

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 11.06.2019

Version number 6

Revision: 11.06.2019

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

1.1 Product identifier

Trade name: **Hardener for Shark Skin**

Article number: 87884, 87879, 87898

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

No further relevant information available.

Application of the substance / the mixture

Hardening agent/ Curing agent

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: AKEMI chemisch technische Spezialfabrik GmbH
Lechstrasse 28
D 90451 Nürnberg

Tel. +49(0)911-642960
Fax. +49(0)911-644456
e-mail info@akemi.de

Further information obtainable from:

Laboratory

1.4 Emergency telephone number:

Product Safety Department AKEMI chemisch technische Spezialfabrik GmbH
Tel. +49(0)911-64296-59
Reachable during the following office hours:
Monday – Thursday from 07:30 a.m. to 16:30 p.m.
Friday from 07:30 a.m. to 13:30 p.m.
+44 (171) 635 91 91
National Poison Inform. Centre
Medical Toxicology Unit
Avalonley Road
London SE14 5ER

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

STOT RE 2 H373 May cause damage to the central nervous system through prolonged or repeated exposure.
Route of exposure: Inhalation.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

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· Hazard pictograms

GHS02 GHS07 GHS08

· Signal word

Warning

· Hazard-determining components of labelling:

aliphatic polyisocyanate
xylene
hexamethylene-di-isocyanate

· Hazard statements

H226 Flammable liquid and vapour.
H332 Harmful if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H373 May cause damage to the central nervous system through prolonged or repeated exposure. Route of exposure: Inhalation.

· Precautionary statements

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe mist/vapours/spray.
P280 Wear protective gloves / eye protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER/doctor if you feel unwell.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information: Contains isocyanates. May produce an allergic reaction.

· Additional information:· **2.3 Other hazards**· Results of PBT and vPvB assessment· PBT: Not applicable.· vPvB: Not applicable.**SECTION 3: Composition/information on ingredients**· **3.2 Chemical characterisation: Mixtures**· Description: Mixture: consisting of the following components.· Dangerous components:

CAS: 28182-81-2	aliphatic polyisocyanate	50-100%
EC number: 931-274-8	⚠ Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	
Reg.nr.: 01-2119485796-17-0000		

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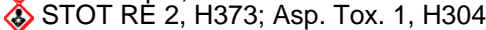
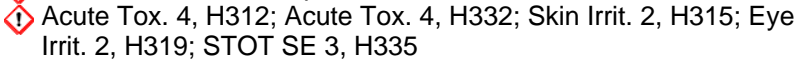
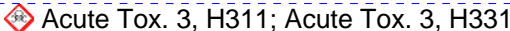

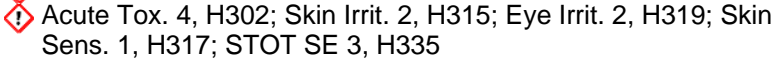
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CAS: 108-65-6 EINECS: 203-603-9 Index number: 607-195-00-7 Reg.nr.: 01-211947591-29	2-methoxy-1-methylethyl acetate  	12.5-25%
CAS: 1330-20-7 EINECS: 215-535-7 Index number: 601-022-00-9 Reg.nr.: 01-2119555267-33 01-2119488216-32	xylene   	<12.5%
CAS: 822-06-0 EINECS: 212-485-8 Index number: 615-011-00-1 Reg.nr.: 01-2119457571-37-0001	hexamethylene-di-isocyanate   	<1%

· Additional information:

For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures**4.1 Description of first aid measures**· General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Take affected persons out into the fresh air.

Position and transport stably in side position.

· After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

· After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

· After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· After swallowing:

Do not induce vomiting; call for medical help immediately.

A person vomiting while laying on their back should be turned onto their side.

4.2 Most important symptoms and effects, both acute and delayed

Breathing difficulty

Headache

Dizziness

Dizziness

Nausea

Allergic reactions

· Information for doctor:

Symptoms in intoxication with (aromatic) hydrocarbons (dosis letalis about 30 g)

a) In acute intoxication: headache, dizziness, euphoria, gastro-intestinal dysfunction, state of excitement, coma.

b) In chronic intoxication: myelotoxic damage, fatigue, dizziness, emaciation, cardiac palpitation after physical exercise, leucopenia, anemia, leukosis.

Therapy in hydrocarbons intoxication: In case of inhalation provision of fresh air; in case of peroral intake administration of Carbo medicinalis; only after intubation conduct of gastrolavage in application of Carbo medicinalis; in case of cramps administration of Diazepam 20 mg intravenously.

Acute health risks in isocyanate exposition

- dermal effect: Isocyanate contact with skin cause in dependence of the exposition duration to severe skin irritation and occasionally to contact dermatitis.

- effect on eyes: Fumes in concentration above the tolerable working place limit value, aerosols and dust promotes lacrimation and eye burning. Isocyanate eye splashes may cause damages of cornea.

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- Hazards
- **4.3 Indication of any immediate medical attention and special treatment needed**
 - respiratory effect: In exposition of isocyanate fumes and in dependence of their concentration severe nasal irritation and pharyngitis with subsequent damage of upper and lower respiratory tract may occur. Most frequently observed symptoms are xerosis of the throat, chest pressure often accompanied by headache, respiratory malfunction and breathlessness. Long-term inhaling of high isocyanate concentrations sometimes can result in a pulmonary edema.
 - Chronical health risks in isocyanate exposition:
Recurrent exceedings of permitted working place limit values can cause chronical respiratory diseases like bronchitis and worsening of respiratory function. In sensitive / disposed subjects sensibilization and hypersensitization may occur leading to asthmatic dysfunction (obstructive respiratory disease).
 - Danger of impaired breathing.
- Additional information
 - If swallowed, gastric irrigation with added, activated carbon.
 - If swallowed or in case of vomiting, danger of entering the lungs.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- Suitable extinguishing agents: CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- For safety reasons unsuitable extinguishing agents: Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
 - Formation of toxic gases is possible during heating or in case of fire.
 - In case of fire, the following can be released:
Carbon monoxide (CO)
Nitrogen oxides (NO_x)
Hydrogen cyanide (HCN)
 - Under certain fire conditions, traces of other toxic gases cannot be excluded.
- **5.3 Advice for firefighters**
- Protective equipment:
 - Wear self-contained respiratory protective device.
 - Do not inhale explosion gases or combustion gases.
 - Wear fully protective suit.
- Additional information
 - Cool endangered receptacles with water spray.
 - Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
 - Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
 - Mount respiratory protective device.
 - Ensure adequate ventilation
 - Keep away from ignition sources.
 - Use respiratory protective device against the effects of fumes/dust/aerosol.
 - Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
 - Prevent seepage into sewage system, workpits and cellars.
 - Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
 - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
 - Dispose contaminated material as waste according to item 13.
 - Ensure adequate ventilation.

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- **6.4 Reference to other sections** See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Wear suitable respiratory protective device when decanting larger quantities without extractor facilities.
Keep receptacles tightly sealed.
Store in cool, dry place in tightly closed receptacles.
Keep away from heat and direct sunlight.
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
Use only in well ventilated areas.

- **Information about fire - and explosion protection:**

Keep respiratory protective device available.
Highly volatile, flammable constituents are released during processing.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Do not spray onto a naked flame or any incandescent material.
Use explosion-proof apparatus / fittings and spark-proof tools.
Fumes can combine with air to form an explosive mixture.

- **7.2 Conditions for safe storage, including any incompatibilities**

- **Storage:**

- **Requirements to be met by storerooms and receptacles:**

Prevent any seepage into the ground.

- **Information about storage in one common storage facility:**

Store away from oxidising agents.
Store away from foodstuffs.

- **Further information about storage conditions:**

Store receptacle in a well ventilated area.
Protect from frost.

- **Storage class:**

Keep container tightly sealed.

- **7.3 Specific end use(s)**

3

No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:**

No further data; see item 7.

- **8.1 Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

108-65-6 2-methoxy-1-methylethyl acetate

WEL Short-term value: 548 mg/m³, 100 ppm
Long-term value: 274 mg/m³, 50 ppm
Sk

822-06-0 hexamethylene-di-isocyanate

WEL Short-term value: 0.07 mg/m³
Long-term value: 0.02 mg/m³
Sen; as -NCO

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· DNELs

28182-81-2 aliphatic polyisocyanate

Inhalative	DNEL (Kurzzeit-akut)	1 mg/m ³ Air (ARB)
	DNEL (Langzeit-wiederholt)	0.5 mg/m ³ Air (ARB)

108-65-6 2-methoxy-1-methylethyl acetate

Oral	DNEL (Langzeit-wiederholt)	1.67 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	153.5 mg/kg bw/day (ARB)
		54.8 mg/kg bw/day (BEV)
Inhalative	DNEL (Kurzzeit-akut)	550 mg/m ³ Air (ARB)
	DNEL (Langzeit-wiederholt)	275 mg/m ³ Air (ARB)
		33 mg/m ³ Air (BEV)

1330-20-7 xylene

Oral	DNEL (Langzeit-wiederholt)	1.6 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	180 mg/kg bw/day (ARB)
		108 mg/kg bw/day (BEV)
Inhalative	DNEL (Kurzzeit-akut)	289 mg/m ³ Air (ARB)
		174 mg/m ³ Air (BEV)
	DNEL (Langzeit-wiederholt)	77 mg/m ³ Air (ARB)
		14.8 mg/m ³ Air (BEV)

822-06-0 hexamethylene-di-isocyanate

Inhalative	DNEL (Kurzzeit-akut)	0.07 mg/m ³ Air (ARB)
	DNEL (Langzeit-wiederholt)	0.035 mg/m ³ Air (ARB)

· PNECs

28182-81-2 aliphatic polyisocyanate

PNEC (wässrig)	38.28 mg/l (KA)
	0.0127 mg/l (MW)
	0.127 mg/l (SW)
	1.27 mg/l (WAS)
PNEC (fest)	53,200 mg/kg Trockengew (BO)
	26,670 mg/kg Trockengew (MWS)
	266,700 mg/kg Trockengew (SWS)

108-65-6 2-methoxy-1-methylethyl acetate

PNEC (wässrig)	100 mg/l (KA)
	0.0635 mg/l (MW)
	0.635 mg/l (SW)
	6.35 mg/l (WAS)
PNEC (fest)	0.29 mg/kg Trockengew (BO)
	0.329 mg/kg Trockengew (MWS)
	3.29 mg/kg Trockengew (SWS)

1330-20-7 xylene

PNEC (wässrig)	6.58 mg/l (KA)
	0.327 mg/l (MW)
	0.327 mg/l (SW)
	0.327 mg/l (WAS)
PNEC (fest)	2.31 mg/kg Trockengew (BO)
	12.46 mg/kg Trockengew (MWS)

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12.46 mg/kg Trockengew (SWS)

822-06-0 hexamethylene-di-isocyanate

PNEC (wässrig)	8.42 mg/l (KA) >0.00774 mg/l (MW) >0.0774 mg/l (SW) 0.774 mg/l (WAS)
PNEC (fest)	2.6 mg/kg Trockengew (BO) 1.33 mg/kg Trockengew (MWS) 13.34 mg/kg Trockengew (SWS)

· Ingredients with biological limit values:**822-06-0 hexamethylene-di-isocyanate**

BMGV	1 µmol creatinine/mol Medium: urine Sampling time: At the end of the period of exposure Parameter: isocyanate-derived diamine
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· Additional information: The lists valid during the making were used as basis.· **8.2 Exposure controls**· Personal protective equipment:· General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.
Store protective clothing separately.
Do not eat, drink, smoke or sniff while working.
Use skin protection cream for skin protection.
Avoid contact with the eyes and skin.
Clean skin thoroughly immediately after handling the product.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.

· Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Short term filter device:
Filter A/P2

· Protection of hands:

Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.
Skin protection agent recommendation for preventive skin shelter in application and combination of protective gloves:
STOKO EMULSION (<http://www.stoko.com>)
Skin protection recommendation for skin cleaning after product handling:
FRAPANTOL (<http://www.stoko.com>)
SOLOPOL (<http://www.stoko.com>)
Skin protection agent recommendation for skin aftercare:
STOKO VITAN (<http://www.stoko.com>)
The protection gloves to be used have to comply with the specifications of the directive 89/686/EC and the directive derived decree EN374, respectively, e.g. the above listed protection glove type. The mentioned permeation times' data were generated and verified with material samples of the recommended protection glove type in the scope of laboratory analyses of the company KCL GmbH in compliance with EN374.
This recommendation refers exclusively to the material safety data sheet referenced product delivered by Akemi and the indicated field of application. In case of product dilution or in case of mixture with different substances or chemicals, and in condition of EN374 deviation the producer of CE-approved protection gloves must be contacted for detailed information (e.g., KCL GmbH, Germany, 36124 Eichenzell, internet: <http://www.kcl.de>).

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**Protective gloves**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- Material of gloves

Butyl rubber, BR
Nitrile rubber, NBR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- Penetration time of glove material

Value for the permeation: Level \leq 6; 480 min

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

- For the permanent contact gloves made of the following materials are suitable:

Butoject (KCL, Art_No. 897, 898)
Butyl rubber, BR

- As protection from splashes gloves made of the following materials are suitable:

Nitrile rubber, NBR
Camatril (KCL, 730, 731, 732, 733)
Butoject (KCL, Art_No. 897, 898)
Butyl rubber, BR

- Not suitable are gloves made of the following materials:

Leather gloves
Strong material gloves

- Eye protection:



Tightly sealed goggles

- Body protection:

Protective work clothing

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- General Information

- Appearance:

Form: Fluid

Colour: Colourless

- Odour: Characteristic

- Odour threshold: Not determined.

- pH-value: Not determined.

- Change in condition

Melting point/freezing point: Undetermined.

Initial boiling point and boiling range: 137-143 °C

- Flash point: 30 °C

- Flammability (solid, gas): Not applicable.

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· <u>Ignition temperature:</u>	315 °C
· <u>Decomposition temperature:</u>	Not determined.
· <u>Auto-ignition temperature:</u>	Product is not selfigniting.
· <u>Explosive properties:</u>	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· <u>Explosion limits:</u>	
<u>Lower:</u>	1.1 Vol %
<u>Upper:</u>	10.8 Vol %
· <u>Vapour pressure at 20 °C:</u>	6.7-8.2 hPa
· <u>Density at 20 °C:</u>	1.09 g/cm ³
· <u>Relative density</u>	Not determined.
· <u>Vapour density</u>	Not determined.
· <u>Evaporation rate</u>	Not determined.
· <u>Solubility in / Miscibility with water:</u>	Not miscible or difficult to mix.
· <u>Partition coefficient: n-octanol/water:</u>	Not determined.
· <u>Viscosity:</u>	
<u>Dynamic:</u>	Not determined.
<u>Kinematic at 20 °C:</u>	95-105 s (DIN 53211/4)
· <u>Solvent content:</u>	
<u>Organic solvents:</u>	25.0 %
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions**
 - Forms explosive gas mixture with air.
 - Reacts with acids, alkalis and oxidising agents.
 - Violent reactions with -NHx, -OH and -SH- groups.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
 - Hydrogen cyanide (prussic acid)
 - Isocyanate
 - Carbon monoxide and carbon dioxide
 - Possible in traces.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- Acute toxicity Harmful if inhaled.

· LD/LC50 values relevant for classification:**ATE (Acute Toxicity Estimates)**

Dermal	LD50	148,250 mg/kg
Inhalative	LC50/4 h	0.52 mg/l (rat)

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28182-81-2 aliphatic polyisocyanate

Oral	LD50	>2,500 mg/kg (rat)
	NOAEL-Werte	3 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
		>2,000 mg/kg (rat)
Inhalative	LC50/4 h	0.39 mg/l (rat) (OECD TG 403)

108-65-6 2-methoxy-1-methylethyl acetate

Oral	LD50	8,532 mg/kg (rat)
	NOAEL-Werte	1,500 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)
		>2,000 mg/kg (rat)
Inhalative	LC50/4h	>10,000 mg/m ³ (rat)
	LC50	>23.8 mg/l (rat)
	LC50/4 h	35.7 mg/l (rat)
	LC50/48h	100 mg/l (Desmodesmus subspicatus)

1330-20-7 xylene

Oral	LD50	4,300 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rbt)
Inhalative	LC50/4h	29,000 mg/m ³ (rat)
	LC50/4 h	21.7 mg/l (rat)
	LC50/48h	86 mg/l (Leuciscus idus)

822-06-0 hexamethylene-di-isocyanate

Oral	LD50	746 mg/kg (rat) (OECD 401)
Dermal	LD50	593 mg/kg (rabbit)
		>7,000 mg/kg (rat) (OECD 402)
Inhalative	LC50/4 h	0.124 mg/l (rat) (OECD 403)

- Primary irritant effect:
- Skin corrosion/irritation Causes skin irritation.
- Serious eye damage/irritation Causes serious eye irritation.
- Respiratory or skin sensitisation May cause an allergic skin reaction.
- CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
- Germ cell mutagenicity Based on available data, the classification criteria are not met.
- Carcinogenicity Based on available data, the classification criteria are not met.
- Reproductive toxicity Based on available data, the classification criteria are not met.
- STOT-single exposure May cause respiratory irritation.
- STOT-repeated exposure May cause damage to the central nervous system through prolonged or repeated exposure. Route of exposure: Inhalation.
- Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information**· 12.1 Toxicity**

- Aquatic toxicity:

28182-81-2 aliphatic polyisocyanate

EC50	3,828 mg/l (BES) (OECD 209)
LC 0/96h	>82.8 mg/l (Brachydanio rerio) (OECD 203)
EC50/48h	127 mg/l (daphnia magna) (RL 67/548/EWG, Anhang V, C.3.)
ErC50/72h	>1,000 mg/l (Desmodesmus subspicatus)

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EC0	>100 mg/l (daphnia magna) (OECD 202)
EL50/48h	127 mg/l (daphnia magna)
LL50/96h	8.9 mg/l (Brachydanio rerio)
EC10	370 mg/l (Desmodesmus subspicatus)
EC50/72h	>1,000 mg/l (Scenedesmus subspicatus) (OECD 201)
LC50/96h	>100 mg/l (Danio rerio.) (RL 67/548/EWG, Anhang V, C.1.)

108-65-6 2-methoxy-1-methylethyl acetate

EC50	>100 mg/l (daphnia magna)
LC50	63.5 mg/l (Oryzias latipes)
EC50/48h	408 mg/l (daphnia magna) (RL 67/548/EWG, Anhang V, C.2.)
ErC50/72h	>1,000 mg/l (Pseudokirchneriella subcapitata) (OECD 201)
EC20/0.5h	>1,000 mg/l (BES) (OECD 209)
NOEC	47.5 mg/l (Oryzias latipes)
NOEC/21d	≥100 mg/l (daphnia magna)
EC10	>1,000 mg/l (BES)
LC50/96h	134 mg/l (Oncorhynchus mykiss) 161 mg/l (Pimephales promelas)

1330-20-7 xylene

EC50/24h	>175 mg/l (bacteria) 165 mg/l (daphnia magna)
EC50	10 mg/l (bacteria)
IC50	96 mg/l (BES) 1 mg/l (daphnia magna)
LC50	2 mg/l (piscis)
LC50/24h	32 mg/l (Iepomis macrochirus)
IC50/72h	2.2 mg/l (green alge) 3.3 mg/l (Pseudokirchneriella subcapitata)
EC50/48h	2.1-7.4 mg/l (daphnia magna)
EC50/72h	4.7 mg/l (Pseudokirchneriella subcapitata)
LC50/96h	16.9 mg/l (carassius auratus) 1.57 mg/l (Cyprinus carpio) 3.77-13.5 mg/l (piscis) 20.9 mg/l (Iepomis macrochirus) 7.6 mg/l (Oncorhynchus mykiss) 8.9-16 mg/l (pimephales promelas)

822-06-0 hexamethylene-di-isocyanate

EC50	842 mg/l (bacteria) (OECD 209)
LC 0/96h	82.8 mg/l (Brachydanio rerio) (OECD TG 203)
ErC50/72h	>77.4 mg/l (Desmodesmus subspicatus) (EU C.3)
EC0	>89.1 mg/l (daphnia magna) (OECD TG 202)
NOEC	11.7 mg/kg (Desmodesmus subspicatus) (EU C.3)
EC50/72h	>77.4 mg/l (Scenedesmus subspicatus) (OECD TG 201)
LC50/96h	22 mg/l (Brachydanio rerio)

• **12.2 Persistence and degradability**

No further relevant information available.

• **12.3 Bioaccumulative potential**

No further relevant information available.

• **12.4 Mobility in soil**

No further relevant information available.

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- Additional ecological information:
- General notes: Do not allow product to reach ground water, water course or sewage system. Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
- **12.5 Results of PBT and vPvB assessment**
- PBT: Not applicable.
- vPvB: Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations


- **13.1 Waste treatment methods**
- Recommendation Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· European waste catalogue

08 00 00	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS
08 01 00	wastes from MFSU and removal of paint and varnish
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances

- Uncleaned packaging:
- Recommendation: Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.
- Recommended cleansing agents: Alcohol

SECTION 14: Transport information

- **14.1 UN-Number**
- ADR, ADN, IMDG Void
- IATA UN1263
- **14.2 UN proper shipping name**
- ADR, ADN, IMDG Void
- IATA PAINT RELATED MATERIAL
- **14.3 Transport hazard class(es)**
- ADR, ADN, IMDG
- Class Void
- IATA
- 
- Class 3 Flammable liquids.
- Label 3
- **14.4 Packing group**
- ADR, IMDG Void
- IATA III
- **14.5 Environmental hazards:**
- Marine pollutant: No
- **14.6 Special precautions for user** Not applicable.

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GB

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· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.

· Transport/Additional information:

· ADR

· Remarks: > 450 ltr; 3 F1 / III

· IMDG

· Remarks: > 30 ltr; 3 F1 /III

· UN "Model Regulation": Void

SECTION 15: Regulatory information

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

· Directive 2012/18/EU

· Named dangerous substances - ANNEX I

None of the ingredients is listed.

· Seveso category

P5c FLAMMABLE LIQUIDS

· Qualifying quantity (tonnes) for the application of lower-tier requirements

5,000 t

· Qualifying quantity (tonnes) for the application of upper-tier requirements

50,000 t

· REGULATION (EC) No 1907/2006 ANNEX XVII

Conditions of restriction: 3

· National regulations:

· Information about limitation of use: Employment restrictions concerning pregnant and lactating women must be observed.
Employment restrictions concerning juveniles must be observed.

· Waterhazard class:

Water hazard class 2 (Self-assessment): hazardous for water.

· VOC EU

272.0 g/l

· **15.2 Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H311 Toxic in contact with skin.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H373 May cause damage to the central nervous system through prolonged or repeated exposure. Route of exposure: Inhalation.

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- Recommended restriction of use refer to Technical Data Sheet (TDS)
Only for professional use - no end consumer product

 - Department issuing SDS: Laboratory
 - Contact: Dieter Zimmermann
 - Abbreviations and acronyms:
 - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 - ICAO: International Civil Aviation Organisation
 - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 - IMDG: International Maritime Code for Dangerous Goods
 - IATA: International Air Transport Association
 - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 - EINECS: European Inventory of Existing Commercial Chemical Substances
 - ELINCS: European List of Notified Chemical Substances
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)
 - DNEL: Derived No-Effect Level (REACH)
 - PNEC: Predicted No-Effect Concentration (REACH)
 - LC50: Lethal concentration, 50 percent
 - LD50: Lethal dose, 50 percent
 - PBT: Persistent, Bioaccumulative and Toxic
 - vPvB: very Persistent and very Bioaccumulative
 - Flam. Liq. 3: Flammable liquids – Category 3
 - Acute Tox. 3: Acute toxicity – Category 3
 - Acute Tox. 4: Acute toxicity – Category 4
 - Skin Irrit. 2: Skin corrosion/irritation – Category 2
 - Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 - Resp. Sens. 1: Respiratory sensitisation – Category 1
 - Skin Sens. 1: Skin sensitisation – Category 1
 - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
 - STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
 - Asp. Tox. 1: Aspiration hazard – Category 1

 - Sources
 - * Data compared to the previous version altered. REACH directive 1907/2006/EC
- Adaptation in accordance with REACH directive 1907/2006/EC