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

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

· **1.1. Product identifier**

· **Trade name / Article-No: KLEIBERIT *531.4***

· **Component:** A
· **UFI:** VE81-G0K9-M004-FS4R
· **1.2. Relevant identified uses of the substance / mixture or uses advised against**
Restricted to professional users.
· **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
D - 76356 Weingarten / Baden
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

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.
Aquatic Chronic 2	H411 Toxic to aquatic life with long lasting effects.

· **2.2. Label elements**
· **Hazard pictograms**

GHS07 GHS09

· **Signal word** Warning

· **Hazard-determining components of labelling:**
bisphenol-A-(epichlorhydrine) epoxy resin (average molecular weight ≤ 700)
1,6-hexanedioldiglycidylether
· **Hazard statements**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H411 Toxic to aquatic life with long lasting effects.

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· **Precautionary statements**

P261	Avoid breathing vapours.
P273	Avoid release to the environment.
P280	Wear protective gloves / eye protection / face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313	If skin irritation or rash occurs: 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-epoxipropoxi)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	%
1675-54-3	bis-[4-(2,3-epoxipropoxi)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%
770-35-4	1-phenoxy-2-propanol Eye Irrit. 2, H319	3-5%
933999-84-9	Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; Aquatic Chronic 3, H412	≥1-<2.5%

· **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.
· **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.

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· **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:**
Do not allow to enter surface or ground water.
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** No special precautions are necessary if used correctly.

· **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:**
· **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)
· **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	0.011 mg/l (not specified)
PNEC-seawater	0.001 mg/l (not specified)
PNEC-Freshwater sediment	0.283 mg/kg (not specified)
PNEC-Seawater sediment	0.028 mg/kg (not specified)

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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**

1675-54-3 bis-[4-(2,3-epoxipropoxi)phenyl]propane
MAK (Germany) vgl. Abschn. IIb

770-35-4 1-phenoxy-2-propanol
MAK (Germany) als Dampf und Aerosol; vgl. Abschn. IIb und Xc

· **8.2. Exposure controls**
limit the exposure to:
8 hours
· **Appropriate engineering controls** No further data; see item 7.

· **Individual protection measures, such as personal protective equipment**
· **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
· **Respiratory protection:** Not necessary if room is well-ventilated.
· **Hand protection** Protective gloves
· **Material of gloves** Synthetic rubber gloves
· **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**	Fluid
· **Colour:**	Whitish
· **Odour:**	Weak, characteristic
· **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:**	Product is not selfigniting.
· **Decomposition temperature:**	Not determined.
· **pH**	Not determined.
· **Viscosity:**	
· **Kinematic viscosity**	Not determined.
· **Dynamic at 20 °C:**	135,000 mPas
· **Solubility**	
· **water:**	Not miscible or difficult to mix.
· **Partition coefficient n-octanol/water (log value)**	Not determined.
· **Vapour pressure at 20 °C:**	<0.1 hPa
· **Density and/or relative density**	
· **Density at 20 °C:**	ca. 1.75 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.

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· **9.2. Other information**
· **Appearance:**
· **Form:** Pasty
· **Important information on protection of health and environment, and on safety.**
· **Ignition temperature:** 460 °C
· **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

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/LC_{50} values relevant for classification:**

1675-54-3 bis-[4-(2,3-epoxipropoxi)phenyl]propane
Oral LD_{50} >2,000 mg/kg (rat)
Dermal LD_{50} >2,000 mg/kg (rat)
· **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** Based on available data, the classification criteria are not met.

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· **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-epoxipropoxi)phenyl]propane: List II

541-02-6 2,2,4,4,6,6,8,8,10,10-decamethylcyclopentasiloxane: List II

SECTION 12: Ecological information

· **12.1. Toxicity**
· **Aquatic toxicity:**

1675-54-3 bis-[4-(2,3-epoxipropoxi)phenyl]propane
LC_{50} 1.2 mg / l / 96h (Fathead minnow - Pimephales promelas)
EC_{50} 2.7 mg / l / 48h (water flea - daphnia)
EC_{50} 9.4 mg / l / 72h (green algae - Scenedesmus capricornutum)
· **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.
· **12.6. Other adverse effects**
· **Remark:** Harmful to fish
· **Behaviour in sewage processing plants:**
· **Remark:**
At correct sewage disposal in small quantities to biological sewage plants failures of the activated sludge are not expected.
· **Additional ecological information:**
· **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Danger to drinking water if even small quantities leak into the ground.
Do not allow product to reach sewage system or any water course.

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** Environmentally hazardous substance, liquid, n.o.s.

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· **ADR**	3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol-A-Epoxy)
· **IMDG**	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., MARINE POLLUTANT
· **IATA**	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
· **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:**	Product contains environmentally hazardous substances: Bisphenol-A-Epoxy
· **Marine pollutant:**	Symbol (fish and tree)
· **Special marking (ADR):**	Symbol (fish and tree)
· **Special marking (IATA):**	Symbol (fish and tree)
· **14.6. Special precautions for user**	Warning: Miscellaneous dangerous substances and articles.
· **Hazard identification number (Kemler code):**	90
· **EMS Number:**	F-A,S-F
· **Stowage Category**	A
· **14.7. Maritime transport in bulk according to IMO instruments**	Not applicable.
· **ADR**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3

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.

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· **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 2 (Self-assessment): hazardous for water.
· **Other regulations, limitations and prohibitive regulations:** Restricted to professional users.
· **VOC - 2010/75/EU [g/L]:** 0.0 g/l
· **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.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

· **Department issuing SDS:** Safety & Environment
· **Version number of previous version:** 6
· **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
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3