

## Material Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 08.08.2007

Revision: 12.12.2006

### 1 Identification of substance

- **Product details**
- **Trade name** **Injection Resin EP, component B**  
**Viscacid Epoxy Injection Resin, component B**
- **Article number:** 0945
- **Application of the substance / the preparation** Epoxy resin
- **Manufacturer/Supplier:**  
Remmers Baustofftechnik GmbH  
Postfach 1255  
D-49624 Lönningen / Germany  
Tel.: 05432/83-0  
Fax: 05432/3985
- **Informing department:**  
Product Safety department: Tel.: +49 (0)5432/83-138/-538  
E-Mail: sales@remmers.co.uk
- **Emergency information:**  
during working hours:  
U.K.: Tel.: +44 (0) 845 373 0103  
Far East: Tel.: +65( 0) 67410277  
Head Office Germany: Tel.: +49 (0)5432 83 185  
after working hours: Tel.: +49 (0)171/6428-297

### 2 Hazards identification

- **Hazard designation:**



C Corrosive  
N Dangerous for the environment

- **Information pertaining to particular dangers for man and environment**

R 21/22 Harmful in contact with skin and if swallowed.  
R 34 Causes burns.  
R 43 May cause sensitisation by skin contact.  
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

- **Classification system**

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

### 3 Composition/information on ingredients

- **Chemical characterization**
- **Description:** Epoxy resin hardener, formulation based on aliphatic polyamines

- **Dangerous components:**

CAS: 2855-13-2 EINECS: 220-666-8	3-aminomethyl-3,5,5-trimethylcyclohexylamine C, Xn; R 21/22-34-43-52/53	40-<60%
CAS: 25154-52-3 EINECS: 246-672-0	nonylphenol C, Xn, N; R 22-34-62-50/53-63	20-<40%
CAS: 9046-10-0	Polyoxypropylene diamine C, Xn; R 21/22-34-52/53	20-<40%

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

## 4 First aid measures

- **General information** Immediately remove any clothing soiled by the product.
- **After inhalation**  
Take affected persons into the open air and position comfortably  
Seek medical treatment in case of complaints.  
In case of unconsciousness bring patient into stable side position for transport.
- **After skin contact**  
Wash immediately with water and soap and rinse thoroughly.  
If skin irritation continues, consult a doctor.
- **After eye contact**  
Rinse opened eye for several minutes under running water.  
Seek immediate medical advice.
- **After swallowing** Drink plenty of water and provide fresh air. Call a doctor immediately.
- **Information for doctor**
- **Treatment** symptomatic treatment

## 5 Fire fighting measures

- **Suitable extinguishing agents**  
CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **Special hazards caused by the material, its products of combustion or flue gases:**  
Formation of toxic gases is possible during heating or in case of fire.
- **Protective equipment:**  
Wear self-contained breathing apparatus.  
Wear chemical protective clothing.
- **Additional information**  
Cool endangered containers with water spray jet.  
Collect contaminated fire fighting water separately. It must not enter drains.  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

## 6 Accidental release measures

- **Person-related safety precautions:**  
Wear protective equipment. Keep unprotected persons away.  
Keep away from ignition sources  
Ensure adequate ventilation
- **Measures for environmental protection:**  
Do not allow product to reach sewage system or water bodies.  
Do not allow to enter the ground/soil.
- **Measures for cleaning/collecting:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose of contaminated material as waste according to item 13.  
Ensure adequate ventilation.

## 7 Handling and storage

- **Handling**
- **Information for safe handling:**  
Use only in well ventilated areas.  
Open and handle container with care.

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- **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.
- **Storage**
- **Requirements to be met by storerooms and containers:** Prevent any penetration into the ground.
- **Information on storage in a common storage facility:** Store away from food.
- **Further information about storage conditions:**
  - Store cool and dry in tightly closed containers.
  - Store container in a well ventilated position.
  - Protect from frost.
  - Protect from heat and direct sunlight.

## 8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**
  - The product does not contain any relevant quantities of materials with limit values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during compilation were used as a basis.
- **Personal protective equipment**
- **General protective and hygienic measures**
  - Immediately remove soiled, saturated clothing.
  - Keep away from food, beverages and animal feed.
  - Do not eat, drink or smoke while working.
  - Use skin protection cream for preventive skin protection.
  - Wash hands before pauses and after work.
  - Avoid contact with eyes and skin.
  - Do not inhale gases / vapours / aerosols.
- **Respiratory equipment:**
  - In case of insufficient ventilation, use respiratory protection:
  - Filter A (brown)
  - Only use ambient air independent respiratory equipment in pits, shafts and silos!
- **Protection of hands:**
  - Impervious gloves
  - Long cuffed gloves
- **Material of gloves** Nitrile rubber, NBR
- **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 safety glasses.
- **Body protection:** Protective work clothing.

## 9 Physical and chemical properties:

### · General Information

<b>Form:</b>	Fluid
<b>Colour:</b>	Yellowish
<b>Odour:</b>	Amine-like

### · Change in condition

**Melting point/Melting range:** Not determined  
**Boiling point/Boiling range:** > 200°C

· **Flash point:** 105°C (Setaflash idung, Schutz)

· **Ignition temperature:** 370°C

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· <b>Self-inflammability:</b>	Product is not self-igniting.
· <b>Danger of explosion:</b>	Product is not explosive.
· <b>Explosive Limits:</b>	
<b>Lower:</b>	1.0 Vol %
· <b>Density at 20°C</b>	ca. 0.95 g/cm <sup>3</sup>
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix
· <b>Viscosity:</b>	
<b>dynamic at 23°C:</b>	130 mPas
<b>kinematic at 23°C:</b>	ca. 35 s (DIN 53211/4 idung, Schutz)
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	0.0 %
· <b>Solid content:</b>	100.0 %

## 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**  
 No decomposition if used according to specifications.  
 No decomposition if handled and stored according to specifications.
- **Materials to be avoided:** Strong oxidising agents
- **Dangerous reactions** Reacts with acids, alkalis and oxidising agents
- **Dangerous decomposition products:**  
 None if used properly.  
 None if stored properly.

## 11 Toxicological information

- **Acute toxicity:**

· <b>LD/LC50 values that are relevant for classification:</b>		
<b>2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine</b>		
Oral	LD50	1030 mg/kg (Ratte)
Dermal	LD50	ca. 2 mg/kg (Kaninchen)
<b>25154-52-3 nonylphenol</b>		
Oral	LD50	1900 mg/kg (Ratte)
Dermal	LD50	2140 mg/kg (Kaninchen)
<b>9046-10-0 Polyoxypropylene diamine</b>		
Oral	LD50	2855 mg/kg (Ratte)
Dermal	LD50	2980 mg/kg (Kaninchen)

- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:** Caustic effect
- **Sensitisation:** Sensitisation possible by skin contact.
- **Additional toxicological information:**  
 The product shows the following dangers based on the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:  
 Harmful  
 Corrosive  
 Swallowing leads to a strong caustic effect in the mouth and throat and to the danger of perforation of oesophagus and stomach.

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

## 12 Ecological information:

- **Information on elimination (persistence and degradability):**

- **Other information:**

Data for isophoronediamine:

Biodegradability:

Assessment: not readily biodegradable

Degradability: 8% 42%

Method: EEC C.4-A (DOC) OECD 303 A

Data for nonylphenol:

Biodegradability: 7% BODIS-Test; corresponding: ISO 10708 (draft)

- **Ecotoxicological effects:**

- **Acquatic toxicity:**

- **Type of test Effective concentration Method Assessment**

Data for isophoronediamine:

toxicity to fish:

Leuciscus idus LC-50: 185 mg/l, 48 h DIN 38412, part 15

zebra barbel LC-50: 110 mg/l, 96 h, OECD 203

toxicity to daphnie:

daphnia magna Straus 1820 EC-50: 42 mg/l, 24 h DIN 38412, part 11

toxicity to alga:

Scenedesmus subspicatus EC-50: 37 mg/l, 72 h DIN 38412

Data for nonylphenol:

Toxicity to fish:

Leuciscus idus melanotus LC-50 = 0.95 mg/l/48h DIN 38412, part 15

LC-0 = 0.4 mg/l/48h DIN 38412, part 15 Brachydanio rerio NOEC = 0.25 mg/l/14d

EG 88/302; OECD 204 Toxicity to daphnia:

Daphnia magna EC-50 = 0.14 mg/l/48h 84/449 EWG, part C.2

NOEC 0,1 mg/l/21d OECD 202, part 2 C.2

Toxicity to alga:

Scenedesmus subspicatus EC-50 = 1.3 mg/l/72 h UBA Method, 2/84

- **Behaviour in sewage processing plants:**

- **Type of test Effective concentration Method Assessment**

Data applies to nonylphenol:

Toxicity for bacteria: Pseudomonas putida EC-10 &gt; 16 mg/l/18 h (Bringmann-Kühn-Test)

- **General notes:**

Water danger class 3 : extremely hazardous to water.

Do not allow product to reach ground water, bodies of water or sewage system, even in small quantities.

## 13 Notes on disposal:

- **Product:**

- **Recommendation**

Not hardened material must be disposed of as hazardous waste according to official regulations. Hardened product remains may be disposed of as building rubble or put into household garbage.

- **European waste catalogue**

08 00 00	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS
08 01 00	wastes from MFSU and removal of paint and varnish
08 01 11	waste paint and varnish containing organic solvents or other dangerous substances
20 00 00	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS

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20 01 00	separately collected fractions (except 15 01)
20 01 28	paint, inks, adhesives and resins other than those mentioned in 20 01 27

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

## 14 Transport information

- **Land transport ADR/RID and GGVs/GGVE (cross-border/domestic)**



- **ADR/RID-GGVs/E Class:** 8 (C7) Corrosive substances.
- **Kemler Number:** 80
- **UN-Number:** 2735
- **Packaging group:** II
- **Danger sign:** 8
- **Designation of goods:** 2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S. (ISOPHORONEDIAMINE)
- **Limited quantities (LQ)** LQ22
- **Tunnel restriction code** E
- **Remarks:** TREM-Card No. 82

- **Maritime transport IMDG/GGVSea:**



- **IMDG/GGVSea Class:** 8
- **UN Number:** 2735
- **Label** 8
- **Packaging group:** II
- **EMS Number:** F-A,S-B
- **Marine pollutant:** mp
- **Correct technical name:** POLYAMINES, LIQUID, CORROSIVE, N.O.S. (ISOPHORONEDIAMINE)

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



- **ICAO/IATA Class:** 8
- **UN/ID Number:** 2735
- **Label** 8
- **Packaging group:** II
- **Correct technical name:** POLYAMINES, LIQUID, CORROSIVE, N.O.S. (ISOPHORONEDIAMINE)

## 15 Regulatory information

- **Designation according to EC guidelines:**  
 The product has been classified and labelled in accordance with EC Guidelines / Ordinance on Hazardous Materials (GefStoffV)

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· **Code letter and hazard designation of product:**



C Corrosive  
 N Dangerous for the environment

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

3-aminomethyl-3,5,5-trimethylcyclohexylamine  
 nonylphenol  
 Polyoxypropylene diamine

· **Risk phrases:**

21/22 Harmful in contact with skin and if swallowed.  
 34 Causes burns.  
 43 May cause sensitisation by skin contact.  
 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Safety phrases:**

2 Keep out of the reach of children.  
 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
 28 After contact with skin, wash immediately with plenty of soap and water.  
 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

· **National regulations**

· **Water hazard class:**

Water danger class 3: extremely hazardous to water.  
 according to appendix 4 VwVwS

· **Other regulations, limitations and prohibition ordinances**

APME document: "Epoxy resins and hardener: Toxicology, working safety, environment."

· **Professional Association (BG) Code of Practice:**

BGR 227 - "Epoxy Resins"  
 M 004 "Irritating substances/corrosive substances"

## 16 Other information:

This data is based on our present state of knowledge. However, it does not constitute a guarantee for any specific product features and does not establish a legally valid contractual relationship. Delivery specifications are found in the respective Technical Information Sheets.

· **Relevant R-phrases**

21/22 Harmful in contact with skin and if swallowed.  
 22 Harmful if swallowed.  
 34 Causes burns.  
 43 May cause sensitisation by skin contact.  
 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
 62 Possible risk of impaired fertility.  
 63 Possible risk of harm to the unborn child.

· **Department issuing data specification sheet:** Product Safety department