

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

GP 49 / Resin (black)

Date of issue/Date of revision: 19.11.2019

en / GB - Version 1.0

1. Identification of the substance/preparation and of the company/undertaking**1.1 Identification of the substance or preparation:**

GP 49

1.2 Use of the substance/preparation:

Structural adhesive

1.3 Company/undertaking identification

Company name: Gößl + Pfaff GmbH
 Street: Münchener Str. 13
 Place: 85123 Karlskron/Brautlach
 Telephone: +49 (0) 8450 / 932-0
 Fax.: +49 (0) 8450 / 932-13
 Contact person: Management: Mr. Gößl, Mr. Pfaff
 E-Mail: info@goessl-pfaff.de
 Internet: www.goessl-pfaff.de
 Responsible Department: Management

1.4 Emergency telephone**Emergency CONTACT (24-Hour-Number): GBK GmbH +49 (0) 6132-84463****2. Hazards identification****2.1. Classification of the substance or mixture****CLP REGULATION (EC) No 1272/2008****CLASSIFICATION:**

Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319

Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315

Skin Sensitization, Category 1 - Skin Sens. 1; H317

Hazardous to the Aquatic Environment (Chronic), Category 2 - Aquatic Chronic 2; H411

For full text of H phrases, see Section 16.

2.2 Label elements**CLP REGULATION (EC) No 1272/2008****SIGNAL WORD**

WARNING!

Symbols:

GHS07 (Exclamation mark) | GHS09 (Environment)

Pictograms**Ingredient**4,4'-ISOPROPYLDENEDIPHENOL- EPICHLOROHYDRIN POLYMER
(MW unknown or <=700)

1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane

CAS Nbr

25068-38-6

EC No.

500-033-5

% by Wt

40 – 70

14228-73-0

238-098-4

10 – 20

HAZARD STATEMENTS:

H319 Causes serious eye irritation.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects.

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PRECAUTIONARY STATEMENTS**Prevention:**

P280E Wear protective gloves.
P273 Avoid release to the environment.

Response:

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.

Disposal:

P501 Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

For containers not exceeding 125 ml the following Hazard and Precautionary statements may be used:

<= 125 ml Hazard Statements

H317 May cause an allergic skin reaction.

<= 125 ml Precautionary Statements**Prevention:**

P280E Wear protective gloves.

Response:

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

17 % of the mixture consists of components of unknown acute oral toxicity.

Contains 39 % of components with unknown hazards to the aquatic environment.

2.3. Other hazards

None known.

3. Composition information on ingredients

Ingredient	CAS Nbr	EC No.	REACH Registration No.	% by Wt	Classification
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	500-033-5		40 – 70	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; Aquatic Chronic 2, H411
Acrylic butadiene styrene copolymer	Trade Secret			10 – 20	Substance not classified as hazardous
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	14228-73-0	238-098-4		10 – 20	Aquatic Chronic 3, H412 Acute Tox. 4, H302; Skin Irrit. 2, H315; Skin Sens. 1B, H317
Acrylate/methacrylate/butadiene/styrene polymer	Trade Secret			<20	Substance not classified as hazardous
Glass, oxide, chemicals	65997-17-3	266-046-0		1 – 5	Substance with a Community level exposure limit in the workplace
Carbon black	1333-86-4	215-609-9	01-2119384822-32	1 – 5	Substance with a Community level exposure limit in the workplace
Titanium dioxide	13463-67-7	236-675-5	01-2119489379-17	1 – 5	Substance with a Community level exposure limit in the workplace
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7			1 – 5	Substance with a Community level exposure limit in the workplace
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	2602-34-8	220-011-6		< 2	Substance not classified as hazardous
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	2530-83-8	219-784-2	01-2119513212-58	0.5 – 1.5	Eye Dam. 1, H318

Please see section 16 for the full text of any H statements referred to in this section.

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS.

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4. First aid measures**4.1. Description of first aid measures****Inhalation**

Remove person to fresh air. If you feel unwell, get medical attention.

Skin contact

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse.

If signs/symptoms develop, get medical attention.

Eye contact

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If swallowed

Rinse mouth. If you feel unwell, get medical attention.

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

See Section 11.1 Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

5. Fire-fighting measures**5.1. Extinguishing media**

In case of fire: Use a carbon dioxide or dry chemical extinguisher to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products**Substance**

Aldehydes

Carbon monoxide

Carbon dioxide

Hydrogen Chloride

Condition

During combustion.

During combustion.

During combustion.

During combustion.

5.3. Advice for fire-fighters

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

6. Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapours, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

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7. Handling and storage**7.1. Precautions for safe handling**

Avoid breathing of vapours created during the cure cycle. For industrial/occupational use only. Not for consumer sale or use. Decontaminate work surfaces frequently to avoid exposure by contact. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Keep container tightly closed. Store away from heat. Store away from acids. Store away from oxidising agents.

7.3. Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

8. Exposure controls/personal protection**8.1 Control parameters****Occupational exposure limits**

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Carbon black	1333-86-4	UK HSC	TWA: 3.5 mg/m ³ ; STEL: 7 mg/m ³	
Titanium dioxide	13463-67-7	UK HSC	TWA(Inhalable): 10 mg/m ³ ; TWA (respirable): 4 mg/m ³	
Glass, oxide, chemicals	65997-17-3	UK HSC	TWA (as fiber): 5 mg/m ³ (1 fibers/ml)	
Silicon dioxide	67762-90-7	UK HSC	TWA (as inhalable dust): 6 mg/m ³ ; TWA (as respirable dust): 2.4 mg/m ³	

UK HSC: UK Health and Safety Commission

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

Biological limit values

No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

8.2. Exposure controls**8.2.1. Engineering controls**

Provide ventilated enclosure for heat curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment.

The following eye/face protection(s) are recommended: Full face shield. Indirect vented goggles.

Applicable Norms/Standards

Use eye protection conforming to EN 166

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

Gloves made from the following material(s) are recommended:

Material	Thickness (mm)	Breakthrough Time
Polymer laminate	No data available	No data available

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Applicable Norms/Standards

Use gloves tested to EN 374

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program.

Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure: Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

Applicable Norms/Standards

Use a respirator conforming to EN 140 or EN 136: filter types A & P

9. Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state	Solid.
Specific Physical Form:	Thixotropic paste
Appearance/Odour	Mild epoxy odour; black
Odour threshold	No data available.
pH	No data available.
Boiling point/boiling range	No data available.
Melting point	No data available.
Flammability (solid, gas)	Not classified
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	≥ 93.3 °C [Test Method: Closed Cup]
Autoignition temperature	No data available.
Flammable Limits (LEL)	No data available.
Flammable Limits (UEL)	No data available.
Vapour pressure	< 0.01 Pa [@ 20 °C]
Relative density	0.97 – 1.1 [@ 23 °C] [Ref Std: WATER=1]
Water solubility	No data available.
Solubility- non-water	No data available.
Partition coefficient: n-octanol/water	Not applicable.
Evaporation rate	Not applicable.
Vapour density	Not applicable.
Decomposition temperature	No data available.
Viscosity	300 – 900 Pa·s [@ 23 °C] [Test Method: Brookfield]
Density	No data available.

9.2 Other information

EU Volatile Organic Compounds 11.2 g/l [Test Method: Estimated]

Molecular weight Not applicable.

Percent volatile 1 % [Test Method: Estimated]

10. Stability and reactivity**10.1 Reactivity**

This material is considered to be non reactive under normal use conditions.

10.2 Chemical stability

Stable.

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10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

10.4 Conditions to avoid

Heat.

Heat is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature exothermic reaction with production of intense heat and smoke.

10.5 Incompatible materials

Strong acids.

Strong oxidising agents.

10.6 Hazardous decomposition products**Substance** **Condition**

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

11. Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications.

11.1 Information on Toxicological effects**Signs and Symptoms of Exposure****Based on test data and/or information on the components, this material may produce the following health effects:****Inhalation**

Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin contact

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye contact

Severe eye irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion

Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5.000 mg/kg
Overall product	Ingestion		No data available; calculated ATE >5.000 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Dermal	Rat	LD50 > 1.600 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Ingestion	Rat	LD50 > 1.000 mg/kg
Acrylate/methacrylate/butadiene/styrene polymer	Dermal		LD50 estimated to be > 5.000 mg/kg
Acrylate/methacrylate/butadiene/styrene polymer	Ingestion	Rat	LD50 > 5.000 mg/kg
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	Dermal	Rabbit	LD50 2.000 mg/kg

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1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	InhalationDust/ Mist (4 hours)	Rat	LC50 > 5,19 mg/l
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	Ingestion	Rat	LD50 1.098 mg/kg
Siloxanes and Silicones, di-Me, reaction products with silica	Dermal	Rabbit	LD50 > 5.000 mg/kg
Siloxanes and Silicones, di-Me, reaction products with silica	Inhalation-Dust/ Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Siloxanes and Silicones, di-Me, reaction products with silica	Ingestion	Rat	LD50 > 5.110 mg/kg
Carbon black	Dermal	Rabbit	LD50 > 3.000 mg/kg
Carbon black	Ingestion	Rat	LD50 > 8.000 mg/kg
Glass, oxide, chemicals	Dermal		LD50 estimated to be > 5.000 mg/kg
Glass, oxide, chemicals	Ingestion		LD50 estimated to be 2.000–5.000 mg/kg
Titanium dioxide	Dermal	Rabbit	LD50 > 10.000 mg/kg
Titanium dioxide	Inhalation-Dust/ Mist (4 hours)	Rat	LC50 > 6.82 mg/l
Titanium dioxide	Ingestion	Rat	LD50 > 10.000 mg/kg
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Dermal	Rabbit	LD50 4.000 mg/kg
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Inhalation-Dust/ Mist (4 hours)	Rat	LC50 > 5.3 mg/l
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Ingestion	Rat	LD50 7.010 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	Rabbit	Mild irritant
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	In vitro data	Irritant
Siloxanes and Silicones, di-Me, reaction products with silica	Rabbit	No significant irritation
Carbon black	Rabbit	No significant irritation
Glass, oxide, chemicals	Professional judgement	No significant irritation
Titanium dioxide	Rabbit	No significant irritation
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	Rabbit	Moderate irritant
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	In vitro data	No significant irritation
Siloxanes and Silicones, di-Me, reaction products with silica	Rabbit	No significant irritation
Carbon black	Rabbit	No significant irritation
Glass, oxide, chemicals	Professional judgement	No significant irritation
Titanium dioxide	Rabbit	No significant irritation
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Rabbit	Corrosive

Skin Sensitisation

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	Human and animal	Sensitising
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	Mouse	Sensitising
Siloxanes and Silicones, di-Me, reaction products with silica	Human and animal	Not classified
Titanium dioxide	Human and animal	Not classified
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Guinea pig	Not classified

Respiratory Sensitisation

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER (MW unknown or <=700)	Human	Not classified

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Germ Cell Mutagenicity

Name	Route	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	In vivo	Not mutagenic
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	In Vitro	Some positive data exist, but the data are not sufficient for classification
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	In vivo	Not mutagenic
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	In Vitro	Some positive data exist, but the data are not sufficient for classification
Siloxanes and Silicones, di-Me, reaction products with silica	In Vitro	Not mutagenic
Carbon black	In Vitro	Not mutagenic
Carbon black	In vivo	Some positive data exist, but the data are not sufficient for classification
Glass, oxide, chemicals	In Vitro	Some positive data exist, but the data are not sufficient for classification
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	In vivo	Not mutagenic
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Siloxanes and Silicones, di-Me, reaction products with silica	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Carbon black	Dermal	Mouse	Not carcinogenic
Carbon black	Ingestion	Mouse	Not carcinogenic
Carbon black	Inhalation	Rat	Carcinogenic.
Glass, oxide, chemicals	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Titanium dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium dioxide	Inhalation	Rat	Carcinogenic.
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Dermal	Mouse	Not carcinogenic

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test result	Exposure Duration
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organo-genesis
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	Ingestion	Not classified for female reproduction	Rat	NOAEL 300 mg/kg/day	premating into lactation
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	Ingestion	Not classified for male reproduction	Rat	NOAEL 300 mg/kg/day	33 days
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	Ingestion	Not classified for development	Rat	NOAEL 300 mg/kg/day	premating into lactation
Siloxanes and Silicones, di-Me, reaction products with silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation

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Siloxanes and Silicones, di-Me, reaction products with silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Siloxanes and Silicones, di-Me, reaction products with silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organo-genesis
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Ingestion	Not classified for development	Rat	NOAEL 3,000 mg/kg/day	during organo-genesis

Target Organs**Specific Target Organ Toxicity – single exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity – repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Dermal	liver	Not classified	Rat	NOAEL 1.000 mg/kg/day	2 years
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Dermal	nervous system	Not classified	Rat	NOAEL 1.000 mg/kg/day	13 weeks
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	Ingestion	auditory syst., heart, endocrine syst., hematopoietic syst., liver, eyes, kidney and/or bladder	Not classified	Rat	NOAEL 1.000 mg/kg/day	28 days
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	Ingestion	endocrine system gastrointestinal tract liver heart hematopoietic system immune system nervous system kidney and/or bladder	Not classified	Rat	NOAEL 300 mg/kg/day	33 days
Siloxanes and Silicones, di-Me, reaction products with silica	Inhalation	respiratory system, silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Carbon black	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure
Glass, oxide, chemicals	Inhalation	respiratory syst.	Not classified	Human	NOAEL Not available	occupational exposure
Titanium dioxide	Inhalation	respiratory syst.	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.01 mg/l	2 years
Titanium dioxide	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure

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[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Ingestion	heart, endocrine syst., bone, teeth, nails, and/or hair, hemato-poietic syst., liver, immune syst., nervous syst., kidney and /or bladder, respiratory syst.	Not classified	Rat	NOAEL 1.000 mg/kg/day	28 days
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Aspiration Hazard

For the component/components, either no data is currently available or the data is not sufficient for classification.

12. Ecological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications.

12.1. Toxicity

No product test data available.

Material	CAS #	Organism	Type	Exposure	Test endpoint	Test result
4,4'- ISOPROPYLIDENEDI PHENOL- EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Water flea	Estimated	48 hours	LC50	0.95 mg/l
4,4'- ISOPROPYLIDENEDI PHENOL- EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Green Algae	Experimental	72 hours	EC50	>11 mg/l
4,4'- ISOPROPYLIDENEDI PHENOL- EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Rainbow trout	Experimental	96 hours	LC50	1.2 mg/l
4,4'- ISOPROPYLIDENEDI PHENOL- EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Green Algae	Experimental	72 hours	NOEC	4.2 mg/l
4,4'- ISOPROPYLIDENEDI PHENOL- EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Water flea	Experimental	21 days	NOEC	0.3 mg/l
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	14228-73-0	Green algae	Estimated	72 hours	EC50	26.7 mg/l
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	14228-73-0	Rainbow trout	Estimated	96 hours	LC50	10.1 mg/l
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	14228-73-0	Water flea	Estimated	48 hours	EC50	16.3 mg/l
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	14228-73-0	Green algae	Estimated	72 hours	Effect Concentration 10%	21.4 mg/l
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	14228-73-0	Water flea	Estimated	21 days	NOEC	11.7 mg/l
Acrylate/methacrylate/butadiene/styrene polymer	Trade Secret		Data not available or insufficient for classification			
Carbon black	1333-86-4		Data not available or insufficient for classification			

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Glass, oxide, chemicals	65997-17-3	Green algae	Experimental	72 hours	EC50	>1,000 mg/l
Glass, oxide, chemicals	65997-17-3	Water flea	Experimental	72 hours	EC50	>1,000 mg/l
Glass, oxide, chemicals	65997-17-3	Zebra Fish	Experimental	96 hours	LC50	>1,000 mg/l
Glass, oxide, chemicals	65997-17-3	Green algae	Experimental	72 hours	NOEC	>=1,000 mg/l
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7		Data not available or insufficient for classification			
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	EC50	>10,000 mg/l
Titanium dioxide	13463-67-7	Fathead minnow	Experimental	96 hours	LC50	>100 mg/l
Titanium dioxide	13463-67-7	Water flea	Experimental	48 hours	EC50	>100 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	NOEC	5,600 mg/l
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	2602-34-8	Green algae	Experimental	72 hours	EC50	>100 mg/l
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	2602-34-8	Water flea	Experimental	48 hours	EC50	>100 mg/l
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	2602-34-8	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	2602-34-8	Green algae	Experimental	72 hours	NOEC	100 mg/l
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Common Carp	Experimental	96 hours	LC50	55 mg/l
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Crustacea other	Experimental	48 hours	LC50	324 mg/l
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Green algae	Experimental	96 hours	EC50	350 mg/l
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Green Algae	Experimental	96 hours	NOEC	130 mg/l
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Water flea	Experimental	21 days	NOEC	>=100 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
4,4'- ISOPROPYLIDENEDIPHE NOL- EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Estimated Hydrolysis		Hydrolytic half-life	<2 days (t 1/2)	Other methods
4,4'- ISOPROPYLIDENEDIPHE NOL- EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Experimental Biodegradation	28 days	BOD	0 % BOD/ThBOD	OECD 301C - MITI test (I)
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclo hexane	14228-73-0	Estimated Biodegradation	28 days	Dissolv. Organic Carbon Deplet	16.6 % removal of DOC	OECD 301F - Manometric respirometry
Acrylate/methacrylate/butadiene/styrene polymer	Trade Secret	Data not availbl-insufficient			N/A	
Carbon black	1333-86-4	Data not availbl-insufficient			N/A	
Glass, oxide, chemicals	65997-17-3	Data not availbl-insufficient			N/A	
Titanium dioxide	13463-67-7	Data not availbl-insufficient			N/A	
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	2602-34-8	Experimental Hydrolysis		Hydrolytic half-life	36 hours (t 1/2)	Other methods
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	2602-34-8	Experimental Biodegradation	28 days	BOD	53 % BOD/ThBOD	OECD 301F - Manometric respirometry
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Experimental Hydrolysis		Hydrolytic half-life	6.5 hours (t 1/2)	Other methods
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	37 % weight	Other methods

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12.3 Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
4,4'- ISOPROPYLIDENEDIPH ENOL-EPICHLOROHYDRIN POLYMER (MW unknown or <=700)	25068-38-6	Experimental BCF-Carp	28 days	Bioaccumulation factor	<=42	OECD 305E - Bioaccumulation flow-through fish test
1,4-Bis[(2,3-epoxypropoxy)methyl]cyclohexane	14228-73-0	Estimated Bioconcentration		Bioaccumulation factor	3	Estimated: Bioconcentration factor
Acrylate/methacrylate/butadiene/styrene polymer	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Carbon black	1333-86-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Glass, oxide, chemicals	65997-17-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Siloxanes and Silicones, di- Me, reaction products with silica	67762-90-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Titanium dioxide	13463-67-7	Experimental BCF-Carp	42 days	Bioaccumulation factor	9.6	Other methods
Silane, triethoxy[3-(oxiranylmethoxy)propyl]-	2602-34-8	Estimated Bioconcentration		Bioaccumulation factor	2.5	Estimated: Bioconcentration factor
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.4 Mobility in soil

Please contact manufacturer for more details.

12.5. Results of the PBT and vPvB assessment

This material does not contain any substances that are assessed to be a PBT or vPvB.

12.6. Other adverse effects

No information available.

13. Disposal considerations**13.1 Waste treatment methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations. Dispose of waste product in a permitted industrial waste facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of Gößl + Pfaff GmbH, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)

08 04 09* Waste adhesives and sealants containing organic solvents or other dangerous substances

20 01 27* Paint, inks, adhesives and resins containing dangerous substances

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14. Transport information

Exemption: For vessels containing a net quantity of 5 l or a net mass of 5 kg or less per single or inner packaging, special provision 375 (ADR), exemption per 2.10.2.7 (IMDG) or special provision A197 (IATA) may be applied, if applicable

ADR: UN3077; Environmentally Hazardous Substance, Solid, N.O.S. (Solid Epoxy Resin); 9; III; (-); M7.

IATA: UN3077; Environmentally Hazardous Substance, Solid, N.O.S. (Solid Epoxy Resin); 9; III.

IMDG: UN3077; Environmentally Hazardous Substance, Solid, N.O.S. (Solid Epoxy Resin); 9; III; (Marine Pollutant: Solid Epoxy Resin; EMS: FA, SF.

15. Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****Carcinogenicity**

<u>Ingredient</u>	<u>CAS Nbr</u>	<u>Classification</u>	<u>Regulation</u>
Carbon black	1333-86-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Titanium dioxide	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

Global inventory status

The components of this product are in compliance with the chemical notification requirements of TSCA.

All required components of this product are listed on the active portion of the TSCA Inventory.

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out for this mixture. Chemical safety assessments for the contained substances may have been carried out by the registrants of the substances in accordance with Regulation (EC) No 1907/2006, as amended.

16. Other information**List of relevant H statements**

H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

The information of this MSDS is based on the present state of our knowledge and meets the requirements of EU and national laws. The user's working conditions however, are beyond our knowledge and control. The product is not to be used for purposes other than those specified under Section 1 without a written permission. It remains the responsibility of the user to ensure that the necessary steps are taken to meet the laws and regulations. Handling of the product may only be done by people above 18 years of age, who are satisfactorily informed of how to do the work, the hazardous properties and necessary safety precautions. The information given in this MSDS is to describe the product only in terms of health and safety requirements and should not, therefore, be construed as guaranteeing specific properties.