

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 30.11.2010

Revision: 30.11.2010

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

· **Product identifier**

· **Trade name:** BRUNOX® Epoxy

· **Relevant identified uses of the substance or mixture and uses advised against**

· **Application of the substance / the preparation**

Coating material

rust neutraliser and epoxy primer

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

BRUNOX Korrosionsschutz GmbH

Postfach 100127

85001 Ingolstadt

Tel. + 49/ (0) 841 961 29 04

Fax + 49/ (0) 841 961 29 13

E-mail: office@brunox.com

· BRUNOX AG

Tunnelstrasse 6

CH - 8732 Neuhaus/SG

Tel. +41/ (0)55 285 80 80

Fax +41/ (0)55 285 80 81

E-mail: office@brunox.com

· **Further information obtainable from:** Abteilung Produktsicherheit: Tel. +41/ (0)79 372 34 44

· **Emergency telephone number:**

Toxikologisches Informationszentrum

CH - 8030 Zürich, Freiestrasse 16

Tel. +41/ 044 251 51 51

Notruf - CH - : 145

Notruf - D - : Giftnotrufzentrale 030 19240

Notruf - AT - : 01 4064343

EUROPÄISCHE NOTRUFNR. : 112

### 2 Hazards identification

· **Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

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



Xi; Irritant

R36/38: Irritating to eyes and skin.



F; Highly flammable

(Contd. on page 2)

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date 30.11.2010

Revision: 30.11.2010

(Contd. of page 1)

R11: Highly flammable.

- **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:**

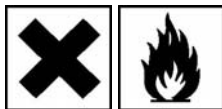
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

- **Label elements**

- **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

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



Xi Irritant  
F Highly flammable

- **Risk phrases:**

11 Highly flammable.  
36/38 Irritating to eyes and skin.

- **Safety phrases:**

2 Keep out of the reach of children.  
7/9 Keep container tightly closed and in a well-ventilated place.  
23 Do not breathe fumes/aerosol.  
29/56 Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.  
46 If swallowed, seek medical advice immediately and show this container or label.  
51 Use only in well-ventilated areas.

- **Other hazards**

- **Results of PBT and vPvB assessment**

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

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

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

- **Dangerous components:**

CAS: 108-10-1 EINECS: 203-550-1	4-methylpentan-2-one Xn R20; Xi R36/37; F R11 R66 Flam. Liq. 2, H225; Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	10-25%
CAS: 107-98-2 EINECS: 203-539-1	1-methoxy-2-propanol R10 Flam. Liq. 3, H226	2.5-10%

(Contd. on page 3)

IE

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date 30.11.2010

Revision: 30.11.2010

CAS: 67-63-0	propan-2-ol	(Contd. of page 2)
EINECS: 200-661-7	☒ Xi R36; ☒ F R11 R67	2.5-10%
	☒ Flam. Liq. 2, H225; ☒ Eye Irrit. 2, H319; STOT SE 3, H336	
CAS: 64-18-6	formic acid	2.5-10%
EINECS: 200-579-1	☒ C R35 ☒ Skin Corr. 1A, H314	
CAS: 112-34-5	2-(2-butoxyethoxy)ethanol	2.5-10%
EINECS: 203-961-6	☒ Xi R36 ☒ Eye Irrit. 2, H319	

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

#### 4 First aid measures

- **Description of first aid measures**
- **After inhalation:**  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**  
If skin irritation continues, consult a doctor.  
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:** A person vomiting while laying on their back should be turned onto their side.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

#### 5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Do not inhale explosion gases or combustion gases.
- **Additional information** Cool endangered receptacles with water spray.

#### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Ensure adequate ventilation  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.

(Contd. on page 4)

IE

## Safety data sheet according to 1907/2006/EC, Article 31

Printing date 30.11.2010

Revision: 30.11.2010

(Contd. of page 3)

- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents
- **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

- **Handling:**
- **Precautions for safe handling**  
Keep receptacles tightly sealed.  
Store in cool, dry place in tightly closed receptacles.  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Store only in the original receptacle.  
Store in a cool location.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:**  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **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.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**  
**108-10-1 4-methylpentan-2-one**  
OEL (Ireland) Short-term value: 208 mg/m<sup>3</sup>, 50 ppm  
Long-term value: 83 mg/m<sup>3</sup>, 20 ppm  
Sk, IOELV  
WEL (Great Britain) Short-term value: 416 mg/m<sup>3</sup>, 100 ppm  
Long-term value: 208 mg/m<sup>3</sup>, 50 ppm  
Sk  
**107-98-2 1-methoxy-2-propanol**  
OEL (Ireland) Short-term value: 368 mg/m<sup>3</sup>, 100 ppm  
Long-term value: 184 mg/m<sup>3</sup>, 50 ppm  
IOELV  
WEL (Great Britain) Short-term value: 560 mg/m<sup>3</sup>, 150 ppm  
Long-term value: 375 mg/m<sup>3</sup>, 100 ppm  
Sk

(Contd. on page 5)

IE

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 30.11.2010

Revision: 30.11.2010

(Contd. of page 4)

**67-63-0 propan-2-ol**

OEL (Ireland)	Short-term value: 400 ppm Long-term value: 200 ppm Sk
WEL (Great Britain)	Short-term value: 1250 mg/m <sup>3</sup> , 500 ppm Long-term value: 999 mg/m <sup>3</sup> , 400 ppm

**64-18-6 formic acid**

OEL (Ireland)	9 mg/m <sup>3</sup> , 5 ppm IOELV
WEL (Great Britain)	9.6 mg/m <sup>3</sup> , 5 ppm

**112-34-5 2-(2-butoxyethoxy)ethanol**

OEL (Ireland)	Short-term value: 101.2 mg/m <sup>3</sup> , 15 ppm Long-term value: 67.5 mg/m <sup>3</sup> , 10 ppm IOELV
WEL (Great Britain)	Short-term value: 101.2 mg/m <sup>3</sup> , 15 ppm Long-term value: 67.5 mg/m <sup>3</sup> , 10 ppm

- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
  - Keep away from foodstuffs, beverages and feed.
  - 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 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:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
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.

(Contd. on page 6)

IE

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date 30.11.2010

Revision: 30.11.2010

(Contd. of page 5)

· Eye protection:



Tightly sealed goggles

## 9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:

Fluid

Colour:

Amber coloured

· Odour:

Characteristic

· Odour threshold:

Not determined.

· pH-value at 20°C:

4

· Change in condition

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range:

82°C

· Flash point:

13°C

· Ignition temperature:

270°C

· 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:

1.7 Vol %

Upper:

9.0 Vol %

· Vapour pressure at 20°C:

8 hPa

· Density at 20°C:

1 g/cm<sup>3</sup>

· Relative density

Not determined.

· Vapour density

Not determined.

· Evaporation rate

Not determined.

· Solubility in / Miscibility with water:

Not miscible or difficult to mix.

· Segregation coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic:

Not determined.

Kinematic:

Not determined.

· Solvent content:

Organic solvents:

39.6 %

VOC (EC)

39.65 %

Solids content:

47.3 %

(Contd. on page 7)

IE

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 30.11.2010

Revision: 30.11.2010

(Contd. of page 6)

- **Other information** No further relevant information available.

### 10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values relevant for classification:**  
**108-10-1 4-methylpentan-2-one**

Oral	LD50	2080 mg/kg (rat)
Dermal	LD50	16000 mg/kg (rab)
Inhalative	LC50/4 h	8.3-16.6 mg/l (rat)
- **Primary irritant effect:**
- **on the skin:**  
Bei längeren und/oder häufigem Hautkontakt sind Reizerscheinungen möglich.  
Prolonged skin contact will result in defatting of the skin, leading to irritation, and in some cases, dermatitis.  
Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **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:  
Irritant

### 12 Ecological information

- **Toxicity**
- **Acquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (German Regulation) (Self-assessment): 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.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

(Contd. on page 8)

IE

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date 30.11.2010

Revision: 30.11.2010

(Contd. of page 7)

- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **European waste catalogue**  
20 01 28 paint, inks, adhesives and resins other than those mentioned in 20 01 27  
20 01 39 plastics
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- **Land transport ADR/RID (cross-border)**



- **ADR/RID class:** 3 Flammable liquids.
- **Danger code (Kemler):** 33
- **UN-Number:** 1866
- **Packaging group:** II
- **Hazard label:** 3
- **UN proper shipping name:** 1866 RESIN SOLUTION, special provision 640D
- **Tunnel restriction code** D/E

- **Maritime transport IMDG:**



- **IMDG Class:** 3
- **UN Number:** 1866
- **Label** 3
- **Packaging group:** II
- **EMS Number:** F-E,S-E
- **Marine pollutant:** No
- **Proper shipping name:** RESIN SOLUTION

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



- **ICAO/IATA Class:** 3
- **UN/ID Number:** 1866

(Contd. on page 9)

IE



## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date 30.11.2010

Revision: 30.11.2010

(Contd. of page 8)

- **Label** 3
- **Packaging group:** II
- **Proper shipping name:** RESIN SOLUTION
- **UN "Model Regulation":** UN1866, RESIN SOLUTION, 3, II
- **Special precautions for user** Warning: Flammable liquids.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Labelling according to EU guidelines:**  
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.
- **Code letter and hazard designation of product:**



Xi Irritant  
F Highly flammable

- **Risk phrases:**  
11 Highly flammable.  
36/38 Irritating to eyes and skin.
- **Safety phrases:**  
2 Keep out of the reach of children.  
7/9 Keep container tightly closed and in a well-ventilated place.  
23 Do not breathe fumes/aerosol.  
29/56 Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.  
46 If swallowed, seek medical advice immediately and show this container or label.  
51 Use only in well-ventilated areas.
- **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.

- **Relevant phrases**  
H225 Highly flammable liquid and vapour.  
H226 Flammable liquid and vapour.  
H314 Causes severe skin burns and eye damage.  
H319 Causes serious eye irritation.  
H332 Harmful if inhaled.  
H335 May cause respiratory irritation.  
H336 May cause drowsiness or dizziness.
- .....
- R10 Flammable.  
R11 Highly flammable.  
R20 Harmful by inhalation.  
R35 Causes severe burns.  
R36 Irritating to eyes.  
R36/37 Irritating to eyes and respiratory system.

(Contd. on page 10)

**Safety data sheet**  
**according to 1907/2006/EC, Article 31**

Printing date 30.11.2010

Revision: 30.11.2010

(Contd. of page 9)

- R66 Repeated exposure may cause skin dryness or cracking.  
R67 Vapours may cause drowsiness and dizziness.

• **Department issuing MSDS:** Abteilung Produktsicherheit

• **Contact:** siehe Seite 1 / see page 1

• **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent