

1 Identification of the substance/preparation and of the company/undertaking

- **Product details**
- **Trade name:** **4CR 0408 2K-HS-Härter Low VOC kurz**
- **Application of the substance / the preparation** **Hardening agent/ Curing agent**
- **Manufacturer/Supplier:**
4CR Vertriebsgesellschaft mbH
Donaustraße 2
94469 Deggendorf
Tel.: +49 (0) 4841/665015
Fax: +49 (0) 4841/665016
e-Mail: 4cr@b2bmail.eu
- **Information in case of emergency:** +49(0)700 24112112 (MIP)

2 Hazards identification

- **Hazard description:**



Xi Irritant

- **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.

At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.

Has a narcotizing effect.

R 10 Flammable.

R 43 May cause sensitisation by skin contact.

R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R 66 Repeated exposure may cause skin dryness or cracking.

R 67 Vapours may cause drowsiness and dizziness.

Contains isocyanates. See information supplied by the manufacturer

- **Classification system:**










The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

3 Composition/information on ingredients

- **Chemical characterization**

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

- **Dangerous components:**

CAS: 28182-81-2 NLP: 500-060-2	Aliphatic polyisocyanate homopolymer (classification according to definition principle)  Xi; R 43	50-100%
CAS: 123-86-4 EINECS: 204-658-1	n-butyl acetate R 10-66-67	10-25%
CAS: 141-78-6 EINECS: 205-500-4	ethyl acetate  Xi,  F; R 11-36-66-67	10-25%
CAS: 64742-95-6 EINECS: 265-199-0	Solvent naphtha (petroleum), light arom.  Xn,  Xi,  N; R 10-37-51/53-65-66-67	2.5-10%
CAS: 77-58-7 EINECS: 201-039-8	dibutyltin dilaurate Carc. Cat. 2, Muta. Cat. 3, Repr. Cat. 2;  Xn,  Xi,  N; R 20/21/22-36/38-48/22-50/53	≤ 2.5%

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

4 First aid measures

- **General information:** In case of irregular breathing or respiratory arrest provide artificial respiration.
- **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.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.

5 Fire-fighting measures

- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards caused by the substance, its products of combustion or resulting gases:**
In case of fire, the following can be released:
Nitrogen oxides (NO_x)
Carbon monoxide (CO)
Hydrogen cyanide (HCN)
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away.
 - **Measures for environmental protection:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
 - **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
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).

7 Handling and storage

- **Handling:**
- **Information for safe handling:**
Ensure good ventilation/exhaustion at the workplace.

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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:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· **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:**

Keep container tightly sealed.

Store separately from oxidising agents, strongly alkaline and strongly acidic materials, amines, alcohol and water.

· **Storage class:** 3

8 Exposure controls/personal protection

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

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

28182-81-2 Aliphatic polyisocyanate homopolymer (classification according to definition principle)

EBW ()	Short-term value: 0.5 mg/m ³ exposition evaluation valu TRGS 430 (EBW)
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123-86-4 n-butyl acetate

WEL ()	Short-term value: 966 mg/m ³ , 200 ppm Long-term value: 724 mg/m ³ , 150 ppm
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141-78-6 ethyl acetate

WEL ()	Short-term value: 400 ppm Long-term value: 200 ppm
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· **Additional information:** The lists valid during the making were used as basis.

· **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:**

Immediately remove all soiled and contaminated clothing

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:**



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

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· **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:**



Tightly sealed goggles

9 Physical and chemical properties

· **General Information**

Form:	Fluid
Colour:	According to product specification
Odour:	Characteristic

· **Change in condition**

Melting point/Melting range: Undetermined.
Boiling point/Boiling range: 77°C

· **Flash point:** 28°C (DIN 53213)

· **Ignition temperature:** 370°C (DIN 51794)

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

Lower: 1.2 Vol %
Upper: 11.5 Vol %

· **Vapour pressure at 20°C:** 97 hPa

· **Density at 20°C:** 1.02 g/cm³ (DIN 53217)

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· **Viscosity:**

Kinematic at 20°C: 13 s (DIN 53211/4)

· **Solvent separation test:** < 3 %

· **Solvent content:**

Organic solvents: 45.3 %
VOC (EC) 462.6 g/l

· **Solids content (weight-%):** 54.7 %

10 Stability and reactivity

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

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- **Dangerous decomposition products:**
Possible in traces.
- Nitrogen oxides
- Hydrogen chloride (HCl)
- Hydrogen cyanide (prussic acid)
- Carbon monoxide
- Nitrogen oxides (NOx)

11 Toxicological information

- **Acute toxicity:**

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

64742-95-6 Solvent naphtha (petroleum), light arom.

Oral	LD50	>6800 mg/kg (rat)
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Dermal	LD50	>3400 mg/kg (rab)
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Inhalative	LC50/4 h	>10.2 mg/l (rat)
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- **Primary irritant effect:**

- **on the skin:** No irritant effect.

- **on the eye:** No irritating effect.

- **Sensitization:** Sensitization possible through skin contact.

- **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:

Irritant

- **Sensitisation** May cause sensitisation by skin contact.

12 Ecological information

- **Ecotoxicological effects:**

- **Remark:** Harmful to fish

- **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.

Harmful to aquatic organisms

13 Disposal considerations

- **Product:**

- **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

- **European waste catalogue**

08 01 11	waste paint and varnish containing organic solvents or other dangerous substances
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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:** 3 (F1) Flammable liquids.
- **Danger code (Kemler):** 30
- **UN-Number:** 1263
- **Packaging group:** III
- **Hazard label:** 3
- **Description of goods:** 1263 PAINT RELATED MATERIAL, special provision 640E

· **Maritime transport IMDG:**



- **IMDG Class:** 3
- **UN Number:** 1263
- **Label:** 3
- **Packaging group:** III
- **EMS Number:** F-E,S-E
- **Marine pollutant:** No
- **Proper shipping name:** PAINT RELATED MATERIAL

· **Air transport ICAO-TI and IATA-DGR:**



- **ICAO/IATA Class:** 3
- **UN/ID Number:** 1263
- **Label:** 3
- **Packaging group:** III
- **Proper shipping name:** PAINT RELATED MATERIAL

15 Regulatory information

· **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:**

Xi Irritant

· **Hazard-determining components of labelling:**

Aliphatic polyisocyanate homopolymer (classification according to definition principle)

· **Risk phrases:**

- 10 Flammable.
- 43 May cause sensitisation by skin contact.
- 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 66 Repeated exposure may cause skin dryness or cracking.
- 67 Vapours may cause drowsiness and dizziness.

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· **Safety phrases:**

- 2 Keep out of the reach of children.
- 16 Keep away from sources of ignition - No smoking.
- 23 Do not breathe fumes/aerosol.
- 24/25 Avoid contact with skin and eyes.
- 37 Wear suitable gloves.
- 46 If swallowed, seek medical advice immediately and show this container or label.

· **Special labelling of certain preparations:**

Contains isocyanates. See information supplied by the manufacturer

· **National regulations:**

· **Information about limitation of use:**

None of the ingredients is listed.

Class	Share in %
NK	25-50

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 R-phrases**

- 10 Flammable.
- 11 Highly flammable.
- 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
- 36 Irritating to eyes.
- 36/38 Irritating to eyes and skin.
- 37 Irritating to respiratory system.
- 43 May cause sensitisation by skin contact.
- 48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.
- 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 65 Harmful: may cause lung damage if swallowed.
- 66 Repeated exposure may cause skin dryness or cracking.
- 67 Vapours may cause drowsiness and dizziness.

· **Department issuing MSDS:** Laboratory

· **Contact:** Ingo Bolls