


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

- **Product identifier**
- **Trade name:** 4CR 5100 Polyurethan grau/weiß
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the preparation** Polyurethane-sealant
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
4CR Vertriebsgesellschaft mbH  
Donaustraße 2  
94469 Deggendorf  
Tel.: +49 (0) 4841/665015  
Fax: +49 (0) 4841/665016  
e-Mail: 4cr@b2bmail.eu
- **Emergency telephone number:** +49(0)700 24112112 (MIP)

## 2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**  
 Xn; Sensitising  
R42: May cause sensitisation by inhalation.
- **Information concerning particular hazards for human and environment:**  
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**  
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

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- **Label elements**
- **Labelling according to EU guidelines:**  
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.
- **Code letter and hazard designation of product:**  
Xn Harmful
- **Hazard-determining components of labelling:**  
4,4'-methylenediphenyl diisocyanate  
methylenediphenyl diisocyanate
- **Risk phrases:**  
42 May cause sensitisation by inhalation.
- **Safety phrases:**  
2 Keep out of the reach of children.  
13 Keep away from food, drink and animal feedingstuffs.  
23 Do not breathe fumes/aerosol.  
36 Wear suitable protective clothing.  
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
63 In case of accident by inhalation: remove casualty to fresh air and keep at rest.
- **Special labelling of certain preparations:**  
Contains isocyanates. See information supplied by the manufacturer
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

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· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 1330-20-7 EINECS: 215-535-7	xylene Xn R20/21; Xi R38 R10 Flam. Liq. 3, H226; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	2.5-10%
CAS: 90622-57-4 EINECS: 292-459-0	HYDROCARBONS, DEAROMATIFIED Xn R65 R53-66 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 4, H413	≤ 2.5%
CAS: 101-68-8 EINECS: 202-966-0	4,4'-methylenediphenyl diisocyanate Xn R20-40-48; Xn R42/43; Xi R36/37/38 Resp. Sens. 1, H334; Acute Tox. 4, H332; STOT SE 3, H335; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	≤ 1.0%
CAS: 4083-64-1 EINECS: 223-810-8	4-isocyanatosulphonyltoluene Xi R36/37/38; Xn R42 R14 Resp. Sens. 1, H334; STOT SE 3, H335; Skin Irrit. 2, H315; Eye Irrit. 2, H319	≤ 1.0%
CAS: 26447-40-5 EINECS: 247-714-0	methylenediphenyl diisocyanate Xn R20-40-48; Xn R42/43; Xi R36/37/38 Resp. Sens. 1, H334; Acute Tox. 4, H332; STOT SE 3, H335; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	≤ 1.0%

- **Additional information:** For the wording of the listed risk phrases refer to section 16.

### 4 First aid measures

- **Description of first aid measures**
- **General information:** In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**  
In case of fire, the following can be released:  
Nitrogen oxides (NO<sub>x</sub>)

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- Carbon monoxide (CO)
- Hydrogen cyanide (HCN)
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
  - **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
  - **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.  
Contain and collect spillages with non-combustible absorbent materials (e.g. sand, earth, diatomaceous earth) and place in a suitable container.  
Decontaminate immediately with suitable mixture (flammable):
    - as such usable (inflammatory!):
 

water	45 Vol.%
ethanol or isopropanol	50 Vol.%
ammonia solution (Density= 0.88)	5 Vol.%
    - alternatively (non-flammable):
 

sodium carbonate	5 Vol.%
water	95 Vol.%
- Add the same decontaminant to any residues and allow to stand for several days in an non-sealed container until no further reaction occurs. Once this stage is reached, close the container and dispose of in accordance with the waste regulations (see Section 13).
- **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.

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.  
Persons with a history of asthma, allergies or chronic or recurrent respiratory diseases should only be employed in processes in which this product is used under appropriate medical supervision.
- **Information about fire - and explosion protection:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:**  
Do not store together with reducing agents, heavy-metal compounds, acids and alkalis.  
Store away from foodstuffs.
- **Further information about storage conditions:**  
Store in a cool place.  
Store separately from oxidising agents, strongly alkaline and strongly acidic materials, amines, alcohol and water.
- **Storage class:** 12
- **Specific end use(s)** No further relevant information available.

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## 8 Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **Control parameters**

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

### 1330-20-7 xylene

WEL ()	Short-term value: 441 mg/m <sup>3</sup> , 100 ppm Long-term value: 220 mg/m <sup>3</sup> , 50 ppm Sk; BMGV
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### 101-68-8 4,4'-methylenediphenyl diisocyanate

WEL ()	Short-term value: 0.07 mg/m <sup>3</sup> Long-term value: 0.02 mg/m <sup>3</sup> Sen; as -NCO
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· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

All personal protective equipment, including respiratory protective equipment, used to control exposure to hazardous substances must be selected to meet the requirements of the COSHH Regulations.

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

· **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.

· **Protection of hands:**

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**

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**

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

· **Eye protection:** Goggles recommended during refilling

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Fluid

Colour: According to product specification

· **Odour:** Characteristic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

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· <b>Change in condition</b>	
<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	Undetermined.
· <b>Flash point:</b>	Not applicable.
· <b>Ignition temperature:</b>	
<b>Decomposition temperature:</b>	Not determined.
· <b>Self-igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapour pressure:</b>	Not determined.
· <b>Density at 20°C:</b>	1.175 g/cm <sup>3</sup> (DIN 53217)
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with water:</b>	Not miscible or difficult to mix.
· <b>Segregation coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic at 20°C:</b>	100000 mPas
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	5.9 %
<b>VOC (EC)</b>	69.3 g/l
<b>Solids content (weight-%):</b>	94.1 %
· <b>Other information</b>	No further relevant information available.

### 10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
  - Possible in traces.
  - Nitrogen oxides
  - Hydrogen chloride (HCl)
  - Hydrogen cyanide (prussic acid)
  - Carbon monoxide
  - Nitrogen oxides (NO<sub>x</sub>)

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### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values relevant for classification:**

**101-68-8 4,4'-methylenediphenyl diisocyanate**

Oral	LD50	2200 mg/kg (mouse)
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- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** Sensitization possible through inhalation.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Harmful
- **Sensitisation** May cause sensitisation by inhalation.

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

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

· **European waste catalogue**

08 04 11*	adhesive and sealant sludges containing organic solvents or other dangerous substances
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08 04 09*	waste adhesives and sealants containing organic solvents or other dangerous substances
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08 04 10	waste adhesives and sealants other than those mentioned in 08 04 09
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- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

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### 14 Transport information

- Land transport ADR/RID (cross-border)
- ADR/RID class: -

- Maritime transport IMDG:
- IMDG Class: -
- Marine pollutant: No

- Air transport ICAO-TI and IATA-DGR:
- ICAO/IATA Class: -

- Special precautions for user Not applicable.
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

### 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- National regulations:

- Information about limitation of use:

101-68-8	4,4'-methylenediphenyl diisocyanate	4
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Class	Share in %
I	≤ 2,5
NK	2,5-10

- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

### 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.  
H304 May be fatal if swallowed and enters airways.  
H312 Harmful in contact with skin.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H332 Harmful if inhaled.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H335 May cause respiratory irritation.  
H413 May cause long lasting harmful effects to aquatic life.

R10 Flammable.  
R14 Reacts violently with water.  
R20 Harmful by inhalation.  
R20/21 Harmful by inhalation and in contact with skin.  
R36/37/38 Irritating to eyes, respiratory system and skin.  
R38 Irritating to skin.  
R40 Limited evidence of a carcinogenic effect.  
R42 May cause sensitisation by inhalation.  
R42/43 May cause sensitisation by inhalation and skin contact.  
R48 Danger of serious damage to health by prolonged exposure.  
R53 May cause long-term adverse effects in the aquatic environment.  
R65 Harmful: may cause lung damage if swallowed.

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R66      *Repeated exposure may cause skin dryness or cracking.*

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· **Department issuing MSDS: Laboratory**

· **\* Data compared to the previous version altered.**

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