



Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date: 18.07.2024

Version number: 1.0

Revision: 18.07.2024

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

1.1 Product identifier:

Trade name: OBO-Paste 4503-1 Resin**UFI: C1S2-A0CW-V000-NHQ5**

1.2 Relevant identified uses of the substance or mixture and uses advised against:

No further relevant information available.

Application of the substance / the preparation:

For industrial users only.

Epoxy resin solution

1.3 Details of the supplier of the safety data sheet:

Manufacturer/Supplier:

OBO-Werke GmbH

Am Bahnhof 5

31655 Stadthagen

Telefon: 05721/7801 - 0

Telefax: 05721/77855

E-Mail info@obo-werke.de

Further information obtainable from: OBO-Werke GmbH**1.4 Emergency telephone number: +1 872 5888271 (Contract-ID: OBR) 24h/7d**

SECTION 2: Hazards identification:

2.1 Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008:

GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS09 environment

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



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

2.2 Label elements:

Labelling according to Regulation (EC) No 1272/2008:

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

Hazard pictograms:

GHS05



GHS07



GHS09

Signal word: Danger

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Hazard-determining components of labelling:

bis[4-(2,3-epoxypropoxy)phenyl]propane
2-propenoic acid, reaction products with pentaerythritol
Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)
pentaerythritol tetraacrylate
hexamethylene diacrylate
pentaerythritol triacrylate

Hazard statements:

H315 Causes skin irritation.
H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements:

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
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.
P310 Immediately call a POISON CENTER/doctor.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards:**Results of PBT and vPvB assessment:****PBT:** Not applicable.**vPvB:** Not applicable.**SECTION 3: Composition/information on ingredients:****3.2 Mixtures:****Description:**

Mixture of substances listed below with nonhazardous additions.
Product contains nanoparticles embedded/suspended in a solid/liquid matrix.

Dangerous components:

CAS: 1675-54-3	bis[4-(2,3-epoxypropoxy)phenyl]propane	>25-≤50%
EINECS: 216-823-5	⚠ Aquatic Chronic 2, H411; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	
Reg.nr.: 01-2119456619-26	Specific concentration limits: Eye Irrit. 2; H319: C ≥ 5 % Skin Irrit. 2; H315: C ≥ 5 %	
CAS: 1245638-61-2	2-propenoic acid, reaction products with pentaerythritol	≥3-<10%
EC number: 629-850-6	⚠ Eye Dam. 1, H318; ⚠ Aquatic Chronic 2, H411; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Skin Sens. 1, H317	
Reg.nr.: 01-2119490003-49		
CAS: 933999-84-9	Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)	>2.5-<10%
EC number: 618-939-5		
Reg.nr.: 01-2119463471-41	⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; Aquatic Chronic 3, H412	
CAS: 100-51-6	benzyl alcohol	≤2.5%
EINECS: 202-859-9	⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319	
Reg.nr.: 01-2119492630-38		
CAS: 4986-89-4	pentaerythritol tetraacrylate	≥0.1-<1%
EINECS: 225-644-1	⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	
CAS: 13048-33-4	hexamethylene diacrylate	≥0.25-<1%
EINECS: 235-921-9	⚠ Aquatic Acute 1, H400; Aquatic Chronic 2, H411; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	
Reg.nr.: 01-2119484737-22		

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CAS: 3524-68-3	pentaerythritol triacrylate	≥0.1-<1%
EINECS: 222-540-8	⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	
Reg.nr.: -		
CAS: 111-76-2	2-butoxyethanol	≤2.5%
EINECS: 203-905-0	⚠ Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ Acute Tox. 4, H302;	
Reg.nr.: 01-2119475108-36	Skin Irrit. 2, H315; Eye Irrit. 2, H319	
	ATE: LD50 oral: 1,200 mg/kg	
	LC50/4 h inhalative: 3 mg/l	

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:

General information:

Take affected persons out of danger area and lay down.

Immediately remove any clothing soiled by the product.

Do not leave affected persons unattended.

After inhalation: Supply fresh air and to be sure call for a doctor.

After skin contact:

Immediately wash with water and soap and rinse thoroughly.

Call a doctor immediately.

After eye contact:

Rinse opened eye for several minutes under running water.

Call a doctor immediately.

After swallowing:

Rinse out mouth and then drink plenty of water.

Call 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.

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.

Carbon monoxide (CO)

Hydrogen chloride (HCl)

5.3 Advice for firefighters:

Protective equipment:

Do not inhale explosion gases or combustion gases.

Mouth respiratory protective device.

SECTION 6: Accidental release measures:

6.1 Personal precautions, protective equipment and emergency procedures:

Use respiratory protective device against the effects of fumes/dust/aerosol.

Particular danger of slipping on leaked/spilled product.

Ensure adequate ventilation.

Wear protective equipment. Keep unprotected persons away.

Keep away from ignition sources.

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6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.**6.3 Methods and material for containment and cleaning up:**

Absorb liquid components with liquid-binding material.

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:

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Store in cool, dry place in tightly closed receptacles.

Keep away from heat and direct sunlight.

Information about fire - and explosion protection:

Protect from heat.

Keep ignition sources away - Do not smoke.

7.2 Conditions for safe storage, including any incompatibilities:**Storage:****Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.**Information about storage in one common storage facility:** Store away from foodstuffs.**Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

Storage class: 10-13**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:****111-76-2 2-butoxyethanol**OEL Short-term value: 246 mg/m³, 50 ppmLong-term value: 98 mg/m³, 20 ppm

Skin, IOELV

8.2 Exposure controls:**Appropriate engineering controls:** No further data; see section 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.

Do not eat, drink, smoke or sniff while working.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

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.

Filter A/P2

Hand protection:

Protective gloves

Check the permeability prior to each renewed use of the glove.

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Material of gloves:

Butyl rubber, BR

Recommended thickness of the material: ≥ 0.7 mm

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.

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/face protection: Tightly sealed goggles**SECTION 9: Physical and chemical properties:****9.1 Information on basic physical and chemical properties:****General Information:**

Physical state:	Fluid
Colour:	Brown
Odour:	Characteristic
Odour threshold:	Not determined.
Melting point/freezing point:	Undetermined.
Boiling point or initial boiling point and boiling range:	Undetermined.
Flammability:	Not applicable.
Lower and upper explosion limit:	
Lower:	Not determined.
Upper:	Not determined.
Flash point:	>90 °C
Decomposition temperature:	Not determined.
pH:	Not applicable.
Viscosity:	
Kinematic viscosity:	Not determined.
Dynamic:	Not determined.
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:	0.7 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

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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: No further relevant information available.**10.2 Chemical stability:****Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

10.3 Possibility of hazardous reactions: Reacts with acids, alkalis and oxidising agents.**10.4 Conditions to avoid:** No further relevant information available.**10.5 Incompatible materials:** No further relevant information available.**10.6 Hazardous decomposition products:**

Carbon monoxide and carbon dioxide

Hydrogen chloride (HCl)

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:****ATE (Acute Toxicity Estimates)**

Oral LD50 11,937 mg/kg

Dermal LD50 85,288 mg/kg

Inhalative LC50/4 h 529 mg/l

1675-54-3 bis[4-(2,3-epoxypropoxy)phenyl]propane

Oral LD50 >2,000 mg/kg (rat)

Dermal LD50 >2,000 mg/kg (rat)

1245638-61-2 2-propenoic acid, reaction products with pentaerythritol

Oral LD50 500 mg/kg (ATE)

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

Oral LD50 2,189 mg/kg (rat)

Dermal LD50 >2,000 mg/kg (rat)

100-51-6 benzyl alcohol

Oral LD50 1,230 mg/kg (rat)

Dermal LD50 2,000 mg/kg (rabbit)

Inhalative LC50/4 h 11 mg/l (ATE)

Skin corrosion/irritation: Causes skin irritation.

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Serious eye damage/irritation: Causes serious eye damage.**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.**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:**

None of the ingredients is listed.

SECTION 12: Ecological information:**12.1 Toxicity:****Aquatic toxicity:****1675-54-3 bis[4-(2,3-epoxypropoxy)phenyl]propane**

EC50 11 mg/l /72 h (algae)

1.8 mg/l /48 h (daphnia)

LC50 2 mg/l /96 h (fish)

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

EC50 47 mg/l /48 h (daphnia)

LC50 30 mg/l /96 h (fish)

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:**

The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects:**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.

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:

Dispose of contents/container in accordance with local/regional/national/international regulations.

Uncleaned packaging:**Recommendation:** Disposal must be made according to official regulations.**SECTION 14: Transport information:****14.1 UN number or ID number:**

ADR, IMDG, IATA

UN3082

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14.2 UN proper shipping name:**ADR**3082 ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, LIQUID, N.O.S. (bis[4-(2,3-
epoxypropoxy)phenyl]propane)**IMDG, IATA**ENVIRONMENTALLY HAZARDOUS SUBSTANCE,
LIQUID, N.O.S. (bis[4-(2,3-epoxypropoxy)phenyl]
propane)**14.3 Transport hazard class(es):****ADR, IMDG, IATA****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)

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.

Transport/Additional information:**ADR****Limited quantities (LQ):**

5L

Transport category:

3

Tunnel restriction code:

(-)

UN "Model Regulation":UN 3082 ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, LIQUID, N.O.S. (BIS[4-(2,3-
EPOXYPROPOXY)PHENYL]PROPANE), 9, III**SECTION 15: Regulatory information:****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:****Directive 2012/18/EU:****Named dangerous substances - ANNEX I:** None of the ingredients is listed.**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 ANNEX XVII:** Conditions of restriction: 3**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.

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REGULATION (EU) 2019/1148:**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.

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:

H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Department issuing SDS:

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Contact: Dr. Axel Deeg**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
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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
ATE: Acute toxicity estimate values
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 3: Acute toxicity – Category 3
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – 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
