



Safety data sheet

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

Printing date: 22.07.2024

Version number: 1.0

Revision: 22.07.2024

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

1.1 Product identifier:

Trade name: OBO-Paste 4503-1 Hardener**UFI: 66S2-A0RQ-G000-Y6V9**

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.

Hardening agent/ Curing agent

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

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS09 environment

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



GHS07

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:

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine
3,3,5-trimethylhexamethylene-diamine
3-aminomethyl-3,5,5-trimethylcyclohexylamine
Aziridine, homopolymer

Hazard statements:

H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements:

P260 Do not breathe dusts or mists.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing 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.
P405 Store locked up.
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: 38294-64-3 NLP: 500-101-4 Reg.nr.: 01-2119965165-33	4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine	>10-<25%
	⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318; ⚠ Skin Sens. 1, H317; Aquatic Chronic 3, H412	
CAS: 25322-69-4	propane-1,2-diol, propoxylated	>10-≤25%
	⚠ Acute Tox. 4, H302	
CAS: 38640-62-9 Reg.nr.: 01-2119565150-48	bis(isopropyl)naphthalene	>2.5-≤10%
	⚠ Asp. Tox. 1, H304; ⚠ Aquatic Chronic 1, H410	
CAS: 25513-64-8 EINECS: 247-063-2 Reg.nr.: 01-2119560598-25	3,3,5-trimethylhexamethylene-diamine	≥5-≤10%
	⚠ Skin Corr. 1A, H314; Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302; Skin Sens. 1A, H317	
CAS: 2855-13-2 EINECS: 220-666-8 Reg.nr.: 01-2119514687-32	3-aminomethyl-3,5,5-trimethylcyclohexylamine	≥3-<5%
	⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302; Skin Sens. 1A, H317	
	Specific concentration limit: Skin Sens. 1A; H317: C ≥ 0.001 %	

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CAS: 9002-98-6	Aziridine, homopolymer	(Contd. of page 2) ≥0.25-<1%
	⚠ Aquatic Chronic 2, H411; ⚠ Acute Tox. 4, H302; Eye Irrit. 2, H319; Skin Sens. 1B, H317	
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: 8 A**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:	White
Odour:	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:	>100 °C
Decomposition temperature:	Not determined.
pH:	Not applicable.
Viscosity:	
Kinematic viscosity:	Not determined.
Dynamic:	Not determined.
Solubility:	
water:	Partly soluble.
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:**Nitrogen oxides (NO_x)

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 2,230 mg/kg

Dermal LD50 320,000 mg/kg

Inhalative LC50/4 h 2,400 mg/l (ATE)

25322-69-4 propane-1,2-diol, propoxylated

Oral LD50 500 mg/kg (ATE)

38640-62-9 bis(isopropyl)naphthalene

Oral LD50 >4,000 mg/kg (rat)

Dermal LD50 >4,000 mg/kg (rat)

25513-64-8 3,3,5-trimethylhexamethylene-diamine

Oral LD50 500 mg/kg (ATE)

2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine

Oral LD50 1,030 mg/kg (rat) (OECD 401)

Skin corrosion/irritation: Causes severe skin burns and eye damage.**Serious eye damage/irritation:** Causes serious eye damage.**Respiratory or skin sensitisation:** May cause an allergic skin reaction.

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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:****2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine**

EC50 37 mg/l /72 h (algae)

23 mg/l /48 h (daphnia)

LC50 110 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 3 (German Regulation) (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely 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

UN2735

14.2 UN proper shipping name:

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ADR

2735 AMINES, LIQUID, CORROSIVE, N.O.S. (4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine), ENVIRONMENTALLY HAZARDOUS

IMDG

AMINES, LIQUID, CORROSIVE, N.O.S. (4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine), MARINE POLLUTANT

IATA

AMINES, LIQUID, CORROSIVE, N.O.S. (4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine)

14.3 Transport hazard class(es):

ADR, IMDG



Class:
Label:

8 Corrosive substances.
8

IATA



Class:
Label:

8 Corrosive substances.
8

14.4 Packing group:

ADR, IMDG, IATA

II

14.5 Environmental hazards:

Product contains environmentally hazardous substances: bis(isopropyl)naphthalene

Marine pollutant:

Symbol (fish and tree)

Special marking (ADR):

Symbol (fish and tree)

14.6 Special precautions for user:

Warning: Corrosive substances.

Hazard identification number (Kemler code):

80

EMS Number:

F-A,S-B

Segregation groups:

(SGG18) Alkalis

Stowage Category:

A

Segregation Code:

SG35 Stow "separated from" SGG1-acids

14.7 Maritime transport in bulk according to IMO instruments:

Not applicable.

Transport/Additional information:

ADR

Limited quantities (LQ):

1L

Transport category:

2

Tunnel restriction code:

E

UN "Model Regulation":

UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (4,4'-ISOPROPYLIDENEDIPHENOL, OLIGOMERIC REACTION PRODUCTS WITH 1-CHLORO-2,3-EPOXYPROPANE, REACTION PRODUCTS WITH 3-AMINOMETHYL-3,5,5-

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TRIMETHYLCYCLOHEXYLAMINE), 8, II,
ENVIRONMENTALLY HAZARDOUS

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.

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.

H304 May be fatal if swallowed and enters airways.

H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

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.

H410 Very toxic to aquatic life with long lasting effects.

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)

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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 Corr. 1A: Skin corrosion/irritation – Category 1A
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
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
Skin Sens. 1A: Skin sensitisation – Category 1A
Skin Sens. 1B: Skin sensitisation – Category 1B
Asp. Tox. 1: Aspiration hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term 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
