

**Safety Data Sheet**

according to 2001/58/EC

**VERSTÄRKER 220 NE.V.**

Print date : 13.12.2006

Product code : 7932

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**1. Identification of the substance/preparation and of the company/undertaking****1.1 Identification of the substance or preparation**

VERSTÄRKER 220 NE.V.

**Use of the substance/preparation**

Crosslinking agent, Hardener

**1.2 Company/undertaking identification**

Company name : RUDOL-FABRIK Hermann Hagemeyer

Street : Sürther Str. 172

Place : D-50321 Brühl

Post-office box : 17 04

D-50307 Brühl

Contact person : Klaus Markus

Telephone : 02232-94592-0

Telefax : 02232-945929

Inquiry office : Labor

Emergency telephone : 02232-945920

**2. Composition/information on ingredients****Chemical characterization** ( preparation )  
polyisocyanate solution**Hazardous components**

EC-No.	CAS-No.	Chemical name	Quantity	Classification
205-500-4	141-78-6	Ethylacetat	71%	F, Xi R11-36-66-67

Full text of each relevant R phrase can be found in heading 16.

**3. Hazards identification****Classification**

Symbols : Highly flammable, Harmful, Irritant

R-phrases :

Highly flammable.

Irritating to eyes.

May cause sensitization by inhalation.

Repeated exposure may cause skin dryness or cracking.

Vapours may cause drowsiness and dizziness.

**Explication of special hazards for human health and environment**

In use, may form flammable/explosive vapour-air mixture.

**4. First aid measures****After contact with skin**

Wash off immediately with soap and plenty of water.

**After contact with eyes**

Immediately flush eye(s) with plenty of water. Seek medical advice

**After ingestion**

In case of irritation of the respiratory tract or swallowing, consult a doctor.

**5. Fire-fighting measures**

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**Suitable extinguishing media**

Dry chemical Carbon dioxide (CO<sub>2</sub>) Extinguishing media - large fires Water spray mist or foam. In the event of fire and/or explosion do not breathe fumes.

**Extinguishing media which must not be used for safety reasons**

Do not use a solid water stream as it may scatter and spread fire.

**Special exposure hazards arriving from substance or preparation itself, combustion products, resulting gases**

In case of fire, formation of carbon monoxide, nitrogen oxide, isocyanate vapour, and traces of hydrogen cyanide is possible.

**Special protective equipment for fire-fighters**

In the event of fire, wear self-contained breathing apparatus.

**Additional information**

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

**6. Accidental release measures****Environmental precautions**

Prevent product from entering drains.

**Methods for cleaning up/taking up**

Remove mechanically; cover remainders with wet, absorbent material (e.g. sawdust, chemical binder based on calcium silicate hydrate, sand). After approx. one hour transfer to waste container and do not seal (evolution of CO<sub>2</sub>!). Keep damp in a safe ventilated area for several days. For further disposal measures see chapter 13.

**Additional information**

Remove all sources of ignition. Keep people away from and upwind of spill/leak.

**7. Handling and storage****7.1 Handling****Advice on safe handling**

Ensure adequate ventilation or exhaust ventilation in the working area. Exhaust ventilation necessary if product is sprayed. Avoid contact with skin and eyes.

**Advice on protection against fire and explosion**

Keep away from heat and sources of ignition.

**7.2 Storage****Requirements for storage rooms and vessels**

Keep containers tightly closed in a cool, well-ventilated place.

**8. Exposure controls/personal protection****8.1 Exposure limit values****Exposure limits (EH40)**

CAS No.	Substance	ml/m <sup>3</sup>	mg/m <sup>3</sup>	F/ml	Category	Origin
108-90-7	Chlorobenzene	1	-		TWA (8 h)	WEL
		3	-		STEL (15 min)	WEL
141-78-6	Ethyl acetate	200	-		TWA (8 h)	WEL
		400	-		STEL (15 min)	WEL

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**BAT values (TRGS 903)**

CAS No.	Substance	Value	Parameter	Test material	Sampling time
108-90-7	Chlorbenzol	175 mg/g	Gesamt-4-Chlorkatechol	U	b

**Additional advice on control parameters**

The product may contain traces of phenylisocyanate.  
 Threshold value in air defined by TRGS 900 (MAK value):  
 phenylisocyanate. 0,01ml/m<sup>3</sup> (ppm) corresp. to 0,05 mg/m<sup>3</sup> (eight hours average value)  
 CAS-Nr.: 103-71-9  
 maximum limit of excess factor 1

**8.2 Exposure controls****Protective and hygiene measures**

Wear suitable gloves and eye/face protection. Wash hands before breaks and at the end of workday.  
 Remove and wash contaminated clothing before re-use. Keep away from food and drink.

**Respiratory protection**

Respiratory protection required in insufficiently ventilated working areas and during spraying. An air-fed mask, or for short periods of work, a combination of charcoal filter and particulate filter is recommended.

**Eye protection**

Tightly fitting safety goggles

**Skin protection**

Wash hands before breaks and at the end of workday.

**9. Physical and chemical properties****9.1 General information**

Physical state : liquid  
 Colour : yellow - light brown  
 Odour : ester-like

**9.2 Important health, safety and environmental information**

Test method

**Changes in the physical state**

Boiling point : 77 °C  
 Flash point : - 5 °C  
 Lower explosion limits : 2,1 vol. %  
 Upper explosion limits : 11,5 vol. %  
 Vapour pressure : 97 hPa  
 (at 20 °C)  
 Density (at 20 °C) : 1,0 g/cm<sup>3</sup>  
 Water solubility : reacts with water  
 (at 20 °C)  
 Solubility in other solvents : Acetone, ethyl acetate  
 Viscosity / dynamic : 3 mPa·s  
 (at 20 °C)

**Solvent content**

72%

**9.3 Other information**

Ignition temperature : >460 °C

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**10. Stability and reactivity****Conditions to avoid**

Thermal decomposition: No decomposition below initial boiling point.

Hazardous decomposition products: No decomposition if stored and applied as directed.

**Materials to avoid**Hazardous reactions: Exothermic reaction with amines, alcohols, acids and alkali. Reacts with water forming CO<sub>2</sub>. Closed containers may rupture owing to increase of pressure.**Additional information**Reagiert mit Wasser unter CO<sub>2</sub>-Bildung. Risk of receptacle bursting. durch pressure build-up

Unter Druck stehende Gebinde vorsichtig öffnen und entspannen.

**11. Toxicological information****Acute toxicity**

Toxicological studies of a comparable product

acute toxicity:

LD50/oral/rat = &gt;2000 mg/kg

**Specific effects in experiment on an animal**

Skin and mucous membrane compatibility, rabbit:

Skin - non-irritant

Eyes - slightly irritant

**Sensitising effects**

Sensitization: no sensitizing effect known.

**Severe effects after repeated or prolonged exposure**

In case of hypersensitivity of the respiratory tract (e.g. asthmatics and those who suffer from chronic bronchitis) it is inadvisable to work with the product. Symptoms affecting the respiratory tract can also occur several hours after overexposure.

**12. Ecological information****Ecotoxicity**

Do not allow to escape into waters, wastewater or soil.

**Mobility**The resin reacts with water at the interface forming CO<sub>2</sub> and a solid insoluble product with high melting point (polyurea). This reaction is accelerated by surfactants (e.g. detergents) or by water-soluble solvents.**13. Disposal considerations****Advice on disposal**

Can be incinerated, when in compliance with local regulations.

**Waste disposal number of waste from residues/unused products**

080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other dangerous substances  
Classified as hazardous waste.

**Contaminated packaging**

After final product withdrawal, all residues must be removed from containers (drip-free, powder-free or paste-free). Once the product residues adhering to the walls of the containers have been rendered harmless, the product and hazard labels must be invalidated. Containers must be recycled in compliance with national legislation and environmental regulations.

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**14. Transport information****Land transport (ADR/RID)**

ADR/RID class : 3  
 Warning plate  
 Hazard-no. : 33  
 UN number : 1993  
 ADR/RID packing group : II

**Description of the goods**

1993 - Flammable liquid, n.o.s. (Ethylacetat, Chlorbenzen)  
 MPO: NO

**Remarks (land transport)**

Highly flammable, flash point -4 °C. Keep dry. Avoid heat above +50 °C.  
 Keep away from foodstuffs, acids and alkalis.

**Marine transport**

IMDG code : 3  
 UN number : 1993  
 Marine pollutant : no  
 IMDG packing group : II  
 Hazard label : 3

**Description of the goods**

Flammable liquid, n.o.s (Ethyl acetate, Chlorobenzene)

**Air transport**

ICAO/IATA-DGR : 3  
 UN/ID number : 1993  
 Hazard label : 3  
 IATA-max. quantity - Passenger : 5 L  
 IATA-max. quantity - Cargo : 60 L  
 ICAO packing group : II

**Description of the goods**

Flammable liquid, n.o.s (Ethyl acetate, Chlorobenzene)

**15. Regulatory information****15.1 Labelling**

Indication of danger : F - Highly flammable; Xn - Harmful  
 Labelling according to EC-guidelines : Labelling in accordance with the EEC directives:

**R phrases**

11 Highly flammable.  
 36 Irritating to eyes.  
 42 May cause sensitization by inhalation.  
 66 Repeated exposure may cause skin dryness or cracking.  
 67 Vapours may cause drowsiness and dizziness.

**S phrases**

09 Keep container in a well-ventilated place.  
 16 Keep away from sources of ignition - No smoking.  
 23 Do not breathe Dampf/Aerosol.  
 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
 33 Take precautionary measures against static discharges.  
 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where

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possible).

**15.2 National regulations**

Water contaminating class :	1 - slightly water contaminating
1999/13/EC (VOC) :	73%

**16. Other information****List of relevant R phrases**

- |    |   |
|----|---|
| 10 | Flammable.  |
| 11 | Highly flammable.   |
| 20 | Harmful by inhalation.  |
| 36 | Irritating to eyes.   |
| 42 | May cause sensitization by inhalation.                          |
| 51 | Toxic to aquatic organisms.                                     |
| 53 | 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.                     |

**Other data**

All components of this product are listed in the European Inventory of Existing Commercial Substances (EINECS) under the provisions laid down in the corresponding EEC-Directive. The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.