

# Safety Data Sheet

## CMR-638 Crosslinker

according to Regulation (EU) 2015/830

Last Revision: 02.06.20  Version: V-2020-001  
HR 1000

### SECTION 1

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

##### 1.1 Product identifier

CMR-638

##### 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 product is not classified as dangerous according to Regulation (EC) No. 1272/2008 [CLP].

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

#### 2.2 Label elements



Code: **GHS05** **GHS07**

Signal word: **Danger**

**Hazard-determining components of labelling:**

Hexamethylene diisocyanate oligomers, Isocyanurate  
Polyoxyethylene tridecyl ether phosphate  
cyclohexyldimethylamine  
hexamethylene-di-isocyanate

**Hazard statements**

H332	Harmful if inhaled
H315	Causes skin irritation
H318	Causes serious eye damage
H317	May cause an allergic skin reaction
H335	May cause respiratory irritation

**Precautionary statements**

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container in accordance with local/ regional/ national/ international regulations.

**Further hazard statements**

EUH208: Contains isocyanates. May produce an allergic reaction.

**Additional information for labelling**

none

**2.3 Other hazards**

Combustible liquid. On contact with water carbon dioxide is released.  
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**

Hydrophilic, aliphatic polyisocyanate

### Composition / information on ingredients

EC-No. CAS-No. INDEX-No.	REACH-No. Designation Classification	Portion
931-274-8 28182-81-2	01-2119485796-17-0002 <b>Hexamethylene diisocyanate oligomers, Isocynurate</b> Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3,H335	≈ 96%
9046-01-9 Polymer	<b>Polyoxyethylene tridecyl ether phosphate</b> Eye Dam. 1, H318; Skin Irrit. 2, H315; Aquatic Chronic 3, H412	≈ 3%
202-715-5 98-94-2	01-2119533030-60 <b>cyclohexyldimethylamine</b> Flam. Liq. 3, H226; Acute Tox. 3, H301; Acute Tox. 3,H311; Acute Tox. 3, H331; Skin Corr. 1B, H314; Aquatic Chronic 2, H411	< 1%
212-485-8 822-06-0	01-2119457571-37-0001 <b>hexamethylene-di-isocyanate</b> Acute Tox. 1, H330; Resp. Sens. 1, H334; Acute Tox.4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; SkinSens. 1, H317; STOT SE 3, H335	< 0,5%

#### Additional information:

Hazardous impurities:

Hexamethylene diisocyanate (CAS: 822-06-0) : < 0.5 %

The wording of the classification codes is in section 16.

## SECTION 4 First aid measures

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

Move the person away from the contaminated area.  
 Fresh air and rest.  
 If necessary seek medical advice.  
 Show this sheet to the doctor.

#### Skin contact

Use appropriate protective equipment when treating a contaminated person.  
 Immediately remove any clothing soiled by the product.  
 Wash with soap and water.  
 Wash immediately and thoroughly for a prolonged period (at least 15 minutes).  
 In case of inflammation (redness, irritation, ...) obtain medical attention.  
 Show this sheet to the doctor.  
 Place contaminated clothing in a sealed bag for disposal.

#### Eye contact

Immediately rinse with plenty of running water for a prolonged period, (at least 15 minutes) whilst keeping the eyes wide open  
 If irritation persists, consult a doctor. Show this sheet to the doctor.

**If swallowed** NEVER attempt to induce vomiting. Rinse mouth out with water.  
Do not give anything to drink.  
If necessary seek medical advice.  
Show this sheet to the doctor.

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

No data available.

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

No data available.

**SECTION 5 Firefighting measures**

**5.1 Extinguishing media**

**Suitable extinguishing media**

Foam, powder, carbon dioxide

**Unsuitable extinguishing media**

Water

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

Combustible. During combustion toxic vapours are released.

**5.3 Advice for firefighters**

Tightly closing fireproof clothing and oxygen apparatus.

**Additional information**

Stay upwind.

Evacuate the personnel away from the fumes.

In case of fire close by:

Cool down the containers/ equipment exposed to heat with water spray. Ensure that there is NO direct contact between the water and the product.

Do not breathe fumes.

Do NOT attempt to fight the fire without suitable protective equipment.

If there is a fire close by and if packaging has not been damaged:

Use suitable extinguishers.

**SECTION 6 Accidental release measures**

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

Avoid contact with skin and eyes.

Do not breathe gas.

Do NOT approach from DOWNWIND.

Do NOT attempt to take action WITHOUT suitable protective equipment.

Self-contained breathing apparatus.

Full impermeable protective clothing and equipment.

Mark out the contaminated area with signs and prevent access to unauthorized personnel.

## 6.2 Environmental precautions

Contain spilled material by bunding.  
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).  
Wash contaminated area with large amounts of water.  
Recover the cleaning water for subsequent disposal.

## 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/ aspiration at the workplace.  
Avoid contact with water or humidity.  
Avoid any direct contact with the product.  
Any measure to eliminate exposure should be considered.  
Comply with instructions for use (refer to technical sheet).

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

#### **Storage:**

The floor of the depot should be impermeable.  
Store receptacle in a well ventilated area.  
Store in cool, dry conditions in well sealed receptacles.  
Store only in the original receptacle.

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

Product must only be kept in the original packaging.  
-Metallic drums.  
-Storage tank with dry nitrogen blanket.  
Suitable material for receptacles and pipes: Aluminium.  
Suitable material for receptacles and pipes: steel or stainless steel.  
Unsuitable material for receptacle: Copper  
Unsuitable material for receptacle: Tin

#### **- Storage class:**

**- Classification according to the Ordinance on Industrial Safety and Health (BetrSichV): -**

### 7.3 Specific end uses

No data available.

## 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)

hexamethylene-di-isocyanate		
CAS-No. 822-06-0		
AGW	0,035 mg/m <sup>3</sup>	0,005 ml/m <sup>3</sup>
Peak limit	=2=(l)	
Remarks		1;DFG, 12,
VLE	Kurzzeitwert: 0,15 mg/m <sup>3</sup> , 0,02 ml/m <sup>3</sup> Langzeitwert: 0,075 mg/m <sup>3</sup> , 0,01 ml/m <sup>3</sup>	

Hexamethylene diisocyanate oligomers, Isocynurate	
CAS-No. 28182-81-2	
AGW	Kurzzeitwert: 1 mg/m <sup>3</sup>

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

none

##### DNEL:

Hexamethylene diisocyanate oligomers, Isocynurate	
CAS-No. 28182-81-2	
Worker - acute - inhalative, local effect	1 mg/m <sup>3</sup>
Worker - long term - inhalative, local effect	0,5 mg/m <sup>3</sup>

cyclohexyldimethylamine	
CAS-No. 98-94-2	
Worker - acute - inhalative, local effect	35 mg/m <sup>3</sup>
Worker - long term - inhalative, local effect	35 mg/m <sup>3</sup>

hexamethylene-di-isocyanate	
CAS-No. 822-06-0	
Worker - acute - inhalative, local effect	0,07 mg/m <sup>3</sup>
Worker - acute - inhalative, systemic effect	0,07 mg/m <sup>3</sup>
Worker - long term - inhalative, local effect	0,035 mg/m <sup>3</sup>
Worker - long term - inhalative, systemic effect	0,035 mg/m <sup>3</sup>

##### PNEC:

Hexamethylene diisocyanate oligomers, Isocynurate	
CAS-No. 28182-81-2	
Aquatic, freshwater	127 µg/L (Daphnia magna)
Aquatic, marine water	12,7 µg/L (Daphnia magna)
Sporadic release	1270 µg/L (Daphnia magna)
Sediment, freshwater	266,7 g/kg (equilibrium partitioning)
Soil	53,2 g/kg (equilibrium partitioning)
Sewage treatment plant (STP)	38,28 mg/L (l) (OECD 209)



<b>cyclohexyldimethylamine</b>	
CAS-No. 98-94-2	
Aquatic, freshwater	0,002 mg/L (-)
Aquatic, marine water	0,0002 mg/l (-)
Sediment, marine water	0,00211 mg/kg (-)
Sediment, freshwater	0,0211 mg/kg wwt (-)
Soil	0,00305 mg/kg (-)
Sewage treatment plant (STP)	20,6 mg/l (-)

<b>hexamethylene-di-isocyanate</b>	
CAS-No. 822-06-0	
Aquatic, freshwater	>77,4 µg/L (Scenedesmus subspicatus)
Aquatic, marine water	>7,74 µg/L (Scenedesmus subspicatus)
Sporadic release	774 µg/L (Scenedesmus subspicatus)
Sediment, freshwater	> 0,01334 mg/kg (equilibrium partitioning)
Sediment, marine water	> 0,001334 mg/kg (equilibrium partitioning)
Soil	> 0,0026 mg/kg (equilibrium partitioning)
Sewage treatment plant (STP)	8,42 mg/L (I) (OECD 209)

## 8.2 Exposure controls

### Appropriate engineering controls

Avoid contact with the skin and the eyes. When using do not eat, drink or smoke; preventive skin protection.

### Personal protective equipment

#### General protective and hygienic measures

Ensure good ventilation of the work station.

Separate normal clothes from work-clothes.

Safety shower.

Eye wash.

Immediately remove all soiled and contaminated clothing

Do NOT drink, eat or smoke in the workplace.

Wash hands before breaks and at the end of work.

Keep away from foodstuffs, beverages and feed.

#### Respiratory protection

When using a spray-gun, wear: Self-contained breathing apparatus.

In the event of insufficient ventilation: Self-contained breathing apparatus.

#### Eye protection

Tightly sealed goggles recommended.

Wear face protection if there is a risk of splashing.

#### Skin protection

Protective gloves are to be selected specifically for the workplace, depending on other chemicals to be handled, the necessary protection against mechanical / physical risks (cut, puncture, heat) and the required dexterity. Protective gloves must be selected specifically for the workplace, depending on the use and duration of use.

**Material:** Nitrile rubber, NBR  
**Breakthrough time:** >= 480min  
**Glove thickness:** 0,5mm

**Body Protection** Protective work clothing  
 Wear a rubber apron if there is a risk of splashing.

### 8.3 Environmental exposure controls

Prevent further leakage or spillage if safe to do so. Do not allow the product to enter waters.  
 Discharge into the environment must be avoided.

## SECTION 9 Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

**Appearance:**

Aggregate state:		Liquid
Colour:		Clear
Odour:		None
Melting point/freezing point:		Not applicable.
Initial boiling point/boiling range:		150 °C
Flash point:		160 °C
Flammability:		Not applicable.
Ignition temperature:		Not applicable.
Auto flammability:		Not applicable.
Oxidising properties:		Non oxidizing material according to EU criteria.
Explosive properties:		Not applicable.
Explosion limits:	lower	Not applicable.
	upper	Not applicable.
Solubility in/ Miscibility with		
Water:		Reacts with water
Ketones:		Soluble
Aromatic hydrocarbons:		Soluble
Esters:		Soluble
Vapour pressure:	(T = 20 °C)	Not available.
Vapour density (air = 1):		Not available.
Partition coefficient (n-octanol/water):		Hexamethylene diisocyanate oligomers: Not applicable (reacts with water and/ or octanol)
Solids content		98 %
Density:	(T = 25 °C)	1,13 g/cm³
pH value:	(T = 20 °C)	Nicht verfügbar.
Viscosity (Dynamic):	(T = 25 °C)	1400 mPas
Separation of solvent:		Not applicable.
Content of solvents:		< 2 %
Evaporation rate:		Not available.

### 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**

Stable at environment temperature.

### **10.3 Possibility of hazardous reactions**

-alcohols.

-amines.

-bases.

-protic solvents.

-strong oxidizing solutions.

-water and aqueous solutions.

with a great release of CO<sub>2</sub>, and hence a risk of a pressure build-up in confined areas, and forms an insoluble solid precipitate.

### **10.4 Conditions to avoid**

No further relevant information available.

### **10.5 Incompatible materials**

No further relevant information available.

### **10.6 Hazardous decomposition products**

Toxic gases.

Carbon dioxide.

Nitrogen oxides (NO<sub>x</sub>)

## **SECTION 11 Toxicological information**

### **11.1 Information on toxicological effects**

#### **Acute toxicity**

##### **Mixture**

Harmful if inhaled.

##### **LD/LC50 values**

Harmful if inhaled.

Not harmful if swallowd.

Not harmful in contact with skin.

<b>Hexamethylene diisocyanate oligomers, Isocynurate</b>	
CAS-No. 28182-81-2	
oral, rat, LD0	> 2500 mg/kg (OECD 423 (female))
dermal, rabbit, LD0	> 2000 mg/kg (OECD 402)
dermal, rat, LD0	> 2000 mg/kg (OECD 402)
inhalative, rat, LC50 (4h)	0,390 mg/l (OECD 403 (female))

<b>cyclohexyldimethylamine</b>	
CAS-No. 98-94-2	
oral, rat, LD50	272 mg/kg
dermal, rat, LD50	370 mg/kg (402 OCDE)
inhalative, rat, LC50 (4h)	4,45 mg/l

<b>hexamethylene-di-isocyanate</b>	
CAS-No. 822-06-0	
oral, rat, LD50	746 mg/kg (OECD 401)
dermal, rat, LD50	> 7000 mg/kg (OECD 402)
inhalative, rat, LC50 (4h)	0,124 mg/l (OECD 403)

**Skin corrosion/irritation**

**Mixture**

Causes skin irritation.

**Serious eye damage/irritation**

**Mixture**

Causes serious eye damage.

**Inhalation**

May cause respiratory irritation.

<b>Hexamethylene diisocyanate oligomers, Isocynurate</b>		
CAS-No. 28182-81-2		
Inhalative	NOAEC/6h	3 mg/m <sup>3</sup> (rat) ((OECD TG 403) (TRGS))

**Respiratory or skin sensitisation**

**Mixture**

May cause an allergic skin reaction.

**Sensitization**

No pulmonary sensitisation was observed in guinea pigs after either intradermal injection or inhalation induction with HDI polyisocyanates.

Repeated dose toxicity

Is not considered health hazardous by prolonged or repeated exposure.

<b>Hexamethylene diisocyanate oligomers, Isocynurate</b>		
CAS-No. 28182-81-2		
Inhalative	NOEC	3,3 mg/m <sup>3</sup> (Ratte) (OECD 413)

<b>hexamethylene-di-isocyanate</b>		
CAS-No. 822-06-0		
Inhalative	NOAEC Tox Repea	0,005 ppm (rat) (OECD 453)

**Germ cell mutagenicity**

**Mixture**

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

**Carcinogenicity**

**Mixture**

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

### Reproductive toxicity

#### Mixture

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

### Carcinogenicity

Not considered to be carcinogen.

<b>hexamethylene-di-isocyanate</b>		
CAS-No. 822-06-0		
Inhalative	NOAEC Carc	0,164 ppm (Ratte) (OECD 453)

### Mutagenicity

Is not considered genotoxic.

### Reproductive toxicity

Not considered hazardous to the reproduction

<b>hexamethylene-di-isocyanate</b>		
CAS-No. 822-06-0		
Inhalative	NOAEC Dvlp/Tera Tox	0,3 ppm (rat) (OECD 414)
	NOAEC Maternal Tox	0,005 ppm (rat) (OECD 414)
	NOEC Fert	0,3 ppm (rat) (OECD 422)

### Specific Target Organ Toxicity - single exposure

#### Mixture

May cause respiratory irritation

### Specific Target Organ Toxicity - repeated exposure

#### Mixture

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

### Aspiration hazard

#### Mixture

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

### Other information

No data available.

## 11.2 Additional information

No data available.

## SECTION 12 Ecological information

### 12.1 Toxicity

#### Aquatic toxicity

According to the data on the components:

The product is not known to have any harmful effects on the aquatic organisms examined.

#### Hexamethylene diisocyanate oligomers, Isocyanurate

EC10 (statisch), (Desmodesmus subspicatus) (EU C.3)	370 mg/l (72h)
EL50 (statisch), (Daphnia magna) (EU C.2)	127 mg/l (48h)
ErC50 (statisch), (Desmodesmus subspicatus) (EU C.3)	> 1000 mg/l (0-72h)
LL0, (Brachydanio rerio) (EU C.1)	≥ 82,8 mg/l (96h)

**Polyoxyethylene tridecyl ether phosphate**

EC50, (Danio rerio) 10 mg/l

**cyclohexyldimethylamine**

EC50, (Daphnia magna) 75 mg/l (48h)  
 EC50, (Alga) (DIN 38412) > 2 mg/l (72h)  
 IC50 (statisch), (Fisch) (DIN 38412) >22- < 46 mg/l (96h)

**hexamethylene-di-isocyanate**

EC0 (statisch), (Daphnia magna) (EU C.2) ≥ 89,1 mg/l (48h)  
 ErC50 (statisch), (Desmodesmus subspicatus) (EU C.3) > 77,4 mg/l (0-72h)  
 LC0 (statisch), (Brachydanio rerio) (EU C.1) ≥ 82,8 mg/l (96h)  
 NOEC (statisch), (Desmodesmus subspicatus) (EU C.3) 11,7 mg/l (72h)

**12.2 Persistence and degradability**

Hexamethylene diisocyanate oligomers:

Not biodegradable.

Polyoxyethylene tridecyl ether phosphate:

Inherently biodegradable.

**Hexamethylene diisocyanate oligomers, Isocynurate**

BOD28	1 % (bacteria) ((EU C.4-E) (Unpublished report))
DT50	3 h (Photolysis) ((25 °C) (AOPWIN v1.92) (Internal evaluation)) 7,7 h (hyd) ((23 °C) (ASTM D4666) (Internal evaluation))

**hexamethylene-di-isocyanate**

BOD28	42 % (bacteria) (EU C.4-D)
DT50	25 °C, 48,44 h (Photolysis) (AOPWIN v1.92) 23 °C, 0,23 h (hyd) (ASTM D4666)

**12.3 Bioaccumulative potential**

According to the data on the components:

Not potentially bioaccumulable.

Hexamethylene diisocyanate oligomers

Ultimate destination of the product: SOIL and SEDIMENT.

**Hexamethylene diisocyanate oligomers, Isocynurate**

BCF 3,2 (fish) (BCFWIN v. 2.17)

**hexamethylene-di-isocyanate**

BCF 58 (fish) (BCFWIN v.2.17)

**12.4 Mobility in soil**

**Hexamethylene diisocyanate oligomers, Isocynurate**

Log Koc 7,8 (l) (PCKOC v1.66)

**hexamethylene-di-isocyanate**

Log Koc 5861 (l) (PCKOC v1.66)

**Other information:** Formation of insoluble polyurea and/ or amine derivative.

**Ecotoxicological effect:**

**Behaviour in sewage processing plants:**

**Hexamethylene diisocyanate oligomers, Isocynurate**

EC50/3h (static) 3828 mg/l (activated sludge) (OECD 209)

**hexamethylene-di-isocyanate**

EC50/3h (static) 842 mg/l (bacteria) (OECD 209)

**12.5 Results of PBT and vPvB assessment**

According to the available statements the criteria are not fulfilled for the classification

**12.6 Other adverse effects**

No further relevant information available.

**SECTION 13 Disposal considerations**

**13.1 Waste treatment methods**

Recommendation:

Discharging waste into rivers and drains is forbidden.

Incinerate at a licensed installation.

**EU waste codes**

Waste is classified as hazardous waste.

EQC-code: 08 05 01\*

**Uncleaned packaging:**

Contaminated packaging materials must be disposed of in the same manner as the product.

**Recommendation:**

Allow it to drain thoroughly.

Thoroughly emptied and cleaned packaging may be recycled.

Disposal must be made according to official regulations.

**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**

Not applicable.

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

Not applicable.

**Transport/ Additional information:**

The above regulatory prescriptions are those valid on the date of publication of this sheet. However, given the possible evolution of transport regulations for hazardous materials and in the event of the SDS in your possession dating back more than 12 months, it is advisable to check their validity with your sales office.

**SECTION 15 Regulatory information**

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

No further relevant information available.

<b>MAK (German Maximum Workplace Concentration)</b>	
hexamethylene-di-isocyanate	0.005 ppm
CAS-No.: 822-06-0	

**National regulations:**

**Other regulations, limitations and prohibitive regulations**

Handle in accordance with relevant British legislation:  
 Chemical Hazard Information and Packaging for Supply Regulations  
 Control of Substances Hazardous to Health Regulations  
 Environmental Hygiene Guidance: EH/40 Workplace Exposure Limits (revised annually).  
 Environmental Protection Act  
 Collection and Disposal of Waste Regulations

**15.2 Chemical safety assessment**

This mixture was not subject to a safety assessment.

**SECTION 16 Other information**

This Safety Data Sheet is not a Product Specification. It is based on our present knowledge and experience and it is intended to serve as a guide for safe handling of the product regarding to health and environmental aspects.

**Relevant phrases**

Flam. Liq. 3; H226	Flammable liquid	Flammable liquid and vapour.
Acute Tox. 3; H301	Acute toxicity (oral)	Toxic if swallowed.
Acute Tox. 4; H302	Acute toxicity (oral)	Harmful if swallowed.
Acute Tox. 3; H311	Acute toxicity (dermal)	Toxic in contact with skin
Skin Corr. 1B; H314	Skin corrosion/ irritation	Causes severe skin burns and eye damage.
Skin Irrit. 2; H315	Skin corrosion/ irritation	Causes skin irritation.
Skin Sens. 1; H317	Skin sensitisation	May cause an allergic skin reaction.

Eye Dam. 1; H318	Serious eye damage/ Eye irritation	Causes serious eye damage.
Eye Irrit. 2; H319	Serious eye damage/ Eye irritation	Causes serious eye irritation.
Acute Tox. 2; H330	Acute toxicity (inhalative)	Fatal if inhaled.
Acute Tox. 3; H331	Acute toxicity (inhalative)	Toxic if inhaled.
Acute Tox. 4; H332	Acute toxicity (inhalative)	Harmful if inhaled.
Resp. Sens. 1	Respiratory sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
STOT SE 3; H335	Specific target organ toxicity (single exposure)	May cause respiratory irritation.
Aquatic Chronic 2; H411	Hazardous to the aquatic environment	Toxic to aquatic life with long-lasting effects.
Aquatic Chronic 3; H412	Hazardous to the aquatic environment	Harmful to aquatic life with long lasting effects

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.

#### Abbreviations

(1)	Kieselgur can, depending on the place of origin, contain quartz. The burning or calcination of kieselgur leads to increased proportions of cristobalite, activated kieselgur can contain up to 60% by mass of cristobalite. When the exposure to (burnt) kieselgur is evaluated, both the amorphous proportion (limit value for kieselgur or burnt kieselgur) and the sum of the proportions of cristobalite and quartz (carcinogenic according to TRGS 906) are to be determined and evaluated. For production-related reasons, silica smoke can also contain quartz which, in addition to silica smoke, has to be determined and evaluated separately.
(12)	Usually the Occupational exposure limit applies only for the monomers. For the evaluation of oligomers and polymers see TRGS 430 "Isocyanates"
(I)	Substances for which the local effect determines the limit value or substances that sensitize the respiratory tract
= =	Instantaneous value
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AGW	Occupational exposure limit value.
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging of substances and mixtures
DFG	German Research Council (Committee on Occupational Exposure Limits).
DNEL	Derived no-effect level
DT50	Time until 50% of a pesticide is dissipated.
EC10	Concentration at which an effect can be observed in 10% of the test population.
EC50	Half maximal effective concentration
EC	European Community
EC-No.	Registration number of the "European Inventory of Existing Chemical Substances" (EINECS)
ErC50	average inhibitory concentration of the growth rate
EU	European Union.
GHS	Globally Harmonized System of Classification, Labelling and Packaging of Chemicals

IATA	International Air Transport Association
IBC-Code	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50	average inhibitory concentration
IMDG	International Maritime Code for Dangerous Goods
LC50	Lethal concentration for 50% of a test population
LD50	Lethal dose for 50% of a test population (mean lethal dose)
LGK	Storage class.
MAK	Maximum workplace concentration
MARPOL	International Convention for the Prevention of Marine Pollution from Ships
NO(A)EC	No observed (adverse) effect concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, bioaccumulative and toxic.
PNEC	predicted no effect concentration
P-Satz	
REACH	Regulation (EC) No. 1907/2006 of the European Parliament and of the Council regarding the registration, evaluation, authorisation and restriction of chemicals
RID	Convention concerning International Carriage by Rail
TRGS	Technical regulation for dangerous substances.
VLE	Vapour-Liquid Equilibrium
vPvB	Very persistent and very bioaccumulative.
WGK	Water hazard class.

#### **Recommended restriction of use**

The product is used mainly as a hardener in coating materials or adhesives. The handling of coating materials or adhesives containing reactive polyisocyanates and residual monomeric HDI requires appropriate protective measures referred to in this safety data sheet. These products may therefore be used only in industrial or trade applications. They are not suitable for use in homemaker (Do It Yourself) applications.

#### **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.

Date of last revision / Version:                      02.06.2020                      V-2020-001