Revision: 28.04.2015 Printing date 28.04.2015 Version number 6

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

· 1.1 Product identifier

- · Trade name: BRUNOX® Epoxy (bulk)
- 1.2 Relevant identified uses of the substance or mixture and uses advised against No further relevant information available.

· Sector of Use

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU21 Consumer uses: Private households / general public / consumers

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Product category

PC9a Coatings and paints, thinners, paint removers

PC14 Metal surface treatment products, including galvanic and electroplating products

· Process category

PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

PROC7 Industrial spraying

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

PROC10 Roller application or brushing

PROC11 Non industrial spraying

PROC13 Treatment of articles by dipping and pouring

· Environmental release category

ERC8c Wide dispersive indoor use resulting in inclusion into or onto a matrix

ERC8f Wide dispersive outdoor use resulting in inclusion into or onto a matrix

· Application of the substance / the mixture

Coating material

rust neutraliser and epoxy primer

· 1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

BRUNOX Korrosionsschutz GmbH Adlzreiterstrasse 13, 85051 Ingolstadt Postfach 100127, 85001 Ingolstadt

Tel. + 49/ (0) 841 961 29 04 Fax + 49/(0)8419612913

E-mail: office@brunox.com

www.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

· 1.4 Emergency telephone number:

Toxikologisches Informationszentrum

CH - 8030 Zürich, Freiestrasse 16

Tel. +41/044 251 51 51

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(Contd. of page 1)

Notruf - CH, STIZ : 145 Notruf - D - : Giftnotrufzentrale 030 19240 Notruf - BE - : 070 -245 245 EUROPÄISCHE NOTRUFNR. : 112

Notruf - GB -: 844 892 0111

Notruf - IE - : + 353 1 837 9964 (medical professionals); + 353 1 809 2166 (public)

Notruf - IS -: + 354 543 22 22

Notruf - JP - : + 81 72 727 2499; + 81 29 852 9999

Notruf - NZ -: 0800 764 766

Notruf - PK -: + 92 21 9920509; + 92 21 35686535

Notruf - PH -: +632 524 10 78; +632 544 84 00; local 2311

Notruf - SA -: +966 146 77 353, +966 3 8155 646; Ext. 280, 282, 283

Notruf - TH - : + 66 201 1086 Notruf - UAE - : 800 424 Notruf - ZA - : + 27 824 910 160

SECTION 2: Hazards identification

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008



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



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 Not applicable.



Xi; Irritant

R36/38: Irritating to eyes and skin.



F; Highly flammable

R11: Highly flammable.

R67: Vapours may cause drowsiness and dizziness.

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.

- · 2.2 Label elements
- Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

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Hazard pictograms



· Signal word Danger

· Hazard statements

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eve irritation.

· Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition

sources. No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P280 Wear protective gloves / eye protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin

with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing.

P403+P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container in accordance with local/regional/national/

international regulations.

· Labelling of packages where the contents do not exceed 125 ml

Hazard pictograms





GHS02 GHS07

· Signal word Danger

· Hazard statements Void

· Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition

sources. No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P280 Wear protective gloves / eye protection.

P233 Keep container tightly closed. P242 Use only non-sparking tools.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

· 2.3 Other hazards

· Results of PBT and vPvB assessment

· PBT: Not applicable.

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vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

· 3.2 Mixtures

· Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 108-10-1 4-methylpentan-2-one 10-25%

EINECS: 203-550-1 🗶 Xn R20; 🗶 Xi R36/37; 🐞 F R11

Reg.nr.: 01-2119473980-30-XXXX R66

Flam. Liq. 2, H225
 Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE

3, H335

CAS: 107-98-2 1-methoxy-2-propanol 2.5-10%

EINECS: 203-539-1 R10-67

Reg.nr.: 01-2119457435-35-XXXX Flam. Liq. 3, H226

♠ STOT SÉ 3, H336

CAS: 67-63-0 propan-2-ol 2.5-10%

EINECS: 200-661-7 🗶 Xi R36; 🐞 F R11

Reg.nr.: 01-2119457558-25-XXXX R67

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

Reg.nr.: 01-2119491174-37-XXXX ♠ Acute Tox. 3, H331

 Skin Corr. 1C, H314 Acute Tox. 4, H302

CAS: 112-34-5 2-(2-butoxyethoxy)ethanol 2.5-10%

EINECS: 203-961-6 🗶 Xi R36

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

SECTION 4: First aid measures

4.1 Description of first aid measures

· General information:

Take affected persons out into the fresh air.

Do not leave affected persons unattended.

Position and transport stably in side position.

Seek medical treatment.

After inhalation:

Take affected persons into fresh air and keep quiet.

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:

Rinse out mouth and then drink plenty of water.

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A person vomiting while laying on their back should be turned onto their side.

· 4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

· 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

- · 5.1 Extinguishing media
- · Suitable extinguishing agents: CO2, sand, extinguishing powder. Do not use water.
- · For safety reasons unsuitable extinguishing agents: Water with full jet
- · 5.2 Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Carbon monoxide (CO)

- · 5.3 Advice for firefighters
- · Protective equipment:

Do not inhale explosion gases or combustion gases.

Wear self-contained respiratory protective device.

· Additional information Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

Keep away from ignition sources.

Wear protective equipment. Keep unprotected persons away.

· 6.2 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.

· 6.3 Methods and material for containment and cleaning up:

Send for recovery or disposal in suitable receptacles.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· 6.4 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.

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Keep receptacles tightly sealed.

Store in cool, dry place in tightly closed receptacles.

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Information about fire - and explosion protection:

Do not spray onto a naked flame or any incandescent material.

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Highly volatile, flammable constituents are released during processing.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

- · 7.2 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.

· 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.
- · 8.1 Control parameters
- · Ingredients with limit values that require monitoring at the workplace:

108-10-1 4-methylpentan-2-one

WEL (Great Britain) Short-term value: 416 mg/m³, 100 ppm

Long-term value: 208 mg/m³, 50 ppm

Sk, BMGV

NES (Australia) Short-term value: 307 mg/m³, 75 ppm

Long-term value: 205 mg/m³, 50 ppm

WES (New Zealand) Short-term value: 307 mg/m³, 75 ppm

Long-term value: 205 mg/m³, 50 ppm

67-63-0 propan-2-ol

WEL (Great Britain) Short-term value: 1250 mg/m³, 500 ppm

Long-term value: 999 mg/m³, 400 ppm

NES (Australia) Short-term value: 1230 mg/m³, 500 ppm

Long-term value: 983 mg/m³, 400 ppm

WES (New Zealand) Short-term value: 1230 mg/m³, 500 ppm

Long-term value: 983 mg/m³, 400 ppm

107-98-2 1-methoxy-2-propanol

WEL (Great Britain) Short-term value: 560 mg/m³, 150 ppm

Long-term value: 375 mg/m³, 100 ppm

Sk

NES (Australia) Short-term value: 553 mg/m³, 150 ppm

Long-term value: 369 mg/m³, 100 ppm

WES (New Zealand) Short-term value: 553 mg/m³, 150 ppm

Long-term value: 369 mg/m³, 100 ppm

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

WEL (Great Britain) Short-term value: 101.2 mg/m³, 15 ppm

Long-term value: 67.5 mg/m³, 10 ppm

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64-18-6 formic acid

WEL (Great Britain) Long-term value: 9.6 mg/m³, 5 ppm NES (Australia) Short-term value: 19 mg/m³, 10 ppm Long-term value: 9.4 mg/m³, 5 ppm

WES (New Zealand) Short-term value: 19 mg/m³, 10 ppm

Long-term value: 9.4 mg/m³, 5 ppm

· Ingredients with biological limit values:

108-10-1 4-methylpentan-2-one

BMGV (Great Britain) 20 µmol/L

Medium: urine

Sampling time: post shift

Parameter: 4-methylpentan-2-one

- · Additional information: The lists valid during the making were used as basis.
- · 8.2 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:

Short term filter device:

Filter A/P2

Filter AX

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:

Check protective gloves prior to each use for their proper condition.



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

Nitrile rubber, NBR

Butyl rubber, BR

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.

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· Eye protection:



Tightly sealed goggles

· Body protection: Solvent resistant protective clothing

SECTION 9: Physical and chemical properties

- · 9.1 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 (68 °F): 3.9

· Change in condition

Melting point/Melting range:
Boiling point/Boiling range:Undetermined.
82 °C (180 °F)· Flash point:13 °C (55 °F)· Flammability (solid, gaseous):Not applicable.· Ignition temperature:270 °C (518 °F)· 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 (68 °F): 8 hPa (6 mm Hg)

Density at 20 °C (68 °F):
 Relative density
 Vapour density
 Evaporation rate
 1 g/cm³ (8.345 lbs/gal)
 Not determined.
 Not determined.
 Not determined.

· Solubility in / Miscibility with

water: Not miscible or difficult to mix.

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

· Viscosity:

Dynamic: Not determined. **Kinematic:** Not determined.

· Solvent content:

Organic solvents: 41.5 %

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VOC (EC) 39.65 % **Solids content:** 1.5 %

9.2 Other information
 No further relevant information available.

SECTION 10: Stability and reactivity

- · 10.1 Reactivity
- · 10.2 Chemical stability stable
- · Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

- · 10.3 Possibility of hazardous reactions Forms explosive gas mixture with air.
- 10.4 Conditions to avoid No further relevant information available.
- 10.5 Incompatible materials: No further relevant information available.
- 10.6 Hazardous decomposition products: No dangerous decomposition products known.
- · Additional information:

As long as the prescribed application concentrations are maintained there is no danger that stable emulsions will form.

SECTION 11: Toxicological information

- · 11.1 Information on toxicological effects
- · Acute toxicity:
- · LD/LC50 values relevant for classification:

ATE (Acute Toxicity Estimates)

Oral LD50 37543 mg/kg (rat)

Inhalative LC50/4 h 20.1 mg/l

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)

67-63-0 propan-2-ol

Oral LD50 5045 mg/kg (rat)

Dermal LD50 12800 mg/kg (rabbit)

Inhalative LC50/4 h 30 mg/l (rat)

107-98-2 1-methoxy-2-propanol

Oral LD50 5660 mg/kg (rat)
Dermal LD50 13000 mg/kg (rabbit)

Inhalative LC50/4 h 6 mg/l (rat)

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

Oral LD50 5660 mg/kg (rat)

Dermal LD50 4000 mg/kg (rabbit)

64-18-6 formic acid

Oral LD50 1100 mg/kg (rat) Inhalative LC50/4 h 3 mg/l (ATE)

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- · Primary irritant effect:
- · on the skin: Irritant to skin and mucous membranes.
- · on the eye: Irritating effect.
- · Sensitisation: No sensitising 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

SECTION 12: Ecological information

- · 12.1 Toxicity
- · Aquatic toxicity: No further relevant information available.
- 12.2 Persistence and degradability No further relevant information available.
- 12.3 Bioaccumulative potential No further relevant information available.
- 12.4 Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- · 12.5 Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.
- · 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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

SECTION 14: Transport information

· 14.1 UN-Number

· ADR, IMDG, IATA UN1866

· 14.2 UN proper shipping name

· ADR
 · IMDG, IATA
 1866 RESIN SOLUTION, special provision 640D
 RESIN SOLUTION

INLOIN SOLUTION

(Contd. on page 11)

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- · 14.3 Transport hazard class(es)
- · ADR, IMDG, IATA



· <u>Class</u> 3 Flammable liquids.

· Label 3

· 14.4 Packing group

· ADR, IMDG, IATA

· 14.5 Environmental hazards:

· Marine pollutant: No

• 14.6 Special precautions for user Warning: Flammable liquids.

• Danger code (Kemler): 33 • EMS Number: F-E,S-E

· 14.7 Transport in bulk according to Annex II

of MARPOL73/78 and the IBC Code Not applicable.

· Transport/Additional information:

· ADR

· Limited quantities (LQ) 5L

Excepted quantities (EQ) Code: E2

Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

• Transport category 2 • Tunnel restriction code D/E

· IMDG

• Limited quantities (LQ) 5L • Excepted quantities (EQ) Code: E2

> Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

· UN "Model Regulation": UN1866, RESIN SOLUTION, special provision

640D, 3, II

SECTION 15: Regulatory information

· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No further relevant information available.

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 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.

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	R۵	lova	nt	nh	rases
•	Re	ıeva	HL	DH	iases

- H225 Highly flammable liquid and vapour.
- Flammable liquid and vapour. H226
- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H332 Harmful if inhaled.
- May cause respiratory irritation. H335
- May cause drowsiness or dizziness. H336
- R10 Flammable.
- Highly flammable. R11
- R20 Harmful by inhalation.
- Causes severe burns. R35
- R36 Irritating to eyes.
- R36/37 Irritating to eyes and respiratory system.
- Repeated exposure may cause skin dryness or cracking. **R66**
- Vapours may cause drowsiness and dizziness. **R67**

Department issuing MSDS: Abteilung Produktsicherheit

- Contact: siehe Seite 1 / see page 1
- Abbreviations and acronyms:

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

ICAO: International Civil Aviation Organisation

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Lig. 2: Flammable liquids, Hazard Category 2

Flam. Liq. 2. Flaminable liquids, Hazard Category 3
Acute Tox. 3: Acute toxicity, Hazard Category 3
Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Corr. 1C: Skin corrosion/irritation, Hazard Category 1C

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

· * Data compared to the previous version altered.