

Safety data sheet
according to Regulation (EC) No. 1907/2006 as amended from
time to time

Printing date 09.01.2026

Version-No. 10.0 (replaces version 9.0)

Revision: 09.01.2026

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

- **1.1. Product identifier**
- Trade name / Article-No: **KLEIBERIT 531.1**
- **Component:** A
- **UFI:** YRTY-G0C7-M001-H9KA
- **1.2. Relevant identified uses of the substance / mixture or uses advised against**
For professional users only.
- **Application of the substance / the mixture** Adhesives
- **1.3. Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
KLEIBERIT SE & Co. KG
Max-Becker-Str. 4
76356 Weingarten
Germany
- **Further information obtainable from:**
phone: +49 (0) 7244 62-0
FAX: +49 (0) 7244 700-0
E-Mail: hse@kleiberit.com
- **1.4. Emergency telephone number:**
+44 1235 239670 European regional number (European languages)
112 Emergency telephone number for Malta
543 22 22 Icelandic University Hospital
National Poisons Information Centre Ireland:
+353 (0)1 809 2166 Members of the public Number (8am-10pm)
+353 (0)1 809 2566 Healthcare professional telephone Number (24hrs)

SECTION 2: Hazards identification

- **2.1. Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008 - GHS/CLP**

Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2	H319	Causes serious eye irritation.
Skin Sens. 1	H317	May cause an allergic skin reaction.
Repr. 1B	H360F	May damage fertility.
Aquatic Chronic 2	H411	Toxic to aquatic life with long lasting effects.
- **2.2. Label elements**
- **Hazard pictograms**
  
GHS07 GHS08 GHS09
- **Signal word** Danger
- **Hazard-determining components of labelling:**
bis-[4-(2,3-epoxipropoxy)phenyl]propane
Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane
- **Hazard statements**
H315 Causes skin irritation.

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H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H360F May damage fertility.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P261 Avoid breathing mist/vapours/spray.

P273 Avoid release to the environment.

P280 Wear protective gloves / eye protection.

P302+P352 IF ON SKIN: Wash with plenty of water and soap.

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

P308+P313 IF exposed or concerned: Get medical advice/attention.

Additional information:

Contains epoxy constituents. May produce an allergic reaction.

2.3. Other hazards**Results of PBT and vPvB assessment**

PBT: Not applicable

vPvB: Not applicable

Determination of endocrine-disrupting properties

1675-54-3 bis-[4-(2,3-epoxipropoxy)phenyl]propane: List II

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

Registry-No's	Identification / Classification GHS-CLP	%
CAS: 1675-54-3	bis-[4-(2,3-epoxipropoxy)phenyl]propane Aquatic Chronic 2, H411; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317 Specific concentration limits: Eye Irrit. 2; H319: C ≥ 5 % Skin Irrit. 2; H315: C ≥ 5 %	30-40%
CAS: 770-35-4	1-phenoxy-2-propanol Eye Irrit. 2, H319	≥3-≤5%
CAS: 933999-84-9 Reg.nr.: 01-2119463471-41-XXXX	Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane Repr. 1B, H360F; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	≥1-≤3%
CAS: 112945-52-5 Reg.nr.: 01-2119379499-16-XXXX	Silicon dioxide, amorphous substance with a Community workplace exposure limit	<2%

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

SECTION 4: First aid measures**4.1. Description of first aid measures**

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact:

Treat affected skin with cotton wool or cellulose. Then wash and rinse thoroughly with water and a mild cleaning agent.

If skin irritation continues, consult a doctor.

After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing: Call for a doctor immediately.

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- **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, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2. Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3. Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- **6.1. Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Particular danger of slipping on leaked/spilled product.
- **6.2. Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
- **6.3. Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
Ensure adequate ventilation.
- **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**
Not less than 3-5 air exchanges per hour
Ensure good ventilation. This can be achieved by using a local exhaustion or general exhaust system. If these measures are insufficient to keep the vapour concentration below the workplace limit, wear an adequate respiratory protective device.
Wear protective gloves/protective clothing/eye protection/face protection.
Use only in well ventilated areas.
have emergency plan in place, to minimize impact
- **General protective and hygienic measures:** Appropriate regular employee training.
- **7.2. Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Keep container tightly closed.
- **Information about storage in one common storage facility:** Observe the national regulations.
- **Further information about storage conditions:** None.
- **7.3. Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1. Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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· **DNELs****1675-54-3 bis-[4-(2,3-epoxipropoxi)phenyl]propane**

Dermal DNEL long term 0.75 mg/kg (not specified)

Inhalative DNEL long term 4.93 mg/m³ (not specified)**933999-84-9 Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane**

Dermal DNEL long term 2.2 mg/kg (worker)

Inhalative DNEL long term 3.88 mg/m³ (worker)· **PNECs****1675-54-3 bis-[4-(2,3-epoxipropoxi)phenyl]propane**

PNEC- Freshwater 0.006 mg/l (not specified)

PNEC-seawater 0.001 mg/l (not specified)

PNEC-Freshwater sediment 0.341 mg/kg (not specified)

PNEC-Seawater sediment 0.034 mg/kg (not specified)

PNEC-soil 0.065 mg/kg (not specified)

PNEC-wastewater treatment plant 10 mg/l (not specified)

933999-84-9 Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane

PNEC- Freshwater 0.111 mg/l (not specified)

PNEC-seawater 0.0111 mg/l (not specified)

PNEC-Freshwater sediment 2.29 mg/kg (not specified)

PNEC-Seawater sediment 0.229 mg/kg (not specified)

PNEC-soil 0.223 mg/kg (not specified)

PNEC-wastewater treatment plant 1 mg/l (not specified)

· **CAS No. Designation of material % Type Value Unit****770-35-4 1-phenoxy-2-propanol**

MAK (Germany) als Dampf und Aerosol; vgl. Abschn. IIb und Xc

112945-52-5 Silicon dioxide, amorphousMAK (Germany) Long-term value: 0.02A mg/m³
vgl. Abschn. V· **8.2. Exposure controls**

limit the exposure to:

8 hours

· **Appropriate engineering controls** No further data; see section 7.· **Individual protection measures, such as personal protective equipment**· **General protective and hygienic measures:** Avoid contact with the eyes and skin.· **Respiratory protection:** Filter A· **Hand protection** Protective gloves· **Material of gloves** D butyl rubber - BR: ChemTek™ (0,7 mm)· **Eye/face protection** Safety glasses· **Body protection:** Protective work clothing**SECTION 9: Physical and chemical properties**· **9.1. Information on basic physical and chemical properties**· **General Information**· **Physical state**

Liquid

· **Colour:**

Whitish

· **Odour:**

Weak, characteristic

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· Odour threshold:	Not determined
· Melting point/freezing point:	Undetermined
· Boiling point or initial boiling point and boiling range	200 °C
· Flammability	Not applicable
· Lower and upper explosion limit	
· Lower:	Not determined
· Upper:	Not determined
· Flash point:	>140 °C
· Auto-ignition temperature:	460 °C
· Decomposition temperature:	Not determined
· pH	Not determined
· Viscosity:	
· Kinematic viscosity	Not determined
· Dynamic at 20 °C:	ca. 135.000 mPas
· Solubility	
· water:	Not miscible or difficult to mix.
· Partition coefficient n-octanol/water (log value)	Not determined
· Vapour pressure:	Not determined
· Density and/or relative density	
· Density at 20 °C:	ca. 1.75 g/cm ³
· Relative density	Not determined
· Vapour density	Not determined
· 9.2. Other information	
· Appearance:	
· Form:	Pasty
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product does not present an explosion hazard.
· Change in condition	
· Evaporation rate	Not determined
· Information with regard to physical hazard classes	
· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Void
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

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SECTION 10: Stability and reactivity

- **10.1. Reactivity**
see item 10.3
No further relevant information available.
- **10.2. Chemical stability** Stable when stored and used properly.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3. Possibility of hazardous reactions** No dangerous reactions known.
- **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.

SECTION 11: Toxicological information

- **11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **LD/LC₅₀ values relevant for classification:**
 - 1675-54-3 bis-[4-(2,3-epoxipropoxy)phenyl]propane**
Oral LD₅₀ >2,000 mg/kg (rat)
Dermal LD₅₀ >2,000 mg/kg (rat)
 - 933999-84-9 Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane**
Oral LD₅₀ 2,900 mg/kg (rat)
Dermal LD₅₀ >2,000 mg/kg (rat)
 - 112945-52-5 Silicon dioxide, amorphous**
Oral LD₅₀ >5,000 mg/kg (rat)
Dermal LD₅₀ >2,000 mg/kg (rabbit)
- **Primary irritant effect:**
- **Skin corrosion/irritation** Causes skin irritation.
- **Serious eye damage/irritation** Causes serious eye irritation.
- **Respiratory or skin sensitisation** May cause an allergic skin reaction.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** May damage fertility.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **11.2. Information on other hazards**
- **Endocrine disrupting properties**

1675-54-3 bis-[4-(2,3-epoxipropoxy)phenyl]propane: List II

SECTION 12: Ecological information

- **12.1. Toxicity**
- **Aquatic toxicity:**
 - 1675-54-3 bis-[4-(2,3-epoxipropoxy)phenyl]propane**
LC₅₀ 1.2 mg / l / 96h (Fathead minnow - Pimephales promelas)
EC₅₀ 2.7 mg / l / 48h (water flea - daphnia)
EC₅₀ 9.4 mg / l / 72h (green algae - Scenedesmus capricornutum)

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933999-84-9 Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxiraneLC₅₀ 30 mg / l / 96h (trout)LC₅₀ 23.1 mg / l / 48h (algae)EC₅₀ 47 mg / l / 48h (water flea - daphnia)**112945-52-5 Silicon dioxide, amorphous**LC₅₀ >10,000 mg / l / 96h (Zebrafish - Danio rerio) (OECD 203)· **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.· **12.5. Results of PBT and vPvB assessment**· **PBT:** Not applicable· **vPvB:** Not applicable· **12.6. Endocrine disrupting properties** For information on endocrine disrupting properties see section 11.· **12.7. Other adverse effects**· **Remark:** Harmful to fish· **Additional ecological information:**· **General notes:**

Also poisonous for fish and plankton in water bodies.

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

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.

· **European waste catalogue**

08 04 09* waste adhesives and sealants containing organic solvents or other hazardous substances

· **Uncleaned packaging:**· **Recommendation:**

Non contaminated packagings may be recycled.

Empty contaminated packagings thoroughly. Disposal must be made according to official regulations.

SECTION 14: Transport information· **14.1. UN number or ID number**· **ADR, IMDG, IATA**

UN3082

· **14.2. UN proper shipping name**· **DOT**

Void

· **ADR**

3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ADHESIVES)

· **IMDG**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ADHESIVES), MARINE POLLUTANT

· **IATA**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ADHESIVES)

· **14.3. Transport hazard class(es)**· **Class**

9 Miscellaneous dangerous substances and articles.

· **Label**

9

· **14.4. Packing group**· **ADR, IMDG, IATA**

III

· **14.5. Environmental hazards:**· **Marine pollutant:**

Symbol (fish and tree)

· **Special marking (ADR):**

Symbol (fish and tree)

· **Special marking (IATA):**

Symbol (fish and tree)

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- | | |
|--|--|
| <ul style="list-style-type: none"> · 14.6. Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category · 14.7. Maritime transport in bulk according to IMO instruments | <p>Warning: Miscellaneous dangerous substances and articles.</p> <p>90</p> <p>F-A,S-F</p> <p>A</p> <p>Not applicable</p> |
|--|--|

- | | |
|--|---|
| <ul style="list-style-type: none"> · ADR · Limited quantities (LQ) · Excepted quantities (EQ) · Transport category · Tunnel restriction code | <p>5L</p> <p>Code: E1</p> <p>Maximum net quantity per inner packaging: 30 ml</p> <p>Maximum net quantity per outer packaging: 1000 ml</p> <p>3</p> <p>(-)</p> |
|--|---|

- | | |
|--|---|
| <ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) | <p>5L</p> <p>Code: E1</p> <p>Maximum net quantity per inner packaging: 30 ml</p> <p>Maximum net quantity per outer packaging: 1000 ml</p> |
|--|---|

SECTION 15: Regulatory information

- **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**
See position no 2 - Hazards Identification

- **Directive 2012/18/EU - Seveso-III:**
- **Named dangerous substances - ANNEX I** None of the ingredients is included.
- **Seveso category E2** Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
- **Regulation (EC) No 1907/2006 - REACH, ANNEX XVII** Conditions of restriction: 3
- **Regulation (EU) No 649/2012**

None of the ingredients is listed.

- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

- **REGULATION (EU) 2019/1148**
- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS** (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

- **Regulation (EC) No 273/2004 on drug precursors**

None of the ingredients is listed.

- **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

None of the ingredients is listed.

- **National regulations:**

- **D: Waterhazard class** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **Other regulations, limitations and prohibitive regulations:** For professional users only.
- **VOC - 2010/75/EU [g/L]:** 0.0 g/l

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· **VOC - 2010/75/EU [%]:** 0.00 %· **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.

· Relevant phrases

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H360F May damage fertility.

H411 Toxic to aquatic life with long lasting effects.

· **Department issuing SDS:** Safety & Environment· **Version number of previous version:** 9.0

· Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

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)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

Repr. 1B: Reproductive toxicity – Category 1B

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

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