

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

- **1.1 Product identifier**
- **Trade name: Relocryl Acryl-Härter Multi 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:**
RELO
Postfach 1132
D-84049 Essenbach
Tel.: +49 (0)8703/ 922 -0
Fax: +49 (0)8703/ 922 -100
Email: relo@b2bmail.eu
- **1.4 Emergency telephone number:** +49(0)700 24112112 (MIP)

2 Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

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

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Xn; Harmful

R20/21-48/20-65: Harmful by inhalation and in contact with skin. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Harmful: may cause lung damage if swallowed.

Xi; Irritant

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

Xi; Sensitising

R43: May cause sensitisation by skin contact.

R10: Flammable.

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- **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.

· **2.2 Label elements**

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



GHS02 GHS07 GHS08

- **Signal word Danger**

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

xylene
Hexamethylene diisocyanate, oligomers
Ethylbenzene
2-butoxyethyl acetate

· **Hazard statements**

H226 Flammable liquid and vapour.
H332 Harmful if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
H304 May be fatal if swallowed and enters airways.

· **Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/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.
P405 Store locked up.

· **Additional information:**

EUH204 Contains isocyanates. May produce an allergic reaction.
Restricted to professional users.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**

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

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| · Dangerous components: | | |
|--|--|-----------|
| CAS: 1330-20-7 EINECS: 215-535-7 Reg.nr.: 01-2119488216-32 | xylene ☒ Xn R20/21-48/20-65; ☒ Xi R36/37/38 R10 ----- ☠ 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 | 25-50% |
| CAS: 28182-81-2 NLP: 500-060-2 Reg.nr.: 01-2119485796-17 01-2119488934-20 | Hexamethylene diisocyanate, oligomers ☒ Xn R20; ☒ Xi R37; ☒ Xi R43 ☠ Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335 | 25-50% |
| CAS: 100-41-4 EINECS: 202-849-4 Reg.nr.: 01-2119489370-35 | Ethylbenzene ☒ Xn R20-48/20-65; ☠ F R11 ☠ Flam. Liq. 2, H225; ☠ STOT RE 2, H373; Asp. Tox. 1, H304; ☠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335; Aquatic Chronic 3, H412 | 3-<10% |
| CAS: 123-86-4 EINECS: 204-658-1 Reg.nr.: 01-2119485493-29 | n-butyl acetate R10-66-67 ☠ Flam. Liq. 3, H226; ☠ STOT SE 3, H336 | 3-<10% |
| CAS: 108-65-6 EINECS: 203-603-9 Reg.nr.: 01-2119475791-29 | 2-methoxy-1-methylethyl acetate R10 ☠ Flam. Liq. 3, H226 | 3-<10% |
| CAS: 112-07-2 EINECS: 203-933-3 Reg.nr.: 01-2119475112-47 | 2-butoxyethyl acetate ☒ Xn R20/21/22 ☠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332 | 3-≤5% |
| CAS: 4083-64-1 EINECS: 223-810-8 | 4-isocyanatosulphonyltoluene ☒ Xi R36/37/38; ☒ Xn R42 R14 ☠ Resp. Sens. 1, H334; ☠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 | 0.1-<0.3% |

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

4 First aid measures· **4.1 Description of first aid measures**· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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. If symptoms persist, consult a doctor.

· **After swallowing:** Seek immediate medical advice.· **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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5 Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Nitrogen oxides (NO_x)
Carbon monoxide (CO)
Hydrogen cyanide (HCN)
- **5.3 Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
 - **6.2 Environmental precautions:** 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).
Dispose contaminated material as waste according to item 13.
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 a 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).
- **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.

7 Handling and storage

- **7.1 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:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.

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- **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**
- **7.3 Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

· **8.1 Control parameters**

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

1330-20-7 xylene

| | |
|-----|--|
| WEL | Short-term value: 441 mg/m ³ , 100 ppm Long-term value: 220 mg/m ³ , 50 ppm Sk; BMGV |
|-----|--|

28182-81-2 Hexamethylene diisocyanate, oligomers

| | |
|-----|--|
| EBW | Short-term value: 0.5 mg/m ³ exposition evaluation valu TRGS 430 (EBW) |
|-----|--|

100-41-4 Ethylbenzene

| | |
|-----|---|
| WEL | Short-term value: 552 mg/m ³ , 125 ppm Long-term value: 441 mg/m ³ , 100 ppm Sk |
|-----|---|

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 |
|-----|---|

108-65-6 2-methoxy-1-methylethyl acetate

| | |
|-----|--|
| WEL | Short-term value: 548 mg/m ³ , 100 ppm Long-term value: 274 mg/m ³ , 50 ppm Sk |
|-----|--|

112-07-2 2-butoxyethyl acetate

| | |
|-----|---|
| WEL | Short-term value: 332 mg/m ³ , 50 ppm Long-term value: 133 mg/m ³ , 20 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**

- **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.

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Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the skin.

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.

· Protection of hands:

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.



Protective gloves (EN 374)

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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:



Tightly sealed goggles

9 Physical and chemical properties

· 9.1 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.

· Change in condition

| | |
|-------------------------------------|---------------|
| Melting point/Melting range: | Undetermined. |
| Boiling point/Boiling range: | 124 °C |

· Flash point: 28 °C (DIN 53213)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 315 °C (DIN 51794)

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| | |
|---|---|
| · Decomposition temperature: | Not determined. |
| · 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: | 1.1 Vol % |
| Upper: | 7.0 Vol % |
| · Vapour pressure at 20 °C: | 10.7 hPa |
| · Density at 20 °C: | 0.968 g/cm ³ (DIN 53217) |
| · Relative density | Not determined. |
| · Vapour density | Not determined. |
| · Evaporation rate | Not determined. |
| · Solubility in / Miscibility with water: | Not miscible or difficult to mix. |
| · Partition coefficient (n-octanol/water): | Not determined. |
| · Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic at 20 °C: | 12 s (DIN 53211/4) |
| · Solvent content: | |
| VOC (EC) | 63.85 % |
| Solids content (weight-%): | 36.1 % |
| · 9.2 Other information | No further relevant information available. |

10 Stability and reactivity

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

11 Toxicological information

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

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

1330-20-7 xylene

| | | |
|------|------|------------------|
| Oral | LD50 | 8700 mg/kg (rat) |
|------|------|------------------|

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100-41-4 Ethylbenzene

| | | |
|--------|------|----------------------|
| Oral | LD50 | 3500 mg/kg (rat) |
| Dermal | LD50 | 15500 mg/kg (rabbit) |

· **Primary irritant effect:**· **on the skin:** Irritant to skin and mucous membranes.· **on the eye:** Irritating effect.· **Sensitisation:** Sensitisation 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:

Harmful

Irritant

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.· **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.

Danger to drinking water if even small quantities leak into the ground.

· **12.5 Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.· **12.6 Other adverse effects** No further relevant information available.

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.

· **European waste catalogue**

08 01 11* waste paint and varnish containing organic solvents or other dangerous substances

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

14 Transport information

· **14.1 UN-Number**· **ADR, IMDG, IATA**

UN1263

· **14.2 UN proper shipping name**· **ADR**1263 PAINT RELATED MATERIAL, special provision
640E· **IMDG, IATA**

PAINT RELATED MATERIAL

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· 14.3 Transport hazard class(es)

· ADR



· Class 3 (F1) Flammable liquids.
 · Label 3

· IMDG, IATA



· Class 3 Flammable liquids.
 · Label 3

· 14.4 Packing group

· ADR, IMDG, IATA III

· 14.5 Environmental hazards:

· Marine pollutant: No

· 14.6 Special precautions for user

Warning: Flammable liquids.

· Danger code (Kemler):

30

· EMS Number:

F-E,S-E

· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

· Transport/Additional information:

· ADR

· Transport category 3
 · Tunnel restriction code D/E

· IMDG

· Limited quantities (LQ) 5L

· UN "Model Regulation":

UN1263, PAINT RELATED MATERIAL, special provision 640E, 3, III

* **15 Regulatory information**

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

· National regulations:

| Class | Share in % |
|-------|------------|
| I | 0.1-<0.3 |
| NK | 50-100 |

· 15.2 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.

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· **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.*
 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.*
 H336 *May cause drowsiness or dizziness.*
 H373 *May cause damage to organs through prolonged or repeated exposure.*
 H412 *Harmful to aquatic life with long lasting effects.*

- R10 *Flammable.*
 R11 *Highly flammable.*
 R14 *Reacts violently with water.*
 R20 *Harmful by inhalation.*
 R20/21 *Harmful by inhalation and in contact with skin.*
 R20/21/22 *Harmful by inhalation, in contact with skin and if swallowed.*
 R36/37/38 *Irritating to eyes, respiratory system and skin.*
 R37 *Irritating to respiratory system.*
 R42 *May cause sensitisation by inhalation.*
 R43 *May cause sensitisation by skin contact.*
 R48/20 *Harmful: danger of serious damage to health by prolonged exposure through inhalation.*
 R65 *Harmful: may cause lung damage if swallowed.*
 R66 *Repeated exposure may cause skin dryness or cracking.*
 R67 *Vapours may cause drowsiness and dizziness.*

· **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 européen sur le transport 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*
 Flam. Liq. 2: *Flammable liquids, Hazard Category 2*
 Flam. Liq. 3: *Flammable liquids, Hazard Category 3*
 Acute Tox. 4: *Acute toxicity, Hazard Category 4*
 Skin Irrit. 2: *Skin corrosion/irritation, Hazard Category 2*
 Eye Irrit. 2: *Serious eye damage/eye irritation, Hazard Category 2*
 Resp. Sens. 1: *Sensitisation - Respirat., Hazard Category 1*
 Skin Sens. 1: *Sensitisation - Skin, Hazard Category 1*
 STOT SE 3: *Specific target organ toxicity - Single exposure, Hazard Category 3*
 STOT RE 2: *Specific target organ toxicity - Repeated exposure, Hazard Category 2*
 Asp. Tox. 1: *Aspiration hazard, Hazard Category 1*
 Aquatic Chronic 3: *Hazardous to the aquatic environment - Chronic Hazard, Category 3*

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