SAFETY DATA SHEET

H20 Octocoat Hardener

OCTORAL

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

1.1 Product identifier

Product name : H20 Octocoat Hardener

Product type : Liquid.

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

Identified uses
Professional spray painting, near-industrial setting

Uses advised against

Not applicable.

1.3 Details of the supplier of the safety data sheet

Valspar b.v.
Zuiveringweg 89
8243 PE Lelystad
The Netherlands
tel: +31 (0)320 292200

e-mail address of person responsible for this SDS : msds@valspar.com

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : UK: 0-800-014-8126
CALL: +(44)-870-8200418 (Hours of operation - 24 hours)

Ireland: +353 1 8092566 Beaumont Hospital - National Poisons Information Centre
CALL: +(353)-19014670 (Hours of operation - 24 hours)

Supplier

Telephone number : Call: +31 (0)320 292200 (8:30AM - 5PM)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flam. Liq. 3, H226
Acute Tox. 4, H332
Skin Irrit. 2, H315
Skin Sens. 1, H317
STOT SE 3, H335
STOT SE 3, H336
Asp. Tox. 1, H304
Aquatic Chronic 3, H412

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

SECTION 2: Hazards identification

Hazard pictograms :

Signal word : Danger

Hazard statements : Flammable liquid and vapour.
May be fatal if swallowed and enters airways.
Causes skin irritation.
May cause an allergic skin reaction.
Harmful if inhaled.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention : Wear protective gloves. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response : IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting.

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

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : Hexamethylene diisocyanate, oligomers; Solvent naphtha (petroleum), heavy arom.; heptan-2-one and 3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers

Supplemental label elements : Contains isocyanates. May produce an allergic reaction.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Hexamethylene diisocyanate, oligomers	EC: 500-060-2 CAS: 28182-81-2	≥50 - ≤75	Acute Tox. 4, H332 Skin Sens. 1, H317 STOT SE 3, H335	ATE [Inhalation (vapours)] = 11 mg/l	[1] [2]
Solvent naphtha (petroleum), heavy arom.	REACH #: 01-2119463583-34 EC: 265-198-5 CAS: 64742-94-5	≥10 - ≤18	Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	-	[1]
heptan-2-one	REACH #: 01-2119902391-49 EC: 203-767-1 CAS: 110-43-0 Index: 606-024-00-3	≥10 - ≤18	Flam. Liq. 3, H226 Acute Tox. 4, H302 Acute Tox. 4, H332 STOT SE 3, H336	ATE [Oral] = 1600 mg/kg ATE [Inhalation (vapours)] = 16.8 mg/l	[1] [2]
Solvent naphtha (petroleum), light arom.	REACH #: 01-2119455851-35 EC: 265-199-0 CAS: 64742-95-6	≤3.7	Flam. Liq. 3, H226 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 EUH066	-	[1]
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	REACH #: 01-2119488734-24 EC: 500-125-5 CAS: 53880-05-0	≤5	Skin Sens. 1B, H317 STOT SE 3, H335	-	[1]
2-butoxyethyl acetate	REACH #: 01-2119475112-47 EC: 203-933-3 CAS: 112-07-2 Index: 607-038-00-2	≤3	Acute Tox. 4, H312 Acute Tox. 4, H332	ATE [Dermal] = 1500 mg/kg ATE [Inhalation (vapours)] = 11 mg/l	[1] [2]
trimethylbenzene	EC: 247-099-9 CAS: 25551-13-7	≤1.3	Flam. Liq. 3, H226 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	ATE [Inhalation (vapours)] = 11 mg/l	[1] [2]
n-butyl acetate	REACH #: 01-2119485493-29 EC: 204-658-1 CAS: 123-86-4 Index: 607-025-00-1	<1	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066	-	[1] [2]
naphthalene	EC: 202-049-5 CAS: 91-20-3 Index: 601-052-00-2	≤0.14	Acute Tox. 4, H302 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 **See Section 16 for the full text of the H statements declared above.**	ATE [Oral] = 490 mg/kg M [Acute] = 1 M [Chronic] = 1	[1] [2]

SECTION 3: Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

General : In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin.
If splashed in the eyes, the liquid may cause irritation and reversible damage.
Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.
Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitisation of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Sensitised persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability.
Repeated or prolonged contact with irritants may cause dermatitis.

Contains Hexamethylene diisocyanate, oligomers, 3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers. May produce an allergic reaction.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

SECTION 4: First aid measures

See toxicological information (Section 11)

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Recommended: alcohol-resistant foam, CO_2, powders, water spray or mist.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.

Hazardous combustion products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen, hydrogen cyanide, monomeric isocyanates.

5.3 Advice for firefighters

Special protective actions for fire-fighters : Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses.

Special protective equipment for fire-fighters : Appropriate breathing apparatus may be required.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Exclude sources of ignition and ventilate the area. Avoid breathing vapour or mist. Refer to protective measures listed in sections 7 and 8.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

: Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

6.3 Methods and material for containment and cleaning up

: Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Place in a suitable container. The contaminated area should be cleaned immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts) and concentrated (d: 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts) and water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in an unsealed container. Once this stage is reached, close container and dispose of according to local regulations (see section 13).

6.4 Reference to other sections

: See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.

Examination of lung function should be carried out on a regular basis on persons spraying this mixture.

7.1 Precautions for safe handling

: Prevent the creation of flammable or explosive concentrations of vapours in air and avoid vapour concentrations higher than the occupational exposure limits.
In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard.
Mixture may charge electrostatically: always use earthing leads when transferring from one container to another.
Operators should wear antistatic footwear and clothing and floors should be of the conducting type.
Care should be taken when re-opening partly-used containers. Precautions should be taken to minimise exposure to atmospheric humidity or water. CO_2 will be formed, which, in closed containers, could result in pressurisation. Keep away from heat, sparks and flame. No sparking tools should be used.
Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Avoid inhalation of dust from sanding.
Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.
Put on appropriate personal protective equipment (see Section 8).
Never use pressure to empty. Container is not a pressure vessel.
Always keep in containers made from the same material as the original one.
Comply with the health and safety at work laws.
Do not allow to enter drains or watercourses.
Information on fire and explosion protection
Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations.
Notes on joint storage
Keep away from: oxidising agents, strong alkalis, strong acids.
Additional information on storage conditions
Observe label precautions. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight. Keep container tightly closed.
Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P5c	5000 tonnes	50000 tonnes

7.3 Specific end use(s)

Recommendations : Not available.

SECTION 7: Handling and storage

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Hexamethylene diisocyanate, oligomers	**Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024) [Other isocyanates]** Notes: The same exposure limits in ppm are to be used for those isocyanates which have no exposure limits of their own. This also applies to dust or mist from isocyanates, including when it comes from semi-polymerised isocyanates or blocked isocyanates. However, the corresponding value in mg/m³ varies from substance to substance. TWA 8 hours: 0.005 ppm. STEL 5 minutes: 0.01 ppm.
heptan-2-one	**Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024)** Absorbed through skin. STEL 15 minutes: 475 mg/m³. STEL 15 minutes: 100 ppm. TWA 8 hours: 238 mg/m³. TWA 8 hours: 50 ppm.
2-butoxyethyl acetate	**Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024)** Absorbed through skin. STEL 15 minutes: 333 mg/m³. STEL 15 minutes: 50 ppm. TWA 8 hours: 133 mg/m³. TWA 8 hours: 20 ppm.
trimethylbenzene	**Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024) [Trímetýlbensen]** Notes: The same exposure limits in mg/m³ shall be used for other polyalkyl benzenes. TWA 8 hours: 100 mg/m³. TWA 8 hours: 20 ppm.
n-butyl acetate	**Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024) [bútýlasetat, allir ísómerar]** TWA 8 hours: 241 mg/m³. TWA 8 hours: 50 ppm. STEL 15 minutes: 723 mg/m³. STEL 15 minutes: 150 ppm.
naphthalene	**Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024)** TWA 8 hours: 50 mg/m³. TWA 8 hours: 10 ppm.

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

SECTION 8: Exposure controls/personal protection

Product/ingredient name	Result
Hexamethylene diisocyanate, oligomers	**DNEL - Workers - Long term - Inhalation** 0.5 mg/m³ Effects: Local **DNEL - Workers - Short term - Inhalation** 1 mg/m³ Effects: Local **DNEL - Workers - Long term - Inhalation** 0.5 mg/m³ Effects: Local **DNEL - Workers - Short term - Inhalation** 1 mg/m³ Effects: Local
Solvent naphtha (petroleum), heavy arom.	**DNEL - Workers - Long term - Inhalation** 150 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Dermal** 12.5 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 32 mg/m³ Effects: Systemic **DNEL - General population - Long term - Dermal** 7.5 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Oral** 7.5 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Oral** 0.03 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Dermal** 0.28 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 0.69 mg/m³ Effects: Local **DNEL - General population - Long term - Inhalation** 0.69 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Dermal** 0.95 mg/kg bw/day Effects: Systemic **DNEL - Workers - Long term - Inhalation** 2.31 mg/m³ Effects: Local **DNEL - Workers - Long term - Inhalation**

SECTION 8: Exposure controls/personal protection

	2.31 mg/m³ Effects: Systemic **DNEL - General population - Short term - Oral** 25.6 mg/kg bw/day Effects: Systemic **DNEL - General population - Short term - Inhalation** 143.5 mg/m³ Effects: Local **DNEL - Workers - Short term - Inhalation** 160.23 mg/m³ Effects: Local **DNEL - General population - Short term - Inhalation** 226 mg/m³ Effects: Systemic **DNEL - Workers - Short term - Inhalation** 384 mg/m³ Effects: Systemic
heptan-2-one	**DNEL - General population - Long term - Oral** 23.32 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Dermal** 23.32 mg/kg bw/day Effects: Systemic **DNEL - Workers - Long term - Dermal** 54.27 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 84.31 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Inhalation** 394.25 mg/m³ Effects: Systemic **DNEL - Workers - Short term - Inhalation** 1516 mg/m³ Effects: Systemic
Solvent naphtha (petroleum), light arom.	**DNEL - General population - Long term - Dermal** 11 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 32 mg/m³ Effects: Systemic **DNEL - General population - Long term - Oral** 11 mg/kg bw/day Effects: Systemic **DNEL - Workers - Long term - Dermal** 25 mg/kg bw/day Effects: Systemic

SECTION 8: Exposure controls/personal protection

	DNEL - Workers - Long term - Inhalation 150 mg/m³ Effects: Systemic **DNEL - General population - Long term - Inhalation** 0.41 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Inhalation** 1.9 mg/m³ Effects: Systemic **DNEL - General population - Long term - Inhalation** 178.57 mg/m³ Effects: Local **DNEL - General population - Short term - Inhalation** 640 mg/m³ Effects: Local **DNEL - Workers - Long term - Inhalation** 837.5 mg/m³ Effects: Local **DNEL - Workers - Short term - Inhalation** 1066.67 mg/m³ Effects: Local **DNEL - General population - Short term - Inhalation** 1152 mg/m³ Effects: Systemic **DNEL - Workers - Short term - Inhalation** 1286.4 mg/m³ Effects: Systemic
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	**DNEL - Workers - Long term - Inhalation** 0.3 mg/m³ Effects: Local **DNEL - Workers - Short term - Inhalation** 0.6 mg/m³ Effects: Local **DNEL - Workers - Long term - Inhalation** 0.29 mg/m³ Effects: Local **DNEL - Workers - Short term - Inhalation** 0.58 mg/m³ Effects: Local
2-butoxyethyl acetate	**DNEL - General population - Short term - Inhalation** 499 mg/m³ Effects: Systemic **DNEL - Workers - Short term - Inhalation** 775 mg/m³ Effects: Systemic **DNEL - General population - Long term - Inhalation** 80 mg/m³ Effects: Systemic

SECTION 8: Exposure controls/personal protection

DNEL - Workers - Long term - Inhalation
133 mg/m³
Effects: Systemic

DNEL - General population - Short term - Inhalation
200 mg/m³
Effects: Local

DNEL - General population - Long term - Oral
8.6 mg/kg bw/day
Effects: Systemic

DNEL - General population - Short term - Oral
36 mg/kg bw/day
Effects: Systemic

DNEL - General population - Short term - Dermal
72 mg/kg bw/day
Effects: Systemic

DNEL - General population - Long term - Dermal
102 mg/kg bw/day
Effects: Systemic

DNEL - Workers - Short term - Dermal
120 mg/kg bw/day
Effects: Systemic

DNEL - Workers - Long term - Dermal
169 mg/kg bw/day
Effects: Systemic

DNEL - Workers - Short term - Inhalation
333 mg/m³
Effects: Local

n-butyl acetate

DNEL - General population - Consumers - Long term - Inhalation
35.7 mg/m³
Effects: Local

DNEL - General population - Consumers - Short term - Inhalation
300 mg/m³
Effects: Local

DNEL - General population - Short term - Dermal
6 mg/kg bw/day
Effects: Systemic

DNEL - General population - Consumers - Long term - Oral
2 mg/kg bw/day
Effects: Systemic

DNEL - General population - Consumers - Short term - Oral
2 mg/kg bw/day
Effects: Systemic

DNEL - Workers - Long term - Inhalation
300 mg/m³
Effects: Systemic

SECTION 8: Exposure controls/personal protection

DNEL - Workers - Short term - Inhalation
600 mg/m³
Effects: Systemic

DNEL - Workers - Long term - Inhalation
300 mg/m³
Effects: Local

DNEL - Workers - Short term - Inhalation
600 mg/m³
Effects: Local

DNEL - Workers - Long term - Dermal
11 mg/kg bw/day
Effects: Systemic

DNEL - Workers - Short term - Dermal
11 mg/kg bw/day
Effects: Systemic

DNEL - General population - Long term - Oral
2 mg/kg bw/day
Effects: Systemic

DNEL - General population - Short term - Oral
2 mg/kg bw/day
Effects: Systemic

DNEL - General population - Long term - Dermal
3.4 mg/kg bw/day
Effects: Systemic

DNEL - General population - Short term - Dermal
6 mg/kg bw/day
Effects: Systemic

DNEL - Workers - Long term - Dermal
7 mg/kg bw/day
Effects: Systemic

DNEL - Workers - Short term - Dermal
11 mg/kg bw/day
Effects: Systemic

DNEL - General population - Long term - Inhalation
12 mg/m³
Effects: Systemic

DNEL - General population - Long term - Inhalation
35.7 mg/m³
Effects: Local

DNEL - Workers - Long term - Inhalation
48 mg/m³
Effects: Systemic

DNEL - General population - Short term - Inhalation
300 mg/m³
Effects: Local

DNEL - General population - Short term - Inhalation
300 mg/m³

SECTION 8: Exposure controls/personal protection

	Effects: Systemic
	DNEL - Workers - Long term - Inhalation 300 mg/m³ Effects: Local
	DNEL - Workers - Short term - Inhalation 600 mg/m³ Effects: Local
	DNEL - Workers - Short term - Inhalation 600 mg/m³ Effects: Systemic
naphthalene	**DNEL - Workers - Long term - Dermal** 3.57 mg/kg bw/day Effects: Systemic
	DNEL - Workers - Long term - Inhalation 25 mg/m³ Effects: Local
	DNEL - Workers - Long term - Inhalation 25 mg/m³ Effects: Systemic

PNECs

Product/ingredient name	Result
Hexamethylene diisocyanate, oligomers	**Fresh water** 0.127 mg/l
	Marine water 0.0127 mg/l
	Fresh water sediment 266700 mg/kg dwt
	Marine water sediment 26670 mg/kg dwt
	Sewage Treatment Plant 38.28 mg/l
	Soil 53182 mg/kg dwt
heptan-2-one	**Fresh water** 0.0982 mg/l
	Marine water 0.00982 mg/l
	Sewage Treatment Plant 12.5 mg/l
	Fresh water sediment 1.89 mg/kg dwt
	Marine water sediment 0.189 mg/kg dwt
	Soil

SECTION 8: Exposure controls/personal protection

	0.321 mg/kg dwt
2-butoxyethyl acetate	**Fresh water** 0.304 mg/l **Marine water** 0.0304 mg/l **Sewage Treatment Plant** 90 mg/l **Fresh water sediment** 2.03 mg/kg dwt **Marine water sediment** 0.203 mg/kg dwt **Soil** 0.415 mg/kg dwt **Secondary Poisoning** 60 mg/kg
n-butyl acetate	**Fresh water** 0.18 mg/l **Marine** 0.018 mg/l **Sewage Treatment Plant** 35.6 mg/l **Fresh water sediment** 0.981 mg/kg dwt **Marine water sediment** 0.0981 mg/kg dwt **Soil** 0.0903 mg/kg dwt
naphthalene	**Fresh water** 2.4 µg/l **Marine water** 2.4 µg/l **Sewage Treatment Plant** 2.9 mg/l **Fresh water sediment** 67.2 µg/kg dwt **Marine water sediment** 67.2 µg/kg dwt **Soil** 53.3 µg/kg dwt

8.2 Exposure controls

SECTION 8: Exposure controls/personal protection

Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be exposed to any process in which this product is used.

Examination of lung function should be carried out on a regular basis on persons spraying this mixture.

Appropriate engineering controls : Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. Air-fed protective respiratory equipment must be worn by the spray operator, even when good ventilation is provided. In other operations, if local exhaust ventilation and good general extraction are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn. (See Occupational exposure controls.)

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Use safety eyewear designed to protect against splash of liquids.

Skin protection

Hand protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.
The breakthrough time must be greater than the end use time of the product.
The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.
Gloves should be replaced regularly and if there is any sign of damage to the glove material.
Always ensure that gloves are free from defects and that they are stored and used correctly.
The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.
Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

Gloves : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): Recommended EN 374 Viton® >= 0.7 mm
< 1 hour (breakthrough time): Conditionally suitable materials for protective gloves; EN 374: Nitrile rubber - NBR (>= 0.35 mm). Only suitable as splash protection. Only suitable for brief exposure. In the event of contamination, change protective gloves immediately.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods. Recommended: Cotton or cotton/synthetic overalls or coveralls are normally suitable.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: full-face mask supplied-air respirator

SECTION 8: Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.

Colour : Colourless.

Odour : Pungent.

Odour threshold : Not available.

Melting point/freezing point : Not applicable.

Boiling point or initial boiling point and boiling range : >100°C (>212°F)

Flammability : Not available.

Lower and upper explosion limit : Lower: 0.6%
Upper: 7.6%

Flash point : Closed cup: 27°C (80.6°F)

Auto-ignition temperature : 250°C (482°F)

Decomposition temperature : Not applicable.

pH : Not applicable.

Viscosity : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C): 6 mm^2/s

Solubility :

Media	Result
cold water	Not soluble
hot water	Not soluble

Solubility in water : Not applicable.

Partition coefficient n-octanol/water (log Pow) : Not applicable.

Vapour pressure : 0.87 kPa (6.5 mm Hg)

Relative density : 1.028

Density : 1.028 g/cm^3

Relative vapour density : 3.6 [Air = 1]

Particle characteristics

Median particle size : Not applicable.

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Explosive properties : Not available.

Oxidising properties : Not available.

9.2.2 Other safety characteristics

Miscible with water : No.

Evaporation rate : 0.3 (butyl acetate = 1)

SECTION 10: Stability and reactivity

10.1 Reactivity : The product reacts slowly with water, resulting in the production of carbon dioxide.

10.2 Chemical stability : Stable under recommended storage and handling conditions (see Section 7).

10.3 Possibility of hazardous reactions : In closed containers, pressure build-up could result in distortion, expansion and, in extreme cases, bursting of the container.

10.4 Conditions to avoid : In a fire, hazardous decomposition products may be produced.

10.5 Incompatible materials : Keep away from: oxidising agents, strong alkalis, strong acids, amines, alcohols, water. Uncontrolled exothermic reactions occur with amines and alcohols.

10.6 Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen, hydrogen cyanide, monomeric isocyanates.

SECTION 11: Toxicological information

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

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin.
If splashed in the eyes, the liquid may cause irritation and reversible damage.
Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.
Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitisation of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Sensitised persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability.
Repeated or prolonged contact with irritants may cause dermatitis.

Contains Hexamethylene diisocyanate, oligomers, 3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers. May produce an allergic reaction.

Acute toxicity

Product/ingredient name	Result
Hexamethylene diisocyanate, oligomers	**Rat - Oral - LD50** >5000 mg/kg OECD 401 [Acute Oral Toxicity] **Rat - Male, Female - Dermal - LD50** >2000 mg/kg OECD 402 [Acute Dermal Toxicity] **Rabbit - Male, Female - Dermal - LD50** >2000 mg/kg OECD 402 [Acute Dermal Toxicity] **Rat - Inhalation - LC50 Dusts and mists** 2.18 mg/l [4 hours]

SECTION 11: Toxicological information

	Rat - Inhalation - LC50 Dusts and mists 18500 mg/m³ [1 hours]
Solvent naphtha (petroleum), heavy arom.	**Rat - Oral - LD50** >5000 mg/kg Acute Oral Toxicity **Rabbit - Dermal - LD50** >2000 mg/kg Acute Dermal Toxicity **Rat - Inhalation - LC50 Dusts and mists** >4688 mg/m³ [4 hours]
heptan-2-one	**Rat - Oral - LD50** 1600 mg/kg Toxic effects: Behavioral - Ataxia Lung, Thorax, or Respiration - Respiratory depression **Rat - Dermal - LD50** >2000 mg/kg **Rat - Inhalation - LC50 Vapour** 16.8 mg/l [4 hours]
Solvent naphtha (petroleum), light arom.	**Rat - Oral - LD50** 3592 mg/kg OECD [Acute Oral Toxicity] **Rabbit - Dermal - LD50** >3160 mg/kg OECD [Acute Dermal Toxicity] **Rat - Inhalation - LC50 Vapour** 6193 mg/m³ [4 hours] OECD [Acute Inhalation Toxicity]
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	**Rat - Oral - LD50** >14000 mg/kg OECD [Acute Oral Toxicity] **Rat - Inhalation - LC50 Dusts and mists** >5 mg/l [4 hours] OECD [Acute Inhalation Toxicity]
2-butoxyethyl acetate	**Rat - Oral - LD50** 1880 mg/kg **Rabbit - Dermal - LD50** 1500 mg/kg Toxic effects: Kidney, Ureter, and Bladder - Hematuria Kidney, Ureter, and Bladder - Other changes in urine composition Blood - Normocytic anemia
trimethylbenzene	**Rat - Oral - LD50** 8970 mg/kg
n-butyl acetate	**Rabbit - Dermal - LD50** >14112 mg/kg OECD [Acute Dermal Toxicity] **Rat - Oral - LD50** 10760 mg/kg

SECTION 11: Toxicological information

OECD [Acute Oral toxicity - Acute Toxic Class Method]

Rat - Inhalation - LC50 Vapour
>21.1 mg/l [4 hours]
OECD [Acute Inhalation Toxicity]

Rat - Inhalation - LC50 Gas.
390 ppm [4 hours]
Toxic effects: Behavioral - Changes in motor activity (specific assay) Lung, Thorax, or Respiration - Acute pulmonary edema Blood - Hemorrhage

naphthalene

Rat - Dermal - LD50
>2500 mg/kg

Rat - Oral - LD50
490 mg/kg

Rabbit - Dermal - LD50
>20 g/kg

Conclusion/Summary [Product] : Not available.

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
H20 Octocoat Hardener	13909.4	71701.7	N/A	15.8	N/A
Hexamethylene diisocyanate, oligomers	N/A	N/A	N/A	11	N/A
heptan-2-one	1600	N/A	N/A	16.8	N/A
Solvent naphtha (petroleum), light arom.	3592	N/A	N/A	N/A	N/A
2-butoxyethyl acetate	N/A	1500	N/A	11	N/A
trimethylbenzene	8970	N/A	N/A	11	N/A
n-butyl acetate	10760	N/A	N/A	N/A	N/A
naphthalene	490	N/A	N/A	N/A	N/A

Skin corrosion/irritation

Product/ingredient name	Result
Hexamethylene diisocyanate, oligomers	**Rabbit - Skin - Mild irritant** OECD [Acute Dermal Irritation/Corrosion] Duration of treatment/exposure: 4 hours **Rabbit - Skin - Moderate irritant** Amount/concentration applied: 500 mg
Solvent naphtha (petroleum), heavy arom.	**Rabbit - Skin - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 uL
heptan-2-one	**Rabbit - Skin - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 14 mg
2-butoxyethyl acetate	**Rabbit - Skin - Mild irritant** Amount/concentration applied: 500 mg
trimethylbenzene	**Rabbit - Skin - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg

SECTION 11: Toxicological information

n-butyl acetate	**Rabbit - Skin - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg
naphthalene	**Rabbit - Skin - Mild irritant** Amount/concentration applied: 495 mg **Rabbit - Skin - Severe irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 0.05 Ml

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

Product/ingredient name	Result
Hexamethylene diisocyanate, oligomers	**Rabbit - Eyes - Mild irritant** OECD [Acute Eye Irritation/Corrosion] **Rabbit - Eyes - Moderate irritant** Amount/concentration applied: 100 mg
Solvent naphtha (petroleum), light arom.	**Rabbit - Eyes - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 100 uL
2-butoxyethyl acetate	**Rabbit - Eyes - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg
trimethylbenzene	**Rabbit - Eyes - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg
n-butyl acetate	**Rabbit - Eyes - Moderate irritant** Amount/concentration applied: 100 mg

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization

Product/ingredient name	Result
Hexamethylene diisocyanate, oligomers	**Mouse - skin** OECD [Skin Sensitization: Local Lymph Node Assay] Result: Sensitising **Guinea pig - skin** OECD [Skin Sensitization] Result: Sensitising

Skin

Conclusion/Summary [Product] : Not available.

SECTION 11: Toxicological information

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Product/ingredient name	Result
Hexamethylene diisocyanate, oligomers	**In vitro - Bacteria** OECD [Bacterial Reverse Mutation Test] Result: Negative Metabolic activation: +/- **In vitro - Mammalian-Animal** OECD [In vitro Mammalian Cell Gene Mutation Test] Result: Negative Metabolic activation: +/- **In vitro - Mammalian-Animal** OECD [In vitro Mammalian Chromosomal Aberration Test] Result: Negative Metabolic activation: +/-

Conclusion/Summary [Product] : Not available.

Carcinogenicity

Not available.

Conclusion/Summary [Product] : Not available.

Reproductive toxicity

Not available.

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Result
Hexamethylene diisocyanate, oligomers	STOT SE 3, H335 (Respiratory tract irritation)
Solvent naphtha (petroleum), heavy arom.	STOT SE 3, H336 (Narcotic effects)
heptan-2-one	STOT SE 3, H336 (Narcotic effects)
Solvent naphtha (petroleum), light arom.	STOT SE 3, H335 (Respiratory tract irritation) STOT SE 3, H336 (Narcotic effects)
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	STOT SE 3, H335 (Respiratory tract irritation)
n-butyl acetate	STOT SE 3, H336 (Narcotic effects)

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Product/ingredient name	Result
Solvent naphtha (petroleum), heavy arom.	ASPIRATION HAZARD - Category 1
Solvent naphtha (petroleum), light arom.	ASPIRATION HAZARD - Category 1
trimethylbenzene	ASPIRATION HAZARD - Category 1

Information on likely routes of exposure

Not available.

Potential acute health effects

SECTION 11: Toxicological information

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Product/ingredient name	Result
Hexamethylene diisocyanate, oligomers	**Sub-chronic - Rat - Male, Female - Inhalation - NOAEL Dusts and mists** OECD [Subchronic Inhalation Toxicity: 90-day Study] 3.3 mg/m³ [6 hours per day] [90 days]

Conclusion/Summary [Product] : Not available.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

Conclusion/Summary [Product] : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

There are no data available on the mixture itself.
Do not allow to enter drains or watercourses.

The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is classified for eco-toxicological properties accordingly. See Sections 2 and 3 for details.

Product/ingredient name	Result
Hexamethylene diisocyanate, oligomers	**Acute - LC50** EU [67/548/EEC ANNEX V, C.1.] Fish - *Danio rerio* >100 mg/l [96 hours] **Acute - EC50** EU [67/548/EEC ANNEX V, C.2.] Daphnia - *Daphnia magna* >100 mg/l [48 hours] **Acute - EC50** ISO [DIN 38412] Algae - *Scenedesmus subspicatus* >1000 mg/l [72 hours]
Solvent naphtha (petroleum), heavy arom.	**Acute - EC50** Daphnia - *Daphnia magna* 3 to 10 mg/l [48 hours] **Acute - EC50** Algae - *Pseudokirchneriella subcapitata* 11 mg/l [72 hours] **Acute - LC50** Fish - *Oncorhynchus mykiss* 2 to 5 mg/l [96 hours]
heptan-2-one	**Acute - LC50 - Fresh water** Fish - Fathead minnow - *Pimephales promelas* Age: 32 days; Size: 18.4 mm; Weight: 0.095 g 131 mg/l [96 hours] Effect: Mortality
Solvent naphtha (petroleum), light arom.	**Acute - LC50** Fish, Acute Toxicity Test Fish - *Oncorhynchus mykiss* 9.2 mg/l [96 hours] **Acute - EC50** Alga, Growth Inhibition Test Algae - *Pseudokirchneriella subcapitata* 2.9 mg/l [72 hours] **Acute - EC50** Daphnia sp. Acute Immobilization Test and Reproduction Test Daphnia - *Daphnia magna* 3.2 mg/l [48 hours] **Acute - NOEC** Algae - *Pseudokirchneriella subcapitata* >1 mg/l [72 hours]
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	**Acute - EC50** OECD [Fish, Acute Toxicity Test]

SECTION 12: Ecological information

	Fish >100 mg/l [96 hours]
	Acute - EC50 OECD [Daphnia sp. Acute Immobilization Test and Reproduction Test] Daphnia >100 mg/l [48 hours]
2-butoxyethyl acetate	**Acute - EC50** Daphnia - *Daphnia magna* 37 mg/l [48 hours]
	Acute - LC50 Fish - *Pimephales promelas* 22 mg/l [96 hours]
	Acute - EC50 Algae - *Pseudokirchneriella subcapitata* 1570 mg/l [72 hours]
trimethylbenzene	**Acute - LC50 - Marine water** Crustaceans - Daggerblade grass shrimp - *Palaemon pugio* 5600 µg/l [48 hours] Effect: Mortality
n-butyl acetate	**Acute - NOEC** Algae 200 mg/l [72 hours]
	Acute - EC50 OECD 201 [Alga, Growth Inhibition Test] Algae - *Selenastrum capricornutum* 397 mg/l [72 hours]
	Acute - LC50 - Fresh water Fish - Fathead minnow - *Pimephales promelas* Age: 31 to 32 days; Size: 21.6 mm; Weight: 0.175 g 18 mg/l [96 hours] Effect: Mortality
	Acute - LC50 - Marine water Crustaceans - Brine shrimp - *Artemia salina* 32 mg/l [48 hours] Effect: Mortality
naphthalene	**Acute - EC50 - Fresh water** Daphnia - Water flea - *Daphnia magna* - Neonate Age: ≤24 hours 1.6 mg/l [48 hours] Effect: Intoxication
	Acute - LC50 - Fresh water Fish - Crimson-spotted rainbowfish - *Melanotaenia fluviatilis* - Larvae Age: 1 days 213 µg/l [96 hours] Effect: Mortality
	Chronic - NOEC - Fresh water Fish - Mozambique tilapia - *Oreochromis mossambicus* Age: 4 months; Size: 5.4 cm; Weight: 5.5 g

SECTION 12: Ecological information

1.5 mg/l [60 days]
Effect: Growth

Chronic - NOEC - Marine water
Crustaceans - Fiddler crab - *Uca pugnax* - Adult
Size: 12.7 to 21.4 mm
0.5 mg/l [3 weeks]
Effect: Growth

Conclusion/Summary [Product] : Not available.

12.2 Persistence and degradability

Product/ingredient name	Result
Hexamethylene diisocyanate, oligomers	**Aerobic** EU [67/548/EEC ANNEX V, C.4.E.] 1% [28 days] - Not readily
Solvent naphtha (petroleum), heavy arom.	50% [28 days] - Readily
heptan-2-one	69% [28 days] - Readily
Solvent naphtha (petroleum), light arom.	78% [28 days] - Readily
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	OECD [Ready Biodegradability - Manometric Respirometry Test] 1% [28 days] OECD [Inherent Biodegradability: Modified MITI Test (II)] 5% [28 days]
n-butyl acetate	OECD [Ready Biodegradability - Closed Bottle Test] >80% [5 days]

Conclusion/Summary [Product] : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Hexamethylene diisocyanate, oligomers	7.7 days [Fresh water] [23 °C]	-	Not readily
Solvent naphtha (petroleum), heavy arom.	-	-	Readily
heptan-2-one	-	-	Readily
Solvent naphtha (petroleum), light arom.	-	-	Readily
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	-	-	Not readily
2-butoxyethyl acetate	-	90.4%; 28 day(s)	-
n-butyl acetate	-	-	Readily

12.3 Bioaccumulative potential

SECTION 12: Ecological information

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Hexamethylene diisocyanate, oligomers	5.54	367.7	Low
Solvent naphtha (petroleum), heavy arom.	2.8 to 6.5	99 to 5780	High
heptan-2-one	2.26	-	Low
Solvent naphtha (petroleum), light arom.	-	10 to 2500	High
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	14.48	-	High
2-butoxyethyl acetate	1.51	-	Low
trimethylbenzene	3.4 to 3.8	-	Low
n-butyl acetate	2.3	-	Low
naphthalene	3.4	36.5 to 168 [OECD 305]	Low

12.4 Mobility in soil

Soil/water partition coefficient

Product/ingredient name	logKoc	Koc
heptan-2-one	1.6	39.9018
2-butoxyethyl acetate	2.1	112.842
n-butyl acetate	1.5	33.2139
naphthalene	3	913.843

Results of PMT and vPvM assessment

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
Hexamethylene diisocyanate, oligomers	No	No	No	No	No	No	No
Solvent naphtha (petroleum), heavy arom.	No	No	No	No	No	No	No
heptan-2-one	No	No	No	No	No	No	No
Solvent naphtha (petroleum), light arom.	No	No	No	No	No	No	No
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	No	No	No	No	No	No	No
2-butoxyethyl acetate	No	No	No	No	No	No	No
trimethylbenzene	No	No	No	No	No	No	No
n-butyl acetate	No	No	No	No	No	No	No
naphthalene	No	No	No	No	No	No	No

Mobility : Not available.

Conclusion/Summary : The product does not meet the criteria to be considered as a PMT or vPvM.

12.5 Results of PBT and vPvB assessment

Regulation (EC) No. 1907/2006 [REACH]

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Hexamethylene diisocyanate, oligomers	No	No	No	No	No	No	No
Solvent naphtha (petroleum), heavy arom.	No	N/A	No	No	No	N/A	No
heptan-2-one	No	N/A	N/A	No	N/A	N/A	N/A
Solvent naphtha (petroleum), light arom.	No	N/A	No	No	No	N/A	No
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	No	N/A	N/A	No	N/A	N/A	N/A
2-butoxyethyl acetate	No	N/A	N/A	No	N/A	N/A	N/A

SECTION 12: Ecological information

trimethylbenzene	No	N/A	N/A	No	N/A	N/A	N/A
n-butyl acetate	No	N/A	N/A	No	N/A	N/A	N/A
naphthalene	No	N/A	No	No	No	N/A	No

Regulation (EC) No. 1272/2008 [CLP]

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Hexamethylene diisocyanate, oligomers	No	No	No	No	No	No	No
Solvent naphtha (petroleum), heavy arom.	No	No	No	No	No	No	No
heptan-2-one	No	No	No	No	No	No	No
Solvent naphtha (petroleum), light arom.	No	No	No	No	No	No	No
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	No	No	No	No	No	No	No
2-butoxyethyl acetate	No	No	No	No	No	No	No
trimethylbenzene	No	No	No	No	No	No	No
n-butyl acetate	No	No	No	No	No	No	No
naphthalene	No	No	No	No	No	No	No

Conclusion/Summary Regulation (EC) No. 1272/2008 [CLP] : The product does not meet the criteria to be considered as a PBT or vPvB.

12.6 Endocrine disrupting properties

Not available.

Conclusion/Summary [Product] : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Disposal considerations : Do not allow to enter drains or watercourses. Residues in empty containers should be neutralised with a decontaminant (see section 6).
Dispose of according to all federal, state and local applicable regulations.
If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.
For further information, contact your local waste authority.

Packaging

SECTION 13: Disposal considerations

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Disposal considerations : Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers.
Empty containers must be scrapped or reconditioned.
Dispose of containers contaminated by the product in accordance with local or national legal provisions.

Type of packaging	European waste catalogue (EWC)	
CEPE Guidelines	15 01 10*	packaging containing residues of or contaminated by hazardous substances

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	UN1263	UN1263	UN1263	UN1263
14.2 UN proper shipping name	PAINT RELATED MATERIAL	PAINT RELATED MATERIALPAINT RELATED MATERIAL	PAINT RELATED MATERIAL	Paint related material
14.3 Transport hazard class(es)	3 	3 	3 	3 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	No.	Yes.	No.	No.

Additional information

ADR/RID : **Hazard identification number** 30
Limited quantity 5 L
Special provisions 163, 650, 367
Tunnel code (D/E)

ADN : The product is only regulated as an environmentally hazardous substance when transported in tank vessels.
Special provisions 163, 367, 650

IMDG : **Emergency schedules** F-E, _S-E_
Special provisions 163, 223, 367, 955

IATA : **Quantity limitation** Passenger and Cargo Aircraft: 60 L. Packaging instructions: 355. Cargo Aircraft Only: 220 L. Packaging instructions: 366. Limited Quantities - Passenger Aircraft: 10 L. Packaging instructions: Y344.
Special provisions A3, A72, A192

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 14: Transport information

14.7 Maritime transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed above the relevant limit.

Substances of very high concern

None of the components are listed above the relevant limit.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product/ingredient name	%	Designation [Usage]
H20 Octocoat Hardener	≥90	3
hexamethylene-di-isocyanate	≤0.1	74
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	≤0.1	74
benzene	<0.1	5 72
toluene	≤0.1	48

Labelling : Not applicable.

Other EU regulations

VOC : The provisions of Directive 2004/42/EC on VOC apply to this product. Refer to the product label and/or technical data sheet for further information.

VOC for Ready-for-Use Mixture : Not available.

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

Explosive precursors : Not applicable.

Ozone depleting substances (EU 2024/590)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Annex	Ingredient name	Status
Annex III	naphthalene	Listed

Seveso Directive

This product may add to the calculation for determining whether a site is within the scope of the Seveso Directive on major accident hazards.

National regulations

SECTION 15: Regulatory information

Industrial use : The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : All components are listed or exempted.

Canada : All components are listed or exempted.

China : All components are listed or exempted.

Eurasian Economic Union : **Russian Federation inventory**: All components are listed or exempted.

Japan : **Japan inventory (CSCL)**: Not determined.
Japan inventory (ISHL): Not determined.

New Zealand : All components are listed or exempted.

Philippines : All components are listed or exempted.

Republic of Korea : All components are listed or exempted.

Taiwan : All components are listed or exempted.

Thailand : Not determined.

Turkey : All components are listed or exempted.

United States : All components are active or exempted.

Viet Nam : All components are listed or exempted.

15.2 Chemical safety assessment : No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

CEPE code : 5

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
B = Bioaccumulative
BCF = Bioconcentration Factor
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods

SECTION 16: Other information

IMO = International Maritime Organization
M = Mobile
N/A = Not available
P = Persistent
PBT = Persistent, Bioaccumulative and Toxic
PMT = Persistent, Mobile and Toxic
PNEC = Predicted No Effect Concentration
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SGG = Segregation Group
T = Toxic
vB = Very Bioaccumulative
vM = Very Mobile
vP = Very Persistent
vPvB = Very Persistent and Very Bioaccumulative
vPvM = Very Persistent and Very Mobile

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Flam. Liq. 3, H226	On basis of test data
Acute Tox. 4, H332	Calculation method
Skin Irrit. 2, H315	Calculation method
Skin Sens. 1, H317	Calculation method
STOT SE 3, H335	Calculation method
STOT SE 3, H336	Calculation method
Asp. Tox. 1, H304	Calculation method
Aquatic Chronic 3, H412	Calculation method

Full text of abbreviated H statements

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
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.
EUH066	Repeated exposure may cause skin dryness or cracking.

Full text of classifications [CLP/GHS]

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Carc. 2	CARCINOGENICITY - Category 2
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
Skin Sens. 1B	SKIN SENSITISATION - Category 1B
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

Date of printing : 9/8/2025

SECTION 16: Other information

Date of issue/ Date of revision : 9/1/2025

Date of previous issue : No previous validation

Version : 1

Notice to reader

The information in this Safety Data Sheet is based on the present state of knowledge and current legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications. The product should not be used for purposes other than those shown in Section 1 without first referring to the supplier and obtaining written handling instructions. As the specific conditions of use of the product are outside the supplier's control, the user is responsible for ensuring that the requirements of relevant legislation are complied with. The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation.

SUMI
Safe Use of Mixtures
Information for end-users

Title : Professional spray painting, near-industrial setting

This document is intended to communicate the conditions of safe use for the product and should always be read in combination with the product's Safety Data Sheet and labels.

General description of the process covered

Indoor spray painting by professionals with efficient ventilation such as spray booth or local exhaust ventilation

Operational conditions

Place of use : Indoor use

Risk management measures (RMM)

Contributing activity	Process category (ies)	Maximum duration	Ventilation	
			Type	ach (air changes per hour)
Preparation of material for application	PROC05	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Loading of application equipment and handling of coated parts before curing	PROC08a	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Professional application of coatings and inks by spraying	PROC11	More than 4 hours	Local exhaust ventilation	Refer to relevant technical standards
Film formation - force drying, stoving and other technologies	PROC04	More than 4 hours	Enhanced (mechanical) room ventilation	Refer to relevant technical standards
Cleaning	PROC05	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10
Waste management	PROC08a	More than 4 hours	Enhanced (mechanical) room ventilation	5 - 10

Contributing activity	Process category (ies)	Respiratory	Eye	Hands
Preparation of material for application	PROC05	None	Use eye protection according to EN ISO 16321.	Wear suitable gloves tested to EN374.
Loading of application equipment and handling of coated parts before curing	PROC08a	None	Use eye protection according to EN ISO 16321.	Wear suitable gloves tested to EN374.
Professional application of coatings and inks by spraying	PROC11	Wear a respirator conforming to EN140 with an assigned protection factor of at least 10.	Use eye protection according to EN ISO 16321.	Wear suitable gloves tested to EN374.
Film formation - force drying, stoving and other technologies	PROC04	Wear a respirator conforming to EN140 with an assigned protection factor of at least 10.	None	None
Cleaning	PROC05	None	Use eye protection according to EN ISO 16321.	Wear suitable gloves tested to EN374.
Waste management	PROC08a	None	Use eye protection according to EN ISO 16321.	Wear suitable gloves tested to EN374.

See section 8 of this Safety Data Sheet for specifications.

Disclaimer

The information in this Safe Use of Mixture Information sheet is based on the data provided by the substance supplier for the substances in the product for which a chemical safety assessment has been carried out at the time of issue. It does not guarantee safe use of the product and does not replace any occupational risk assessment required by legislation. When developing workplace instructions for employees, SUMI sheets should always be considered in combination with the SDS and the label of the product.
No liability is accepted for any damage, no matter of what kind, which is direct or indirect consequence of acts and/or decisions (partly) based on the contents of this document.