

Safety data sheet: Crack and Surface Repair

According to 1907/2006/EC, Article 31 **TYP : B – Hardener - HCR 188** Interior & Exterior

1. Identification of the substance/mixture and of the company/ undertaking

Crack and Surface Repair HCR 188 TYP : B - HARDENER

(Use: Raw material, for industrial use only)

Purpose: Polyol mixture for the preparation of polyurethanes

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2. Hazards Identification

Classification of the substance or mixture: diisocyanate, isomers and homologues

N labeling directives 1272/2008/EC:



Danger



Attention

H315	Causes skin irritation
H317	Can May cause allergic skin reactions
H319	Can Harmful if swallowed
H332	Can Harmful if inhaled
H334	Can May cause allergy cause asthma symptoms or breathing difficulties
H335	Can irritate the respiratory system
H351	Can Suspected of causing cancer by inhalation can produce (Carc. Cat. 2)
H373	Can damage the lungs through prolonged or repeated exposure through inhalation

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Marking Directives 67/548/EEC and 1999/45/EC n:

R20	Harmful by inhalation
R36/37/38	Irritating to eyes, respiratory system and skin
R40	Evidence of a carcinogenic effect (Carc. Cat.3)
R42/43	May cause sensitization by skin contact
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation



Harmful

Special notes:

People with sensitive respiratory (eg asthma, chronic bronchitis) may with the Product not handle. Symptoms in the respiratory tract can also occur several hours after overexposure occur. Dust, fumes and aerosols are the main threat to the respiratory tract.

3. Composition / information on ingredients

**Chemical characterization (preparation):
Diisocyanate, isomers and homologues**

Hazardous Ingredients:

CAS	EINECS	Bezeichnung	Kennzeichnung	Gehalt
101-68-8	202-966-0	Diphenylmethan-4,4'-diisocyanat	Xn R20-R36/37/38-R40-R42/43-R48/20 Danger, Warning Acute Tox. 4 H332 inhalation, skin irritants. 2 H315, eye irritant. 2 H319, Resp. 1 H334, H317 Skin Sens. 1, Carc. Kat.2 H351, STOT SE. 3 H335, H373 STOT wdh.2 Inhalative	≥ 6 %

Note: The wording of the listed risk phrases refer to section 16.

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4. First - aid - activities

General Notice: Remove contaminated clothing and shoes immediately decontaminate and dispose.

Inhalation: Remove person to fresh air, keep warm and rest, leave, required medical attention for breathing problems.

Skin contact: In the preferred contact with skin, wash with a cleanser based on polyethylene glycol or clean with plenty of soap and warm water. Get medical attention if skin reactions doctor.

Flush the eyes with eyelids open long enough (at least 10 minutes) with lukewarm water as possible: Eye contact.
Ophthalmologist.

Ingestion: Do not induce vomiting, get medical attention required.

Special notes: The product is irritating to the respiratory tract and is a potential trigger for skin and respiratory sensitization. The treatment of acute irritation or bronchial is primarily symptomatic. Depending on the extent of exposure and the symptoms can be a long-term medical care may be necessary.

5. Fire-fighting measures

Extinguishing media: carbon dioxide (CO2), extinguishing powder

For safety reasons unsuitable extinguishing agents: Water jet

Special protective equipment:

During fire fighting respirator with independent air supply.

Special risks:

In case of fire fumes and isocyanine vapors and traces of hydrogen cyanide (HCN).

Explosion and fire do not breathe fumes.

Contaminated fire extinguishing water from soil, groundwater or surface water to enter.

6. Accidental Release Measures

Personal precautions:

Protective equipment (see section 8) Create. Ensure adequate / venting. Keep unauthorized persons away.

Environmental precautions:

Do not discharge into groundwater, surface water or sanitary sewer system.

Procedures for cleaning / absorption:

As far as possible, remove mechanically, with absorbent material (eg sawdust, chemical binder, sand)

. cover Take about 1 hour exposure of contaminated material in the waste container and not close

Keep damp in a safe ventilated area for several days. See also Disposal in Chapter 16.

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7. Handling and Storage

Handling:

Information for safe handling:

Ensure adequate ventilation or exhaust on the workshop. The products described in Chapter 8 extra precautions must be observed. In Chapter 8, said air levels must be controlled. Contact with skin and eyes.

In workplaces, or system components, can occur in which isocyanate aerosols and / or vapors in higher concentrations as Pressure relief, mold venting, cleaning mixing heads with compressed air), by deliberate air extraction must higher than the occupational hygiene limits prevented. Air movement must be done away from the personnel. The effectiveness of the equipment must be checked periodically.:

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Storage:

Keep container dry and tightly closed. Further information on storage conditions, which must be followed for reasons of quality assurance, please refer to our technical data sheet.

Storage temperature for reasons of personal safety: 50 ° C

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8 . Exposure controls and personal protective equipment

Zu überwachende Parameter:

Stoff	CAS –Nr.	Basis	Typ	Wert	Spitzenbegrenz.	Anm.
Diphenylmethandiisocyanat, Isomere und Homologe	9016-87-9	TRGS 900		0,05 mg/m ³	=2=	
Diphenylmethandiisocyanat, Isomere und Homologe	9016-87-9	TRGS 900	Kurzzeitfaktor		1	fabric with Peak limiter and Short-term factor
Diphenylmethandiisocyanat, Isomere und Homologe	9016-87-9	TRGS 900	Expositions Spitze			Kat. I
Diphenylmethan-4,4'-diisocyanat	101-68-8	TRGS 900		0,05 mg/m ³	=2=	Y
Diphenylmethan-4,4'-diisocyanat	101-68-8	TRGS 900	Kurzzeitfaktor		1	fabric with Peak limiter and Short-term factor
Diphenylmethan-4,4'-diisocyanat	101-68-8	TRGS 900	Expositions Spitze			Kat. I
Phenylisocyanat	103-71-9	TRGS 900		0,01 ppm 0,05 mg/m ³		
Phenylisocyanat	103-71-9	TRGS 900	Expositions spitze			Kat. I

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Respiratory protection:

required in insufficiently ventilated working. When spraying
Fresh air mask or (short-term) combined filter A2-P2 use.

Protection of hands:

Use protective gloves



Suitable materials for safety gloves; DIN EN 374-3:

Polychloropren – CR: Dicke $\geq 0,5\text{mm}$; Durchbruchzeit ≥ 480 min.
Nitrilkautschuk – NBR: Dicke $\geq 0,35\text{mm}$; Durchbruchzeit ≥ 480 min.
Butylkautschuk – IIR: Dicke $\geq 0,5\text{mm}$; Durchbruchzeit ≥ 480 min.
Fluorkautschuk – FKM: Dicke $\geq 0,4\text{mm}$; Durchbruchzeit ≥ 480 min.
Polyvinylchlorid – PVC: Dicke $\geq 0,5\text{mm}$; Durchbruchzeit ≥ 480 min.

Eye protection::

Safety glasses and
Wear a protective mask



Recommendation: contaminated gloves.

Skin protection: Wear appropriate protective clothing.

Protective and hygienic measures: Keep away from food and beverages. Before breaks and
Wash hands after work. Work clothes separately. Contaminated clothing
immediately. Contaminated clothing decontaminated destroy and discard (see Chapter 13).

9. Physikalische und chemische Eigenschaften

Form:	liquid
Color:	Braun - yellow
Smell:	earthy, musty
Glasepoint:	$<0^{\circ}\text{C}$
Softpoint:	$>300^{\circ}\text{C}$
Flampoint:	$>200^{\circ}\text{C}$
Ignitionpoint:	$>400^{\circ}\text{C}$
lower explosion limit:	n.g.
upper explosive limit:	n.g.
Steampresure :	$<0,00001$ mbar [20°C]
Rel. Dichte:	$1,23$ g/cm ³ [20°C]
Viscosity:	~ 60 mPas
solubility in water:	Unsolvent – reaction slow
pH-point	n.g.
Solubility in org. solvents:	solvent
Special infos:	-----

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10. Stability and Reactivity

Thermal decomposition:

From 200 ° C polymerization, thereby releasing carbon dioxide (CO₂) emissions.

Dangerous reactions:

Exothermic reaction with amines and alcohols, CO₂ with water, in closed containers may rupture due to pressure buildup.

Hazardous decomposition products:

No hazardous reactions when stored and handled correctly..

11. Toxicological Information

Acute Toxizität:

oral:	LD50 Rat: >2.000 mg/kg
inhalativ:	LC50 Rat: > 490 mg/m ³ by 4 Hours Exposition

corrosive effects

-on the skin: Irritant

-on the eye: Product vapors are irritating in high concentrations on the eyes and mucous membranes

-after inhalation: Irritating. Breathing, coughing possible Sensitization:

Sensitization by inhalation. Sensitization caused by repeated contact with the skin possible.

Subacute, subchronic and prolonged toxicity:

Long-term inhalation study with tech. Diphenylmethane diisocyanate (PMDI) carried out mechanically generated respiratory stretchers PMDI aerosols.

Aerodynamic diameter: 95% less than 5 microns; concentrations, 0.2, 1.0 and 6.0 mg / m

Animal groups: 120 rats (60 female, 60 male)

Results after clinical examination of the animals and histopathologischer: 0.2 mg aerosols / m³:

No irritation of the respiratory tract and the lungs "no effect level" (Noel)

1.0 1.0 mg aerosols / m³:

Slight irritation and inflammatory changes to the nose, throat and lungs, no lung tumors.

6.0 6.0 mg aerosols / m³:

More severe irritation and chronic inflammatory changes to the nose, throat and lungs. Accumulation of a yellow substance in the lungs. 8 benign (statistically increased) and 1 malignant (statistically significant) lung tumors were detected.

The overall increased incidence of lung tumors in the group that was exposed to the highest concentration is seen in close connection with the chronic irritation and changes in the respiratory system and to the accumulation of yellow substance in the lungs of animals.

For more information:

Special properties / effects: Over-exposure is a risk of concentration-dependent irritation of eyes, nose, throat and respiratory tract. Delayed appearance of symptoms and development of hypersensitivity (difficult breathing, coughing, asthma) are possible. With hypersensitive people, reactions can be triggered even at very low isocyanate concentrations, even below the OEL. By prolonged contact with skin tanning and irritating effects are possible..

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12. Environmental information

General notes:

Entering surface waters, drains or soil.

Reacts with water at the interface with the formation of carbon dioxide to form a solid, high-melting and insoluble product (polyurea). This reaction is accelerated by surfactants: promoted and water-soluble solvents (eg detergents). Previous experience shows that polyurea is inert and non-degradable.

Ecotoxicity: Biodegradation: 0%, ie not degradable.

Degradation rate in 28 days. (Method: respirometer test)

Acute toxicity to fish: LC50 \geq 1,000 mg / l

Test species: Danio rerio (zebrafish) Duration of test: 96 h

Acute bacterial toxicity: EC 50 \geq 100 mg / l

Tested on activated sludge bacteria. Test time: 3 hours

Acute daphnia: EC 50 \geq 1,000 mg / l

Test species: Daphnia magna (water flea) Duration of test: 24 h

13. Disposal instructions

General notes:

Dispose in accordance with applicable international, national and local laws, ordinances and regulations.

EWC code:

For disposal within the EC, the appropriate code according to the valid

European Waste Catalogue (EWC) should be used. Isocyanates in dry containers and never disposed of with other waste together! (Hazardous chemical reactions, bursting pressure build).

Packaging:

Packaging should be emptied immediately after the last product withdrawal (drops, no powder rest, scraped carefully). After rendering safe the product residues adhering to the walls of products and for materials shall be canceled. These packages can be sent to an exciting medium to access points to the existing take-back systems in the chemical industry for recycling. The recovery must be in accordance with national legislation and environmental regulations.

14. Transport Information

Land transport ADR / RID and ADR / RID (cross border / domestic):

UN: --- **no limitation**

Maritime transport / RID:

UN: --- **no limitation**

Air transport ICAO-TI and IATA-DGR:

UN: --- **no limitation**

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15. Legislation

The product has been classified according to CLP (1272/2008/EC) and marked:

Danger:

H315 Harmful if swallowed.

H317 May cause an allergic skin reaction.

H319 Harmful if swallowed.

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or Breathing difficulties.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer by inhalation produce (Carc. Cat. 2)

H373 May cause damage to lungs through prolonged or repeated exposure through inhalation.

Safety:

P260 dust / fume / gas / mist / vapors / spray.

P280 Wear protective gloves / eye protection / face protection.

P302/P352 IF ON SKIN: Wash with soap and water.

P304/P340 IF INHALED: Move to fresh air and keep at rest in a position for breathing.

P305/P351 / IF IN EYES: Rinse cautiously with a few minutes

P338 of water. Remove contact lenses if possible. Continue rinsing.

P308/P313 IF exposed or concerned: Get medical advice / attention attention.

The product is classified in accordance with EU Directives (67/548/EEC, 1999/45/EC) and characterized.

Code letter and hazard designation:

Xn, Harmful

Hazardous components of labeling:

Diisocyanate, isomers and homologues

R-phrases:

R20 Harmful by inhalation

R36/37/38 Irritating to eyes, respiratory system and skin

R40 Limited evidence of a carcinogenic effect

R42/43 May cause sensitization by skin contact

R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

S-phrases:

S23 / Do not breathe vapor

S24 Avoid contact with skin

S26 In case of contact with eyes, rinse immediately with water and seek medical consult

S36/37 Wear suitable protective gloves and protective clothing

S45 In case of accident or if you feel unwell seek medical advice (show the label where possible)

S60 This material and its container must be disposed of as hazardous waste

National regulations

The national regulations must be observed

TAL:

Type: Organic materials, 100%-owned

Water hazard class:

Class 1: Slightly hazardous to water

Other notes: "- Isocyanate polyurethane production and processing /" Please note the information sheet of BG Chemie M 044 is.

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16. Other information

Full text of the referred to under sections 2 and 3 phrases hazards the CLP classification (1272/2008/EC). :

H315	Harmful if swallowed.
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Training advice:

Precautions for handling freshly made polyurethane moldings:

Using this raw material produced polyurethane moldings with non-covered surfaces, can - depending on the processing parameters in the production - even traces of substances (eg, initial and secondary products, catalysts, release agents) with hazardous characteristics (eg harmful, irritant, corrosive, sensitizing to the surface) contain. Skin contact with this substance traces should be avoided. During removal and other handling freshly molded parts should at least textile gloves are used, preferably in the palm and finger area coated externally with nitrile rubber, PVC or PUR. It is recommended that one of the conditions normally encountered when handling matched with fresh polyurethane moldings protective clothing if required to wear long sleeves.

Note:

This safety data sheet supersedes all previous editions and is solely valid. All information provided has been prepared in good faith and represents the technical and legal status at the time of creation / revision of SDS. Responsible for the preparation of Safety Data Sheet: see section 1 Undoing Changes