

Safety Data Sheet

according to 2001/58/EC

VERSTÄRKER 220 NE.

Print date : 13.12.2006

Product code : 7912

Page 1 of 6

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

VERSTÄRKER 220 NE.

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	70%	F, Xi R11-36-66-67
	2422-91-5	Triphenylmethan-4,4',4"-triisocyanat	27%	Xn R42
203-628-5	108-90-7	Chlorbenzol	< 2,5%	Xn, N R10-20-51-53
202-966-0	101-68-8	4,4'-Methylenbisphenyldiisocyanat (vgl. Diphenylmethan-4,4'diisocyanat)	< 0,1%	Xn, Xi R20-36/37/38-42/43
	103-71-9	phenylisocyanate	< 0,05%	T+ R10-22-26-34-42

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.

Hazards identification: 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.

Safety Data Sheet

according to 2001/58/EC

VERSTÄRKER 220 NE.

Print date : 13.12.2006

Product code : 7912

Page 2 of 6

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**Suitable extinguishing media**Dry chemical Carbon dioxide (CO₂) 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 upRemove 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 CO₂ !). 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**

Safety Data Sheet

according to 2001/58/EC

VERSTÄRKER 220 NE.

Print date : 13.12.2006

Product code : 7912

Page 3 of 6

Exposure limits (EH40)

CAS No.	Substance	ml/m ³	mg/m ³	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
103-71-9	phenylisocyanate	0,01	0,05		TWA (8 h)	
					STEL (15 min)	

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
101-68-8	Diphenylmethan-4,4'-diisocyanat	10 µg/g	4,4'-Diaminodiphenylmet han	U	b

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 : light green, light brown
 Odour : aromatic

9.2 Important health, safety and environmental information

Test method

Changes in the physical state

Boiling point : 77 °C

Flash point : - 4 °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/cm³

Water solubility : reacts with water

(at 20 °C)

Solubility in other solvents : Acetone, ethyl acetate

Viscosity / dynamic : 3 mPa·s

(at 20 °C)

Safety Data Sheet

according to 2001/58/EC

VERSTÄRKER 220 NE.

Print date : 13.12.2006

Product code : 7912

Page 4 of 6

Solvent content

73%

9.3 Other information

Ignition temperature :

460 °C

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 avoidHazardous reactions: Exothermic reaction with amines, alcohols, acids and alkali. Reacts with water forming CO₂. Closed containers may rupture owing to increase of pressure.**Additional information**Reagiert mit Wasser unter CO₂-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 = more than 2000 mg/kg**Specific effects in experiment on an animal**

Skin and mucous membrane compatibility, rabbit:

Skin - non-irritant

Eyes - slightly irritant

Corrosive and irritant effects

Irritating to eyes.

Sensitising effects

May cause sensitization by inhalation.

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.

MobilityThe resin reacts with water at the interface forming CO₂ 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****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.

Safety Data Sheet

according to 2001/58/EC

VERSTÄRKER 220 NE.

Print date : 13.12.2006

Product code : 7912

Page 5 of 6

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.

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

Ethylacetat

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:

Hazardous component(s) to be indicated on label

Triphenylmethan-4,4',4"-triisocyanat

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.

Safety Data Sheet

according to 2001/58/EC

VERSTÄRKER 220 NE.

Print date : 13.12.2006

Product code : 7912

Page 6 of 6

S phrases

- 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.
- 51 Use only in well-ventilated areas.
- 61 Avoid release to the environment. Refer to special instructions / Safety data sheets.

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.
- 22 Harmful if swallowed.
- 26 Very toxic by inhalation.
- 34 Causes burns.
- 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.
- 36/37/38 Irritating to eyes, respiratory system and skin.
- 42/43 May cause sensitization by inhalation and skin contact.

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.

Swiss law of poison: class of poison 3; BAG-T-No. 614463

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.