

Material Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 08.08.2007

Revision: 17.01.2007

1 Identification of substance

- **Product details**
- **Trade name** Epoxy Universal, Component A
Relö EP Universal, Component A
- **Article number:** 5590, 5591
- **Application of the substance / the preparation** Coating
- **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
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Head Office Germany: Tel.: +49 (0)5432 83 185
after working hours: Tel.: +49 (0)171/6428-297

2 Hazards identification

- **Hazard designation:**
not applicable



Xi Irritant

- **Information pertaining to particular dangers for man and environment**
R 10 Flammable.
R 36 Irritating to eyes.
R 52/53 Harmful 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:**
Tar-free, solvent containing coating based on an amine adduct solution with pigments and fillers

- **Dangerous components:**

CAS: 71-36-3	butan-1-ol	5-<10%
EINECS: 200-751-6	Xn, Xi; R 10-22-37/38-41-67	
CAS: 107-98-2	1-methoxypropan-2-ol	5-<10%
EINECS: 203-539-1	R 10	

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CAS: 1330-20-7 EINECS: 215-535-7	xylene, mixed isomers, pure Xn, Xi; R 10-20/21-38	5-<10%
	Solvent naphtha (mineral oil), slight aromatic Xn, Xi, N; R 10-37-51/53-65-66-67	2.5-<5%

· **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.

In case of irregular breathing or respiratory arrest, provide artificial respiration.

· After inhalation

Supply fresh air; consult doctor in case of symptoms.

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. Then consult doctor.

· After swallowing

Rinse out mouth immediately with plenty of water and administer plenty of water in small swallows (diluting effect).

Do not induce vomiting; call for medical help immediately.

· Information for doctor

· The following symptoms may occur:

In case of prolonged/repeated exposure or in high concentrations:

Headache

tiredness

nausea

Dizziness

Dazed

anaesthetic effect

Unconsciousness

Excessive contact with skin, eyes or respiratory system may cause irritation.

5 Fire fighting measures

· Suitable extinguishing agents

Water

Fire-extinguishing powder

BC powder

Alcohol-resistant foam

Carbon dioxide

· Special hazards caused by the material, its products of combustion or flue gases:

May be released in case of fire

Carbon monoxide (CO)

Carbon dioxide

further harmful conflagration gases and fumes

Under certain fire conditions, traces of other toxic gases cannot be excluded, e.g.:

Nitrous gases

Vapours are heavier than air and spread out over the ground. Ignition over greater distances is possible.

· Protective equipment:

Wear self-contained breathing apparatus.

Wear full protective suit.

· Additional information

Cool endangered containers with water spray jet.

Collect contaminated fire fighting water separately. It must not enter drains.

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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.
Ensure adequate ventilation
Keep away from ignition sources
- **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.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Fumes can combine with air to form an explosive mixture.
- **Storage**
- **Requirements to be met by storerooms and containers:**
Ventilate storage and work rooms sufficiently.
Install solvent resistant, sealed floor.
- **Information on storage in a common storage facility:**
Suitable material for containers and pipes: Light metals and their alloys.
- **Further information about storage conditions:**
Store cool and dry in tightly closed containers.
Store container in a well ventilated position.
Protect from heat and direct sunlight.
Protect from frost.

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:**

71-36-3 butan-1-ol

WEL	Short-term value: 154 mg/m ³ , 50 ppm
	Sk

107-98-2 1-methoxypropan-2-ol

WEL	Short-term value: 560 mg/m ³ , 150 ppm
	Long-term value: 375 mg/m ³ , 100 ppm
	Sk

1330-20-7 xylene, mixed isomers, pure

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

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- **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.
 Store protective clothing separately.
 Keep away from food, beverages and animal feed.
 Do not eat, drink or smoke while working.
 Apply solvent-resistant skin protection preparation before beginning work.
 Wash hands before pauses and after work.
 Avoid contact with eyes and skin.
 Do not inhale gases / vapours / aerosols.
- **Respiratory equipment:**
 Respiratory protection recommended.
 Respiratory protection if there is a risk of splashes/mist.
 In case of high concentrations, use respiratory protection.
 Short term filter device:
 Filter A/P2.
 Only use ambient air independent respiratory equipment in pits, shafts and silos!
- **Protection of hands:**
 Solvent resistant gloves
 Long cuffed gloves
- **Material of gloves**
 Butyl rubber, BR
 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:**
 Safety glasses
 if there is a risk of splashes
- **Body protection:** Protective work clothing.

9 Physical and chemical properties:

· General Information	
Form:	thixotropic
Colour:	Black or red tinted
Odour:	Amine-like
· Change in condition	
Melting point/Melting range: Not determined	
· Flash point:	30°C
· Self-inflammability:	Product is not self-igniting.
· Danger of explosion:	Product is not explosive. However, formation of dangerous explosive vapour/air mixtures is possible.
· Density at 20°C	1.34 g/cm ³
· Solubility in / Miscibility with	
Water:	Insoluble

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- **Viscosity:**
- **kinematic:** thixotropic

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.
Avoid: heat, flames, sparks
- **Materials to be avoided:** Acids
- **Dangerous reactions** Strong exothermic reaction with epoxy resins possible.
- **Dangerous decomposition products:** No dangerous decomposition products known

11 Toxicological information

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

71-36-3 butan-1-ol

Oral	LD50	790 mg/kg (Ratte)
Dermal	LD50	3400 mg/kg (Kaninchen)
Inhalative	LC50/4 h	8000 mg/l (Ratte)

Solvent naphtha (mineral oil), slight aromatic

Oral	LD50	> 2000 mg/kg (Ratte)
Dermal	LD50	> 2000 mg/kg (Kaninchen)
Inhalative	LC50/4 h	> 5 mg/l (Ratte)

- **Primary irritant effect:**
- **on the skin:**
No irritating effect.
Dries skin out.
- **on the eye:** No irritating effect.
- **Sensitisation:** No sensitising effect known.
- **Other information (on experimental toxicology):**
Data applies to butanol:
Acute inhalation risk (rat; test result dependent on toxicity and volatility): No mortality after 7 hours of exposure in a highly enriched or saturated atmosphere at 20°C.
- **Subacute to chronic toxicity:**
Data for xylene:
Repeated exposure causes kidney damage in rats.
Repeated exposure causes liver damage in rats.
Causes slight foctotoxicity with rats, with doses toxic to the mother.
- **Experience with humans:**
Frequent or longer lasting skin contact may degrease and dry out skin which may lead to skin irritation and inflammation (dermatitis).
- **Additional toxicological information:**
The product is not subject to labelling based on the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version.
Data for butanol:
High concentrations have a narcotic effect.
In higher concentrations: liver damage.
Repeated and prolonged over-exposure may lead to damage of the central nervous system because of the xylene content. An addiction to xylene is possible.
Experience in practice:
Vapours have an irritating effect on eyes and respiratory system.
In high concentrations, vapours may lead to numbness and unconsciousness. Chronic uptake causes

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central nervous system disorders (headaches, insomnia, etc.)
Prolonged uptake can lead to temporary damage of the liver, kidneys or blood count.
Data applies for xylene (mixed isomers)

12 Ecological information:

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

- **Other information:**

Data for butanol:

Test method: OECD 302B/ISO 9888/EEC 88/302, C

Analysis method: DOC reduction

Degree of elimination: > 70%

Evaluation: good eliminability, biodegradable

Data for xylene:

Easily biodegradable. Resistibility under anaerobic conditions (estimated). Fast photochemical oxidation in the air. Half-time value in the environment: < 1 day (estimated). Ruling loss due to photolysis. Risk of decrease of oxygen in aquatic systems (estimated).

- **Behaviour in environmental systems:**

- **Mobility and bioaccumulation potential:**

Xylene floats on water.

It evaporates within one day from water or ground surfaces.

Dissolved material evaporates quickly. If xylene penetrates the ground, it remains mobile and can pollute ground water.

No essential bioaccumulation.

- **Ecotoxicological effects:**

- **Aquatic toxicity:**

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

Data for butanol:

Toxicity for fish:

Leuciscus idus LC 50: 1200-1700 mg/l/96 h (literature data)

Toxicity for alga:

Scenedesmus subspicatus EC/LC-50: >500 mg/l/96 h DIN 38412/9

Toxicity for daphnia:

Daphnia magna EC/LC-50: 1983 mg/l/96 h DIN 38412/11

Data for xylene:

Acute toxicity to fish: 1 < LC/EC/IC-50 < 10 mg/l toxic

Acute toxicity 1 < LC/EC/IC-50 < 10 mg/l toxic

(invertebrates):

Acute toxicity to alga: 1 < LC/EC/IC-50 < 10 mg/l toxic

- **Behaviour in sewage processing plants:**

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

Data for butanol:

Toxicity for bacteria:

Pseudomonas putida EC/LC-50 : 4400 mg/l/17h DIN 38412, part 8

Data for xylene:

Acute toxicity to bacteria: 10 < LC/EC/IC-50 < 100 mg/l slightly toxic

- **General notes:**

Water hazard class 2 : hazardous to water.

Do not allow product to reach ground water, bodies of water or sewage system.

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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.

The given refuse codes are recommendations based upon the intended use of the product. Because of special use and disposal conditions at the user's, other codes may apply under other conditions.

- **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
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:** -

- **Remarks:** In drums/vessels < 450 litre:
Transport according to annotations 2.2.3.1.5 ADR because of high viscosity

- **Maritime transport IMDG/GGVSea:**

- **IMDG/GGVSea Class:** -

- **Marine pollutant:** -

- **Remarks:** In drums/vessels < 30 litres:
Transport in accordance with paragraph 2.3.2.5 of the IMDG Code

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



- **ICAO/IATA Class:** 3

- **UN/ID Number:** 1263

- **Label:** 3

- **Packaging group:** III

- **Correct technical name:** PAINT

15 Regulatory information

- **Designation according to EC guidelines:**

Observe normal safety precautions for handling chemicals

The product is not subject to labelling in accordance with EC Guidelines and the Ordinance on Hazardous Materials (GefStoffV).

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



Xi Irritant

· **Risk phrases:**

- 10 Flammable.
- 36 Irritating to eyes.
- 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Safety phrases:**

- 2 Keep out of the reach of children.
- 16 Keep away from sources of ignition - No smoking.
- 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- 46 If swallowed, seek medical advice immediately and show this container or label.
- 51 Use only in well-ventilated areas.
- 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

· **National regulations**

· **Technical instructions (air):**

Class	Proportion in %
NK	20-<40

· **Water hazard class:**

Water hazard class 2: hazardous to water.
 according to appendix 4 VwVwS

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

Observe the usual protective measures when working and for storage.
 APME document: "Epoxy resins and hardener: Toxicology, working safety, environment."

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

BGR 227 - "Epoxy Resins"
 M 017 "Solvents"

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**

- 10 Flammable.
- 20/21 Harmful by inhalation and in contact with skin.
- 22 Harmful if swallowed.
- 37 Irritating to respiratory system.
- 37/38 Irritating to respiratory system and skin.
- 38 Irritating to skin.
- 41 Risk of serious damage to eyes.
- 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 65 Harmful: may cause lung damage if swallowed.
- 66 Repeated exposure may cause skin dryness or cracking.
- 67 Vapours may cause drowsiness and dizziness.

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