

# Safety Data Sheet

## CMR-680 Crosslinker

according to Regulation (EU) 2015/830

Last Revision:

02.06.20



Version:

V-2020-001

HR 1004

### SECTION 1

#### Identification of the substance/mixture and of the company/undertaking

##### 1.1 Product identifier

CMR-680

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

Relevant identified uses:

Crosslinker

##### 1.3 Details of the supplier of the safety data sheet

Manufacturer/Distributor	CMR Coatings GmbH
Address/POB	Wilhelmstr. 8
IVR/ZIP/Place	D-32602 Vlotho
E-Mail	<a href="mailto:info@cmr-coatings.de">info@cmr-coatings.de</a>
Telephone	+49 (0) 57 33 – 96 35 – 260
Fax	+49 (0) 57 33 – 96 35 – 263
Department of MSDS	<a href="mailto:info@cmr-coatings.de">info@cmr-coatings.de</a>

##### 1.4 Emergency telephone number

+49 (0) 57 33 – 96 35 – 260

### SECTION 2 Hazards identification

#### 2.1 Classification of the substance or mixture

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

Acute Tox. 4, H332, Acute toxicity (inhalative), Harmful if inhaled.

Skin Sens. 1, H317, Respiratory or skin sensitisation, May cause an allergic skin reaction.

STOT SE 3, H335, Specific target organ toxicity — single exposure, May cause respiratory irritation

Aquatic Chronic 3, H412, Hazardous to the aquatic environment, Harmful to aquatic life with long lasting effects

For the full text of the hazard statements listed in this section, see section 16.

## 2.2 Label elements



Code: GHS07

Signal word: **Warning**

### Hazard statements

H332	Harmful if inhaled.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

### Precautionary statements

P261	Avoid breathing vapours.
P273	Avoid release to the environment.
P280	Wear protective gloves and eye/face protection.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.

### Hazard components for labelling

aliphatic polyisocyanate  
hexamethylene-di-isocyanate

### Further hazard statements

EUH208 Contains isocyanates. May produce an allergic reaction.

### Additional information for labelling

none

## 2.3 Other hazards

The results of the PBT and vPvB assessment can be found in subsection 12.5.

## SECTION 3 Composition/information on ingredients

### 3.1 Substances

This product is a mixture.

### 3.2 Mixtures

Aqueous plastic dispersion with additives.

### Composition / information on ingredients

EC-No. CAS-No. INDEX-No.	REACH-No. Designation Classification	Portion
160994-68-3	<b>aliphatic polyisocyanate</b> Acute Tox. 4 H332 / Skin Sens. 1B H317 / STOT SE 3 H335 / Aquatic Chronic 3 H412	50 - 100%
212-485-8 822-06-0 615-011-00-1	01-2119457571-37-xxxx <b>hexamethylene-di-isocyanate</b> Acute Tox. 4 H302 / Acute Tox. 1 H330 / Skin Irrit. 2 H315 / Eye Irrit. 2 H319 / Resp. Sens. 1 H334 / Skin Sens. 1 H317 / STOT SE 3 H335 Specific concentration limit (SCL): Resp. Sens. 1 H334 >= 0,5 / Skin Sens. 1 H317 >= 0,5	0,01 - 0,1%

The wording of the classification codes is in section 16.

## SECTION 4 First aid measures

### 4.1 Description of first aid measures

<b>General advice</b>	In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness give nothing by mouth, place in recovery position and seek medical advice.
<b>If inhaled</b>	Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.
<b>Skin contact</b>	Take off immediately all contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. Do not use solvents or thinners.
<b>Eye contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.
<b>If swallowed</b>	If swallowed, rinse mouth with water (only if the person is conscious). Seek medical advice immediately. Keep victim calm. Do NOT induce vomiting.

### 4.2 Most important symptoms and effects, both acute and delayed

In all cases of doubt, or when symptoms persist, seek medical advice.

### 4.3 Indication of any immediate medical attention and special treatment needed

First Aid, decontamination, treatment of symptoms.

## **SECTION 5 Firefighting measures**

### **5.1 Extinguishing media**

#### **Suitable extinguishing media**

alcohol resistant foam, carbon dioxide, powder

#### **Unsuitable extinguishing media**

Water jet.

### **5.2 Special hazards arising from the substance or mixture**

Dense black smoke occurs during fire. Inhaling hazardous decomposing products can cause serious health damage.

### **5.3 Advice for firefighters**

Provide a conveniently located respiratory protective device. Cool closed containers that are near the source of the fire. Do not allow water used to extinguish fire to enter drains, ground or waterways.

## **SECTION 6 Accidental release measures**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Keep away from sources of ignition. Ventilate affected area. Do not breathe vapours.

### **6.2 Environmental precautions**

Do not allow to enter into surface water or drains. If the product contaminates lakes, rivers or sewages, inform competent authorities in accordance with local regulations.

### **6.3 Methods and material for containment and cleaning up**

Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see section 13).

Use appropriate container to avoid environmental contamination. Fouled surfaces must be immediately cleaned with suitable solvents, Useable as such (flammable):

water 45 vol.% ethanol or i-propanol 50 vol. % ammonia solution (density= 0.88) 5 vol.%

Alternative (non-flammable): sodium carbonate 5 vol.% water 95 vol.%.

Take up spilled residuals with the same agent and leave them for a few days in unclosed containers until there is no further reaction. Then, close the containers and dispose of them in accordance with the regulations for waste removal (refer to section 13).

### **6.4 Reference to other sections**

Observe protective provisions (see section 7 and 8).

## **SECTION 7 Handling and storage**

People who suffer from skin sensitization problems, asthma, allergies, chronic or recurring respiratory illnesses should not be deployed in any process using this preparation. People who spray this preparation should have regular pulmonary function tests.

### 7.1 Precautions for safe handling

Avoid formation of flammable and explosive vapour concentrations in the air and exceeding the exposure limit values. Only use the material in places where open light, fire and other flammable sources can be kept away. Electrical equipment must be protected meeting the accepted standard. Product may become electrostatically charged. Provide earthing of containers, equipment, pumps and ventilation facilities. Anti-static clothing including shoes are recommended. Floors must be electrically conductive. Be careful when opening used containers (excess pressure). Precautionary measures should be taken in order to reduce strain from humidity or water: CO<sub>2</sub> is formed which may produce excess pressure in closed containers. Keep away from heat sources, sparks and open flames. Use only spark proof tools. Avoid contact with skin, eyes and clothes. Do not inhale dusts, particulates and spray mist when using this preparation. Avoid respiration of swarf. When using do not eat, drink or smoke. Personal protection equipment: refer to section 8. Do not empty containers with pressure - no pressure vessel! Always keep in containers that correspond to the material of the original container. Follow the legal protection and safety regulations.

#### Further information

Vapours are heavier than air. Vapours form explosive mixtures with air.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

Storage in accordance with the Ordinance on Industrial Safety and Health (BetrSiVO). Keep container tightly closed. Do not empty containers with pressure - no pressure vessel! Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks. Soils have to conform to the "Guidelines for avoidance of ignition hazards due to electrostatic charges (TRBS 2153)".

#### Hints on joint storage

Keep away from strongly acidic and alkaline materials as well as oxidizers. Keep away from amines, alcohols and water.

#### Further information on storage conditions

Take care of instructions on label. Store in a well-ventilated and dry room at temperatures between 10 °C and 30 °C. Protect from heat and direct sunlight. Keep container tightly closed. Remove all sources of ignition. Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks.

#### Storage class

10 Flammable liquids that cannot be assigned to any of the aforementioned storage classes

### 7.3 Specific end uses

Observe technical data sheet. Observe instructions for use.

## SECTION 8

### Exposure controls/personal protection

#### 8.1 Control parameters

##### Components with workplace control parameters (2000/39/EC)

none

##### Components with workplace control parameters

##### (TRGS 900 Germany)

<b>hexamethylene-di-isocyanate</b>		
INDEX-No. 615-011-00-1/ EG-No.212-485-8/ CAS-No. 822-06-0		
AGW	0,035 mg/m <sup>3</sup>	0,005 ppm
Peak limit	1;=2=(I)	
Remarks		DFG, 11, 12, Sa

##### Components with biological limit values (TRGS 903 Germany)

<b>hexamethylene-di-isocyanate</b>	
INDEX-No. 615-011-00-1/ EG-No.212-485-8/ CAS-No. 822-06-0	
Parameter:	Hexamethylenediamine (after hydrolysis)
BGW:	15 µg/g Creatinine
Specimen:	U
Sampling time:	b
Definition of reasons:	5/2013 DFG

##### Occupational exposure limit according to the RCP method according to TRGS 900 chapter 2.9 (mg / m<sup>3</sup>):

not applicable

##### DNEL:

<b>hexamethylene-di-isocyanate</b>	
INDEX-No. 615-011-00-1/ EG-No.212-485-8/ CAS-No. 822-06-0	
Worker - acute - inhalative, local effect	0,07 mg/m <sup>3</sup>
Worker - long term - inhalative, lokal effect	0,035 mg/m <sup>3</sup>

##### PNEC:

<b>hexamethylene-di-isocyanate</b>	
INDEX-No. 615-011-00-1/ EG-No.212-485-8/ CAS-No. 822-06-0	
Aquatic, freshwater	> 0,0774 mg/L
Aquatic, marine water	> 0,0077 mg/L
Periodic release	> 0,774 mg/L
Sewage treatment plant (STP)	8,42 mg/L
Sediment, freshwater	0,0133 mg/kg
Sediment, marine water	0,0013 mg/kg
Soil	0,0026 mg/kg

## 8.2 Exposure controls

### Appropriate engineering controls

Provide good ventilation. This can be achieved with local or room suction. When spraying, wear self-contained breathing apparatus. For other tasks a suitable respiratory system must be used, if local and room suction is not sufficient for keeping aerosol and solvent vapour concentration below the exposure limit values. (refer to Personal protection equipment.)

### Personal protective equipment

**Respiratory protection** If concentration of solvents is beyond the occupational exposure limit values, approved and suitable respiratory protection must be used. Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190). Use only respiratory protection equipment with CE-symbol including four digit test number.

**Eye protection** Wear closely fitting protective glasses in case of splashes.

**Skin protection** For prolonged or repeated handling the following glove must be used:

**Material:** nitrile rubber

**Breakthrough time:** > 480 min.

**Glove thickness:** > 0,4 mm

Observe the instructions and details for use, storage, maintenance and replacement provided by the protective glove manufacturer. Penetration time of glove material depending on intensity and duration of exposure to skin. Recommended glove articles EN ISO 374 Barrier creams can help protecting exposed skin areas. In no case should they be used after contact.

**Body Protection** Wear antistatic clothing of natural fibers (cotton) or heat resistant synthetic fibers.

**Protective measures** After contact clean skin thoroughly with water and soap or use appropriate cleanser.

## 8.3 Environmental exposure controls

Prevent further leakage or spillage if it is safe to do so.

Do not allow to enter into surface water or drains . Entry into the environment is to be avoided. See section 7.

No additional measures necessary.

## **SECTION 9 Physical and chemical properties**

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

<b>Appearance:</b>		<b>Method:</b>	
Aggregate state:		solid	
Colour:		clear to yellowish	
Odour:		characteristic	
Odour threshold:		Not applicable	
pH value:	(T = 20 °C)	Not applicable	
Melting point/freezing point:		Not applicable	
Initial boiling point/boiling range:		Not applicable	
Flash point:		> 66 °C	determined
Evaporation rate:		Not applicable	
Flammability:		Not applicable	
Explosion limits:	lower	Not applicable	
	upper	Not applicable	
Vapour pressure:	(T = 20 °C)	Not applicable	
Vapour density (air = 1):		Not applicable	
Density:	(T = 20 °C)	1,16 g/cm <sup>3</sup>	DIN 53 217
Solubility:			
Water solubility:	(T = 20 °C)	insoluble	
Partition coefficient (n-octanol/water):		see section 12	
Auto-ignition temperature:		430 °C	literature value aliphatic polyisocyanate
Decomposition temperature:		Not applicable	
Viscosity (kin., 4 mm DIN flow cup):	(T = 20 °C)	90 s	DIN 53 211
Explosive properties:		Not applicable	
Oxidising properties:		Not applicable	

### **9.2 Other information**

Solids content:	100,00 Wt-%
Solvent content:	
Organic solvents:	0,00 Wt-%
Water:	0,00 Wt-%
Solvent separation test	< 3,00 Wt-% (ADR/ RID)

## **SECTION 10 Stability and reactivity**

### **10.1 Reactivity**

No information available. none, if used correctly

### **10.2 Chemical stability**

Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to section 7.



### 10.3 Possibility of hazardous reactions

Keep away from strong acids, strong bases and strong oxidizing agents to avoid exothermic reactions. Reacts with water, forming carbon dioxide, producing bursting hazard in closed containers due to build-up of pressure.

### 10.4 Conditions to avoid

Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to section 7. Hazardous decomposition byproducts may form with exposure to high temperatures.

### 10.5 Incompatible materials

not applicable

### 10.6 Hazardous decomposition products

Hazardous decomposition byproducts may form with exposure to high temperatures, e.g.: carbon dioxide, carbon monoxide, smoke, nitrogen oxides. none, if used correctly

## SECTION 11 Toxicological information

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

No data on preparation itself available.

### 11.1 Information on toxicological effects

#### Acute toxicity

##### Mixture

Harmful if inhaled.

##### Components

aliphatic polyisocyanate		
oral, rat, LD50	> 2000 mg/kg	
dermal, rat, LD50	> 2000 mg/kg	OECD 402
inhalative, rat, LC50 (4h; dust/ mist)	1,5 mg/l	OECD 403

hexamethylene-di-isocyanate		
oral, rat, LD50	746 mg/kg	OECD 401
dermal, rat, LD50	> 7000 mg/kg	OECD 402
dermal, rabbit, LD50	593 mg/kg	
inhalativ, rat, LC50 (4h; dust/ mist)	0,124 mg/l	OECD 403

#### Skin corrosion/irritation; Serious eye damage/eye irritation

##### Mixture

No data available.

##### Components

aliphatic polyisocyanate		
Skin, rabbit (4 h)	slightly irritating, but not relevant for classification.	OECD 404
Eyes, rabbit	slightly irritating, but not relevant for classification.	OECD 405

<b>hexamethylene-di-isocyanate</b>		
Skin (4h)	Causes skin irritation.	
Eyes	Causes serious eye irritation.	

**Respiratory or skin sensitisation**

**Mixture**

May cause an allergic skin reaction.

**Components**

<b>aliphatic polyisocyanate</b>		
Skin, guinea pig	sensitizing	OECD 406

<b>hexamethylene-di-isocyanate</b>		
Skin	May cause an allergic skin reaction.	
respiratory tract	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	

**Germ cell mutagenicity**

**Mixture**

Based on available data, the classification criteria are not met.

**Components**

Based on available data, the classification criteria are not met.

**Carcinogenicity**

**Mixture**

Based on available data, the classification criteria are not met.

**Components**

Based on available data, the classification criteria are not met.

**Reproductive toxicity**

**Mixture**

Based on available data, the classification criteria are not met.

**Components**

Based on available data, the classification criteria are not met.

**Specific Target Organ Toxicity - single exposure**

**Mixture**

May cause respiratory irritation.

**Components**

<b>hexamethylene-di-isocyanate</b>		
Irritation		

**Specific Target Organ Toxicity - repeated exposure**

**Mixture**

May cause respiratory irritation.

**Components**

<b>hexamethylene-di-isocyanate</b>		
Repeated dose toxicity, NOAEC, rat, inhalative:	0,005 ppm	OECD 453

**Aspiration hazard**

**Mixture**

Based on available data, the classification criteria are not met.

**Components**

Based on available data, the classification criteria are not met.

**Other information**

No data available.

**11.2 Additional information**

Inhaling of solvent components above the MWC-value can lead to health damage, e.g. irritation of the mucous membrane and respiratory organs, as well as damage to the liver, kidneys and the central nerve system. Indications for this are: headache, dizziness, fatigue, amyosthenia, drowsiness, in serious cases: unconsciousness. Solvents may cause some of the aforementioned effects through skin resorption. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and/or absorption through skin. Splashing may cause eye irritation and reversible damage. Because of the isocyanate components' properties of this and with consideration of similar preparations the following applies: This mixture may cause acute irritation and/or sensitization of airways which lead to tightness in thorax, short-breath and asthmatic complaints. After sensitization even concentrations below the exposure limit values may cause asthma. Repeated inhaling can lead to permanent illness of the respiratory tract.

**Overall Assessment on CMR properties**

The ingredients in this mixture do not meet the criteria for classification as CMR category 1A or 1B according to CLP.

**SECTION 12 Ecological information**

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

There is no information available on the preparation itself .

Do not allow to enter into surface water or drains.

**12.1 Toxicity**

**aliphatic polyisocyanate**

		<b>Method:</b>
Fish toxicity, LC50, Danio rerio (Zebrafish):	28,3 mg/L (96 h)	OECD 203
Daphnia toxicity, EC50, Daphnia magna (Big water flea):	> 100 mg/L (48 h)	OECD 202
Algae toxicity, ErC50, Scenedesmus subspicatus:	> 100 mg/L (72 h)	OECD 201
Bacteria toxicity, EC50, Activated sludge:	> 10000	OECD 209

**hexamethylene-di-isocyanate**

Algae toxicity, ErC50, Desmodesmus subspicatus:	> 77,4 mg/L (72 h)
Method: Regulation (EC) No. 440/2008, Annex C.3	
Fish toxicity, LC0, Brachydanio rerio (Zebrafish):	>= 82,8 mg/L (96 h)
Method: Regulation (EC) No. 440/2008, Annex C.1	
Daphnia toxicity, EC50, Daphnia magna:	>= 89,1 mg/L (48 h)
Method: Regulation (EC) No. 440/2008, Annex C.2	
Algae toxicity, NOEC, Desmodesmus subspicatus:	11,7 mg/L (72 h)
Method: Regulation (EC) No. 440/2008, Annex C.3	
Bacteria toxicity, EC50:	842 mg/L (3 h)
Method: OECD 209	

### **Long-term Ecotoxicity**

Harmful to aquatic life with long lasting effects.

### **12.2 Persistence and degradability**

#### **aliphatic polyisocyanate**

Biodegradation: 2% (28 D); Evaluation Not readily biodegradable (according to OECD criteria)

Method: OECD 301 F

Result of the determination of the PBT properties:

This substance does not meet the criteria for classification as PBT or vPvB.

#### **hexamethylene-di-isocyanate**

Result of the determination of the PBT properties:

This substance does not meet the criteria for classification as PBT or vPvB

Biochemical oxygen demand (BOD<sub>5</sub>), bacteria: 42% (28 D)

Method: Regulation (EC) No. 440/2008, Annex C.4 D

DT<sub>50</sub>, photolysis: 48.44 h (25 ° C)

Method: AOPWIN v1.92

DT<sub>50</sub>, hydrolysis: 0.23 h (23 ° C)

Method: ASTM D 4666

### **12.3 Bioaccumulative potential**

Toxicological data are not available.

#### **Bioconcentration Factor (BCF)**

#### **hexamethylene-di-isocyanate**

Bioconcentration factor (BCF), fish: 58

Method: BCFWIN v. 2.17

### **12.4 Mobility in soil**

#### **hexamethylene-di-isocyanate**

log K<sub>oc</sub>: 5861

Method: PCKOC v. 1.66

### **12.5 Results of PBT and vPvB assessment**

The mixture does not contain any substances in concentrations > 0.1% that meet the PBT / vPvB criteria according to REACH annex XIII.

### **12.6 Other adverse effects**

No information available.

## **SECTION 13 Disposal considerations**

### **13.1 Waste treatment methods**

#### **Appropriate disposal / Product**

#### **Recommendation**

Do not allow to enter into surface water or drains. Handle contaminated packages in the same way as the substance itself. This material and its container must be disposed of in a safe way. Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

**EU waste codes**

080111\* Waste paint and varnish containing organic solvents or other dangerous substances

\*Hazardous waste according to Directive 2008/98/EC (waste framework directive).

**SECTION 14 Transport information**

**14.1 UN number**

Not applicable.

**14.2 Proper shipping name**

**ADR/RID / IMDG / IATA**

Not applicable.

**14.3 Transport hazard class(es)**

Not applicable.

**14.4 Packing group**

Not applicable.

**14.5 Environmental hazards**

**Labelling of environmentally dangerous substances**

ADR/RID / IMDG / IATA

Not applicable.

Marine Pollutant

Not applicable.

**14.6 Special precautions for user**

Transport always in closed, upright and safe containers. Make sure that persons transporting the product know what to do in case of an accident or leakage. Advices on safe handling: see parts 6 - 8

**Further information**

**Land transport (ADR/RID)**

tunnel restriction code

-

**Sea transport (IMDG)**

EmS-No. not applicable

Not applicable.

**14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code**

Not applicable.

## **SECTION 15 Regulatory information**

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

#### **Provisions of the EU**

Denomination in Annex I of the Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances

Not applicable.

Regulation (EU) No 528/2012 for the marketing of biocidal products

Not applicable.

Regulation (EC) No 648/2004 (Regulation concerning detergents)

Not applicable.

Directive 1999/13/EC for the limitation of emissions of volatile organic compounds

Not applicable.

Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding

Not applicable.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Not applicable.

Directive 94/33/EC on the protection of young people at work

Not applicable.

#### **German regulations**

Technical instructions on maintaining air purity

(TA Luft)

Not applicable.

Water hazard class

WGK 1 (low hazardous to waters)

Storage class according to TRGS 510

LGK 10 (Flammable liquids that cannot be assigned to any of the aforementioned storage classes)

#### **Other regulations, restrictions and prohibition ordinances**

Trade association rules (BGR)

BGR 190 "Use of respiratory protective equipment"

BGR 192 "Use of eye and face protection"

BGR 195 "Use of protective gloves" No information available.

### **15.2 Chemical safety assessment**

This mixture was not subject to a safety assessment.

## **SECTION 16 Other information**

### **The wording of the classification codes of section 3**

Acute Tox. 1; H330	Acute toxicity (inhalative)	Fatal if inhaled.
Acute Tox. 4; H302	Acute toxicity (oral)	Harmful if swallowed.
Acute Tox. 4; H332	Acute toxicity (inhalative)	Harmful if inhaled.
Aquatic Chronic 3; H412	Hazardous to the aquatic environment	Harmful to aquatic life with long lasting effects
Eye Irrit. 2; H319	Serious eye damage/ Eye irritation	Causes serious eye irritation.
Resp. Sens. 1	Respiratory sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin Irrit. 2; H315	Skin corrosion/ irritation	Causes skin irritation.
Skin Sens. 1; H317	Skin sensitisation	May cause an allergic skin reaction.
Skin Sens. 1; H317	Skin sensitisation	May cause an allergic skin reaction.
STOT SE 3; H335	Specific target organ toxicity (single exposure)	May cause respiratory irritation.

The classification codes only apply to the pure substances and do not declare necessarily the classification of the mixture. The classification and the labelling of the mixture are specified in section 2.

### **Classification procedure**

Classification for mixtures and used evaluation method according to regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 4	Acute toxicity (inhalative)	Calculation method
Skin Sens. 1	Respiratory or skin sensitization	Calculation method
STOT SE 3	Specific target organ toxicity at single exposure	Calculation method
Aquatic Chronic 3	Hazardous to the aquatic environment	Calculation method

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AGW	Occupational exposure limit value.
BGW	Permitted biological limit value for work place.
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging of substances and mixtures
CMR	Carcinogenic Mutagenic Reprotoxic
DIN	German institute for standardization
DNEL	Derived no-effect level
EAKV	European Waste Catalogue Directive
EC	Effect Concentration ... %
EC	European Community
IATA	International Air Transport Association
IBC-Code	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ICAO	International Civil Aviation Organization
IMDG	International Maritime Code for Dangerous Goods
ISO	International Organization for Standardization
LC	Lethal Concentration, ...%
LD	Lethal Dose, ...%
MAK	Maximum workplace concentration

MARPOL	International Convention for the Prevention of Marine Pollution from Ships
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, bioaccumulative and toxic.
PNEC	predicted no effect concentration
REACH	Regulation (EC) No. 1907/2006 of the European Parliament and of the Council regarding the registration, evaluation, authorisation and restriction of chemicals
VOC	Volatile organic compounds
vPvB	Very persistent and very bioaccumulative.

### **Additional information**

The information supplied on this safety data sheet complies with our current level of knowledge as well as with national and EU regulations. Without written approval, the product must not be used for purposes different from those mentioned in chapter 1.

It is always the user's duty to take any necessary measures for meeting the requirements laid down by local rules and regulations. The details in this safety data sheet describe the safety requirements of our product and are not to be regarded as guaranteed attributes of the product.

We exclude each liability for damages, that can appear in improper intercourse or contact with these chemicals.

This security data sheet replaces all previous editions. Validly from edition date.

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