Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 27.04.2023 Version number 20 (replaces version 19) Revision: 16.03.2023

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**

· **Trade name: 4CR 0451-1 2K-EP-Härter extra kurz**

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.

· **Application of the substance / the mixture** Hardening agent/ Curing agent

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**
4CR International GmbH & Co. KG
Donnerstrasse 10b
22763 Hamburg
Tel.: +49 (0) 40 69 60 99 30
E-Mail: Info@4CR.com
www.4CR.com

· **1.4 Emergency telephone number:** +49(0)700 24112112 (CRM)

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SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**

flame

Flam. Liq. 3 H226 Flammable liquid and vapour.

health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.

Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the GB CLP regulation.

· **Hazard pictograms**

GHS02 GHS05 GHS07 GHS08

· **Signal word** Danger

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· **Hazard-determining components of labelling:**
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine
Xylene
2,4,6-tris(dimethylaminomethyl)phenol
Polyaminoamide adduct
· **Hazard statements**
H226 Flammable liquid and vapour.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
H412 Harmful to aquatic life with long lasting effects.
· **Precautionary statements**

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P321	Specific treatment (see on this label).
P362+P364	Take off contaminated clothing and wash it before reuse.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

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SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 1330-20-7 EINECS: 215-535-7 Reg.nr.: 01-2119488216-32	Xylene Flam. Liq. 3, H226; STOT RE 2, H373; Asp. Tox. 1, H304; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	50-100%
CAS: 68082-29-1 Reg.nr.: 01-2119972320-44	Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine Skin Corr. 1B, H314; Eye Dam. 1, H318; Aquatic Chronic 2, H411; Skin Sens. 1A, H317	≥10-<25%
CAS: 100-41-4 EINECS: 202-849-4 Reg.nr.: 01-2119489370-35	Ethylbenzene Flam. Liq. 2, H225; STOT RE 2, H373; Asp. Tox. 1, H304; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Aquatic Chronic 3, H412	≥10-<25%
	Polyaminoamide adduct Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	2.5-<10%
CAS: 90-72-2 EINECS: 202-013-9 Reg.nr.: 01-2119560597-27	2,4,6-tris(dimethylaminomethyl)phenol Skin Corr. 1C, H314; Eye Dam. 1, H318; Acute Tox. 4, H302	≥3-<5%

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CAS: 90640-67-8 EINECS: 292-588-2 Reg.nr.: 01-2119487919-13	Amines, polyethylenepoly-, triethylenetetramine fraction Skin Corr. 1B, H314; Eye Dam. 1, H318; Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317; Aquatic Chronic 3, H412	≥0.1-<1%

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

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SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:** Immediately remove any clothing soiled by the product.
· **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 rinse with water.
· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:** If symptoms persist consult doctor.
· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:**
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **5.2 Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
· **5.3 Advice for firefighters**
· **Protective equipment:** Mouth respiratory protective device.

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SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
· **6.2 Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
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, sawdust).
Use neutralising agent.
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
· **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.

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SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.

· **7.2 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:** Store away from foodstuffs.
· **Further information about storage conditions:** Keep container tightly sealed.
· **Storage class:** 3
· **7.3 Specific end use(s)** No further relevant information available.

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SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
1330-20-7 Xylene	
WEL	Short-term value: 441 mg/m³, 100 ppm Long-term value: 220 mg/m³, 50 ppm Sk; BMGV
100-41-4 Ethylbenzene	
WEL	Short-term value: 552 mg/m³, 125 ppm Long-term value: 441 mg/m³, 100 ppm Sk

· **Ingredients with biological limit values:**	
1330-20-7 Xylene	
BMGV	650 mmol/mol creatinine Medium: urine Sampling time: post shift Parameter: methyl hippuric acid

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**
· **Appropriate engineering controls** No further data; see section 7.
· **Individual protection measures, such as personal protective equipment**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
· **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.

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· ***Hand protection***
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Protective gloves (EN 374)

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
· ***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.
· ***Breakthrough time of glove material***
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· ***Eye/face protection***

Tightly sealed goggles

*
SECTION 9: Physical and chemical properties

· ***9.1 Information on basic physical and chemical properties***	
· ***General Information***	
· ***Physical state***	*Fluid*
· ***Colour:***	*According to product specification*
· ***Odour:***	*Characteristic*
· ***Odour threshold:***	*Not determined.*
· ***Melting point/freezing point:***	*Undetermined.*
· ***Boiling point or initial boiling point and boiling range***	*136 °C (100-41-4 Ethylbenzene)*
· ***Flammability***	*Flammable.*
· ***Lower and upper explosion limit***	
· ***Lower:***	*1 Vol % (100-41-4 Ethylbenzene)*
· ***Upper:***	*7.8 Vol % (100-41-4 Ethylbenzene)*
· ***Flash point:***	*24 °C (DIN EN ISO 1523:2002)*
· ***Auto-ignition temperature:***	*430 °C (DIN 51794)*
· ***Decomposition temperature:***	*Not determined.*
· ***pH***	*Not determined.*
· ***Viscosity:***	
· ***Kinematic viscosity at 20 °C***	*20 s (DIN 53211/4)*
· ***Dynamic:***	*Not determined.*
· ***Solubility***	
· ***water:***	*Not miscible or difficult to mix.*
· ***Partition coefficient n-octanol/water (log value)***	*Not determined.*
· ***Vapour pressure at 20 °C:***	*9.5 hPa (100-41-4 Ethylbenzene)*
· ***Density and/or relative density***	
· ***Density at 20 °C:***	*0.896 g/cm³ (DIN EN ISO 2811-1)*
· ***Relative density***	*Not determined.*
· ***Vapour density***	*Not determined.*

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· ***9.2 Other information***	
· ***Appearance:***	
· ***Form:***	*Fluid*
· ***Important information on protection of health and environment, and on safety.***	
· ***Ignition temperature:***	*Product is not selfigniting.*
· ***Explosive properties:***	*Product is not explosive. However, formation of explosive air/vapour mixtures are possible.*
· ***Solvent content:***	
· ***VOC (EC)***	*73.00 %*
· ***Solids content (weight-%):***	*27.0 %*
· ***Change in condition***	
· ***Evaporation rate***	*Not determined.*

· ***Information with regard to physical hazard classes***	
· ***Explosives***	*Void*
· ***Flammable gases***	*Void*
· ***Aerosols***	*Void*
· ***Oxidising gases***	*Void*
· ***Gases under pressure***	*Void*
· ***Flammable liquids***	*Flammable liquid and vapour.*
· ***Flammable solids***	*Void*
· ***Self-reactive substances and mixtures***	*Void*
· ***Pyrophoric liquids***	*Void*
· ***Pyrophoric solids***	*Void*
· ***Self-heating substances and mixtures***	*Void*
· ***Substances and mixtures, which emit flammable gases in contact with water***	*Void*
· ***Oxidising liquids***	*Void*
· ***Oxidising solids***	*Void*
· ***Organic peroxides***	*Void*
· ***Corrosive to metals***	*Void*
· ***Desensitised explosives***	*Void*

*

SECTION 10: Stability and reactivity

· ***10.1 Reactivity*** *No further relevant information available.*
· ***10.2 Chemical stability***
· ***Thermal decomposition / conditions to be avoided:*** *No decomposition if used according to specifications.*
· ***10.3 Possibility of hazardous reactions*** *No dangerous reactions known.*
· ***10.4 Conditions to avoid*** *No further relevant information available.*
· ***10.5 Incompatible materials:*** *No further relevant information available.*
· ***10.6 Hazardous decomposition products:*** *Carbon monoxide*

*

SECTION 11: Toxicological information

· ***11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008***
· ***Acute toxicity*** *Based on available data, the classification criteria are not met.*

· ***LD/LC50 values relevant for classification:***		
1330-20-7 Xylene		
Oral	*LD50*	*5,251 mg/kg (rat)*
Dermal	*LD50*	*>5,000 mg/kg (rabbit)*

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Inhalative	LC50/4 h	29 mg/l (rat)

· **Skin corrosion/irritation** Causes severe skin burns and eye damage.
· **Serious eye damage/irritation** Causes serious eye damage.
· **Respiratory or skin sensitisation** May cause an allergic skin reaction.
· **STOT-single exposure** May cause respiratory irritation.
· **STOT-repeated exposure** May cause damage to organs through prolonged or repeated exposure.
· **11.2 Information on other hazards**

· **Endocrine disrupting properties**
None of the ingredients is listed.

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SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **12.2 Persistence and degradability** No further relevant information available.
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
· **12.7 Other adverse effects**
· **Remark:** Harmful to fish
· **Additional ecological information:**
· **General notes:**
Water hazard class 2 (German Regulation) : hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Danger to drinking water if even small quantities leak into the ground.
Harmful to aquatic organisms

SECTION 13: Disposal considerations

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

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.

*

SECTION 14: Transport information

· **14.1 UN number or ID number**	
· **ADR, IMDG, IATA**	UN3470
· **14.2 UN proper shipping name**	
· **ADR**	UN3470 PAINT RELATED MATERIAL, CORROSIVE, FLAMMABLE
· **IMDG, IATA**	PAINT RELATED MATERIAL, CORROSIVE, FLAMMABLE

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· ***14.3 Transport hazard class(es)***

· ***ADR***

· ***Class***	*8 (CF1) Corrosive substances.*
· ***Label***	*8+3*

· ***IMDG***

· ***Class***	*8 Corrosive substances.*
· ***Label***	*8/3*

· ***IATA***

· ***Class***	*8 Corrosive substances.*
· ***Label***	*8 (3)*

· ***14.4 Packing group***	
· ***ADR, IMDG, IATA***	*II*
· ***14.5 Environmental hazards:***	
· ***Marine pollutant:***	*No*
· ***14.6 Special precautions for user***	*Warning: Corrosive substances.*
· ***Hazard identification number (Kemler code):***	*83*
· ***EMS Number:***	*F-E,S-C*
· ***Stowage Category***	*B*
· ***Stowage Code***	*SW2 Clear of living quarters.*
· ***14.7 Maritime transport in bulk according to IMO instruments***	*Not applicable.*
· ***Transport/Additional information:***	
· ***ADR***	
· ***Limited quantities (LQ)***	*1L*
· ***Transport category***	*2*
· ***Tunnel restriction code***	*D/E*
· ***IMDG***	
· ***Limited quantities (LQ)***	*1L*
· ***UN "Model Regulation":***	*UN 3470 PAINT RELATED MATERIAL, CORROSIVE, FLAMMABLE, 8 (3), II*

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SECTION 15: Regulatory information

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

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **Seveso category** P5c FLAMMABLE LIQUIDS
· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t

· **National regulations:**
· **Additional classification according to Decree on Hazardous Materials, Annex II:**

Class	Share in %
NK	50-100

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

*
SECTION 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**
H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.
· **Classification according to Regulation (EC) No 1272/2008**
The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.
· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4

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Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Corr. 1C: Skin corrosion/irritation – Category 1C
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
Skin Sens. 1A: Skin sensitisation – Category 1A
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Asp. Tox. 1: Aspiration hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

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