methylene diphenyl diisocyanate and o-(piscyanatobenzyl) phenyl isocyanate	NOEC	≥ 10 mg/l	21 days	crustacea	<i>Daphnia magna</i>	OECD 211	/
reaction mass of 4,4'-methylene diphenyl diisocyanate and o-(piscyanatobenzyl) phenyl isocyanate	EC ₅₀	> 1000 mg/kg	14 days	earthworms	<i>Eisenia fetida</i>	OECD 207	/
'4,4'-methylene diphenyl diisocyanate	NOEC	≥ 10 mg/l	21 days	crustacea	<i>Daphnia magna</i>	OECD 211	/
'4,4'-methylene diphenyl diisocyanate	NOEC	≥ 1000 mg/kg	14 days	earthworms	<i>Eisenia fetida</i>	OECD 207	/

12.2 PERSISTENCE AND DEGRADABILITY

Abiotic degradation, physical- and photo-chemical elimination

For components



Safety data sheet

Name	Environment	Type / Method	Half Time	Evaluation	Method	Remark
isocyanic acid, polymethylenepoly phenylene ester, polymer with .alpha.-hydro- .omega.- hydroxypoly(oxy(methyl-1,2- ethanediyl))	Fresh-water	/	0.8 days	/	/	half-life
polymeric MDI	Fresh-water	/	6 days	/	/	half-life
'4,4'- methylenediphenyl diisocyanate	Fresh-water	/	20 h	/	/	half-life

Biodegradation

For components

Name	Type	Rate	Time	Evaluation	Method	Remark
isocyanic acid, polymethylenepoly phenylene ester, polymer with .alpha.-hydro- .omega.- hydroxypoly(oxy(methyl-1,2- ethanediyl))	biodegradability	0 %	28 days	Non-biodegradable	OECD 302 C	30 mg/l
polymeric MDI	biodegradability	0 %	28 days	Non-biodegradable	OECD 302 C	30 mg/l
reaction mass of 4,4'- methylenediphenyl diisocyanate and o- (pisocyanatobenzyl) phenyl isocyanate	biodegradability	0 %	28 days	Non-biodegradable	OECD 302 C	30 mg/l
'4,4'- methylenediphenyl diisocyanate	biodegradability	0 %	28 days	Non-biodegradable	OECD 302 C	30 mg/l

Additional information

Contains non readily biodegradable component(s).

12.3 BIOACCUMULATIVE POTENTIAL

Partition coefficient n-octanol/water (log value)

For components

Name	Media	value	Temperature °C	pH	Concentration	Method
polymeric MDI	Log Pow	4.51	20	7	/	OECD 117
reaction mass of 4,4'- methylenediphenyl diisocyanate and o- (pisocyanatobenzyl) phenyl isocyanate	Log Pow	4.51	22	7	/	OECD 117
'4,4'- methylenediphenyl diisocyanate	Log Pow	4.51	20	7	/	OECD 117

Bioconcentration factor (BCF)

For components



Safety data sheet

Name	Species	organism	value	Duration	Evaluation	Method	Remark
isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro.-omega.-hydroxypoly(oxy(methyl-1,2-ethanediy))	BCF	<i>Cyprinus carpio</i>	200	/	Low bioaccumulation potential.	/	/
polymeric MDI	BCF	<i>Cyprinus carpio</i>	200	/	Low bioaccumulation potential.	/	/
reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl) phenyl isocyanate	BCF	<i>Cyprinus carpio</i>	200	/	Low bioaccumulation potential.	/	/
reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl) phenyl isocyanate	BCF	/	439	/	Low bioaccumulation potential.	/	/
'4,4'-methylenediphenyl diisocyanate	BCF	<i>Cyprinus carpio</i>	200	/	Low bioaccumulation potential.	/	/

Additional information

No bioaccumulation expected.

12.4 MOBILITY IN SOIL

Known or predicted distribution to environmental compartments

No information.

Surface tension

No information.

Adsorption/Desorption

No information.

12.5 RESULTS OF PBT AND VPVB ASSESSMENT

Does not contain component(s) that meet(s) the criteria of PBT and/or vPvB as listed in Annex XIII of Regulation (EC) No 1907/2006.

12.6 ENDOCRINE DISRUPTING PROPERTIES

The product does not contain substances with the potential for endocrine disorders.

12.7 OTHER ADVERSE EFFECTS

No information.

12.8 ADDITIONAL INFORMATION

For product

Product is not classified as dangerous for environment. Isocyanates react with water to form an insoluble polyurea. Do not allow to reach ground water, water courses or sewage system.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Product / Packaging disposal

Waste chemical

Do not allow product to reach drains/sewage systems. Any disposal in the environment or discharging into water is prohibited. Disposal must be made according to official regulations: deliver it to authorised collector/remover/transformer of hazardous waste. Dispose of in accordance with applicable waste disposal regulation.

Waste codes / waste designations according to LoW

08 04 09* - waste adhesives and sealants containing organic solvents or other dangerous substances

Packaging

Packing must be completely emptied. Empty container is not suitable for reuse. Uncleaned / not emptied containers are classified as hazardous waste - they should be handled in the same manner as the contents. Deliver completely emptied containers to approved waste disposal authorities. Dispose of in



Safety data sheet

accordance with applicable waste disposal regulation.

Waste codes / waste designations according to LoW

- 15 01 02 - plastic packaging
- 15 01 04 - metallic packaging
- 15 01 10* - packaging containing residues of or contaminated by dangerous substances

Waste treatment-relevant information

Disposal in accordance with the Rules on the management of waste.

Sewage disposal-relevant information

No information.

Other disposal recommendations

No information.

SECTION 14: TRANSPORT INFORMATION

ADR/RID	IMDG	IATA	ADN
14.1 UN number or ID number			
Not dangerous according to transport regulations.	Not dangerous according to transport regulations.	Not dangerous according to transport regulations.	Not dangerous according to transport regulations.
14.2 UN proper shipping name			
Not given/not applicable	Not given/not applicable	Not given/not applicable	Not given/not applicable
14.3 Transport hazard class(es)			
Not given/not applicable	Not given/not applicable	Not given/not applicable	Not given/not applicable
14.4 Packing group			
Not given/not applicable	Not given/not applicable	Not given/not applicable	Not given/not applicable
14.5 Environmental hazards			
NO	NO	NO	NO
14.6 Special precautions for user			
Limited quantities	Limited quantities		Limited quantities
Not given/not applicable	Not given/not applicable		Not given/not applicable
14.7 Maritime transport in bulk according to IMO instruments			
	Not given/not applicable		

SECTION 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

- Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (including last amendment Commission Regulation (EU) 2020/878)
- Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

Information according 2004/42/EC about limitation of emissions of volatile organic compounds (VOC-guideline)

not applicable

Ingredients according to Regulation (EC) No 648/2004 on detergents

No information.

Special instructions

Observe the regulations on employment and protection against dangerous substances for young people, pregnant women and nursing mothers. SVHC (substance of very high concern) Candidate list: The product does not contain substances on the SVHC candidate list. Regulation (EC) No. 1907/2006 (REACH) Annex XVII - Terms of restriction: 56 Methylenebiphenyl diisocyanate (MDI):

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



Safety data sheet

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;

(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. Regulation (EC) No. 1907/2006 (REACH) Annex XVII - Terms of restriction: 74.

15.2 CHEMICAL SAFETY ASSESSMENT

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

SECTION 16: OTHER INFORMATION

Indication of changes

5.1 Extinguishing media 5.2 Special hazards arising from the substance or mixture 7.2 Conditions for safe storage, including any incompatibilities 9.1 Information on basic physical and chemical properties 9.2 Other information 10.5 Incompatible materials 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008 12.1 Toxicity 12.2 Persistence and degradability 12.3 Bioaccumulative potential 13.1 Waste treatment methods 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Key literature references and sources for data

No information.

Abbreviations and acronyms



Safety data sheet

ATE - Acute Toxicity Estimate
ADR - Agreement concerning the International Carriage of Dangerous Goods by Road
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
CEN - European Committee for Standardisation
C&L - Classification and Labelling
CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
CAS# - Chemical Abstracts Service number
CMR - Carcinogen, Mutagen, or Reproductive Toxicant
CSA - Chemical Safety Assessment
CSR - Chemical Safety Report
DMEL - Derived Minimal Effect Level
DNEL - Derived No Effect Level
DPD - Dangerous Preparations Directive 1999/45/EC
DSD - Dangerous Substances Directive 67/548/EEC
DU - Downstream User
EC - European Community
ECHA - European Chemicals Agency
EC-Number - EINECS and ELINCS Number (see also EINECS and ELINCS)
EEA - European Economic Area (EU + Iceland, Liechtenstein and Norway)
EEC - European Economic Community
EINECS - European Inventory of Existing Commercial Substances
ELINCS - European List of notified Chemical Substances
EN - European Standard
EQS - Environmental Quality Standard
EU - European Union
Euphrac - European Phrase Catalogue
EWC - European Waste Catalogue (replaced by LoW – see below)
GES - Generic Exposure Scenario
GHS - Globally Harmonized System
IATA - International Air Transport Association
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG - International Maritime Dangerous Goods
IMSBC - International Maritime Solid Bulk Cargoes
IT - Information Technology
IUCLID - International Uniform Chemical Information Database
IUPAC - International Union for Pure Applied Chemistry
JRC - Joint Research Centre
Kow - octanol-water partition coefficient
LC50 - Lethal Concentration to 50 % of a test population
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)
LE - Legal Entity
LoW - List of Wastes (see <http://ec.europa.eu/environment/waste/framework/list.htm>)
LR - Lead Registrant
M/I - Manufacturer / Importer
MS - Member States
MSDS - Material Safety Data Sheet
OC - Operational Conditions
OECD - Organization for Economic Co-operation and Development
OEL - Occupational Exposure Limit
OJ - Official Journal
OR - Only Representative
OSHA - European Agency for Safety and Health at work
PBT - Persistent, Bioaccumulative and Toxic substance
PEC - Predicted Effect Concentration
PNEC(s) - Predicted No Effect Concentration(s)
PPE - Personal Protection Equipment
(Q)SAR - Qualitative Structure Activity Relationship
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
RIP - REACH Implementation Project
RMM - Risk Management Measure
SCBA - Self-Contained Breathing Apparatus
SDS - Safety data sheet
SIEF - Substance Information Exchange Forum
SME - Small and Medium sized Enterprises
STOT - Specific Target Organ Toxicity
(STOT) RE - Repeated Exposure
(STOT) SE - Single Exposure
SVHC - Substances of Very High Concern
UN - United Nations
vPvB - Very Persistent and Very Bioaccumulative

List of relevant H phrases



Safety data sheet

H304 May be fatal if swallowed and enters airways.
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.
H410 Very toxic to aquatic life with long lasting effects.