

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Ceramic-Polymer STP-ep Part A

Revision date: 10.10.2023

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

1.1. Product identifier

Ceramic-Polymer STP-ep Part A

UFI: CCPQ-34SR-W2J0-92C9

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

Use of the substance/mixture

Coatings and paints, fillers, putties, thinners

Uses advised against

No data available

1.3. Details of the supplier of the safety data sheet

Company name:	Chesterton International GmbH	
Street:	Am Lenzenfleck 23	
Place:	D-85737 Ismaning GERMANY	
Telephone:	+49 89 99 65 46 - 0	Telefax: +49 89 99 65 46 - 50
E-mail:	eu-sds@chesterton.com	
Contact person:	eu-sds@chesterton.com	Telephone: +49 89 99 65 46 - 0
E-mail:	eu-sds@chesterton.com	
Internet:	www.chesterton.com	
Responsible Department:	eu-sds@chesterton.com	

1.4. Emergency telephone number: +49(0) 551 - 1 92 40 (GIZ-Nord, 24h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Skin Irrit. 2; H315

Eye Irrit. 2; H319

Skin Sens. 1; H317

Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

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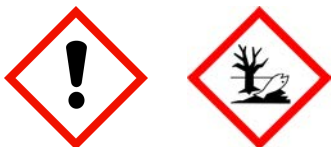
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Hazard components for labelling

Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({ 2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane
Reaktionsprodukte aus Hexan-1,6-diol und 2-(Chlormethyl)oxiran (1:2)
Polypropyleneglycol-Epichlorhydrine-Copolymer
2,2'-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
Phenol, styrenated

Signal word: Warning

Pictograms:



Hazard statements

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.

Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

Special labelling of certain mixtures

EUH211 Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
9003-36-5	Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({ 2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane			30 - < 35 %
	701-263-0		01-2119454392-40	
	Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H317 H411			
933999-84-9	Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)			5 - < 10 %
	618-939-5		01-2119463471-41	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 3; H315 H319 H317 H412			
9072-62-2	Polypropyleneglycol-Epichlorhydrine-Copolymer			1 - < 5 %
	Eye Irrit. 2, Skin Sens. 1, STOT SE 3, Aquatic Chronic 3; H319 H317 H335 H412			
13463-67-7	titanium dioxide			1 - < 5 %
	236-675-5	022-006-00-2	01-2119489379-17	
	Carc. 2; H351			
1675-54-3	2,2'-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran			1 - < 5 %
	216-823-5	603-073-00-2	01-2119456619-26	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H319 H317 H411			
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.			< 1 %
	271-846-8	603-103-00-4	01-2119485289-22	
	Skin Irrit. 2, Skin Sens. 1; H315 H317			
61788-44-1	Phenol, styrenated			< 1 %
	262-975-0		01-2119979575-18	
	Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H317 H411			

Full text of H and EUH statements: see section 16.

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Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
9003-36-5	701-263-0	Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({ 2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane	30 - < 35 %
		dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 5000 mg/kg	
933999-84-9	618-939-5	Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)	5 - < 10 %
		oral: LD50 = 3010 mg/kg	
13463-67-7	236-675-5	titanium dioxide	1 - < 5 %
		oral: LD50 = > 2000 mg/kg	
1675-54-3	216-823-5	2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran	1 - < 5 %
		inhalation: LC50 = ca. 24,6 mg/l (vapours); dermal: LD50 = > 2000 mg/kg; oral: LD50 = 19800 mg/kg Skin Irrit. 2; H315: >= 5 - 100 Eye Irrit. 2; H319: >= 5 - 100	
68609-97-2	271-846-8	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	< 1 %
		oral: LD50 = > 2000 mg/kg	
61788-44-1	262-975-0	Phenol, styrenated	< 1 %
		dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg	

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Change contaminated, saturated clothing. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

In case of inhalation of decomposition products, affected person should be moved into fresh air and kept still.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Seek medical advice immediately. Do not wash with: Solvents/Thinner

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do NOT induce vomiting.

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

Immediate medical treatment required because corrosive injuries that are not treated are hard to cure. Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours.

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

First Aid, decontamination, treatment of symptoms.
After contact with skin, wash immediately with plenty of Lutrol.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

- alcohol resistant foam
- Water spray jet
- Carbon dioxide (CO₂)
- Dry extinguishing powder

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

In case of fire may be liberated:

- Carbon monoxide
- Carbon dioxide
- Nitrogen oxides (NO_x)

5.3. Advice for firefighters

Co-ordinate fire-fighting measures to the fire surroundings.
In case of fire: Wear self-contained breathing apparatus.

Special protective equipment for firefighters: Protective clothing.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
Dispose of waste according to applicable legislation.

Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

- Remove persons to safety.
- Provide adequate ventilation.
- Safe handling: see section 7
- Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Cover drains. Adverse environmental effects

6.3. Methods and material for containment and cleaning up

For containment

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the

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recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Personal protection equipment: see section 8

Keep container tightly closed.

Advice on protection against fire and explosion

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

Advice on general occupational hygiene

Work in well-ventilated zones or use proper respiratory protection. Only wear fitting, comfortable and clean protective clothing. Avoid contact with skin, eyes and clothes. Wash hands and face before breaks and after work and take a shower if necessary.

Further information on handling

Wash hands before breaks and after work. Only wear fitting, comfortable and clean protective clothing. Used working clothes should not be worn outside the work area. Street clothing should be stored separately from work clothing.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place. Keep/Store only in original container.

Hints on joint storage

Keep away from:

- Food and feedingstuffs
- Oxidising agent

Further information on storage conditions

Keep away from:

- Frost
- Heat
- Humidity

7.3. Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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Occupational exposure limits

CAS No	Substance	ppm	mg/m ³	fib/cm ³	Category	Origin
1344-28-1	Aluminium oxides, respirable dust	-	4		TWA (8 h)	
7727-43-7	Barium sulphate, respirable dust	-	5		TWA (8 h)	
13463-67-7	Titanium dioxide, total inhalable dust	-	10		TWA (8 h)	

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DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
9003-36-5	Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({ 2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane			
Worker DNEL, long-term		inhalation	systemic	29,39 mg/m ³
Worker DNEL, long-term		dermal	systemic	104,15 mg/kg bw/day
Worker DNEL, long-term		inhalation	local	0,0083 mg/m ³
Consumer DNEL, long-term		inhalation	systemic	8,7 mg/m ³
Consumer DNEL, long-term		dermal	systemic	62,5 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	6,25 mg/kg bw/day
7727-43-7	Barium sulfate			
Worker DNEL, long-term		inhalation	systemic	10 mg/m ³
Worker DNEL, long-term		inhalation	local	10 mg/m ³
Consumer DNEL, long-term		inhalation	systemic	10 mg/m ³
Consumer DNEL, long-term		oral	systemic	13000 mg/kg bw/day
933999-84-9	Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)			
Worker DNEL, long-term		inhalation	systemic	10,57 mg/m ³
Worker DNEL, acute		inhalation	systemic	10,57 mg/m ³
Worker DNEL, long-term		inhalation	local	0,44 mg/m ³
Worker DNEL, long-term		dermal	systemic	6 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	5,29 mg/m ³
Consumer DNEL, acute		inhalation	systemic	5,29 mg/m ³
Consumer DNEL, long-term		inhalation	local	0,27 mg/m ³
Consumer DNEL, long-term		dermal	systemic	3 mg/kg bw/day
Consumer DNEL, acute		dermal	systemic	1,7 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	1,5 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	1,5 mg/kg bw/day
1344-28-1	Aluminium oxide			
Worker DNEL, long-term		inhalation	systemic	3 mg/m ³
Worker DNEL, long-term		inhalation	local	3 mg/m ³
Worker DNEL, long-term		dermal	systemic	0,84 mg/kg bw/day

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Consumer DNEL, long-term	inhalation	systemic	0,75 mg/m ³
Consumer DNEL, long-term	inhalation	local	0,75 mg/m ³
Consumer DNEL, long-term	dermal	systemic	0,3 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	1,32 mg/kg bw/day
, ,			
13463-67-7	titanium dioxide		
Worker DNEL, long-term	inhalation	local	1,25 mg/m ³
Consumer DNEL, long-term	oral	systemic	700 mg/kg bw/day
1675-54-3	2,2'-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran		
Worker DNEL, long-term	inhalation	local	310 mg/m ³
Consumer DNEL, long-term	inhalation	local	55 mg/m ³
Worker DNEL, long-term	inhalation	systemic	4,93 mg/m ³
Worker DNEL, long-term	dermal	systemic	0,75 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	0,87 mg/m ³
Consumer DNEL, long-term	dermal	systemic	0,0893 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,5 mg/kg bw/day
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.		
Worker DNEL, long-term	inhalation	systemic	3,6 mg/m ³
Worker DNEL, long-term	dermal	systemic	1 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	0,87 mg/m ³
Consumer DNEL, long-term	dermal	systemic	0,5 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,5 mg/kg bw/day
, ,			
61788-44-1	Phenol, styrenated		
Worker DNEL, long-term	inhalation	systemic	7,4 mg/m ³
Worker DNEL, long-term	dermal	systemic	2,1 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	1,31 mg/m ³
Consumer DNEL, long-term	dermal	systemic	0,75 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,75 mg/kg bw/day

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PNEC values

CAS No	Substance	
	Environmental compartment	Value
9003-36-5	Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({ 2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane	
	Freshwater	0,003 mg/l
	Freshwater (intermittent releases)	0,025 mg/l
	Marine water	0 mg/l
	Freshwater sediment	0,294 mg/kg
	Marine sediment	0,029 mg/kg
	Micro-organisms in sewage treatment plants (STP)	10 mg/l
	Soil	0,237 mg/kg
7727-43-7	Barium sulfate	
	Freshwater	0,115 mg/l
	Freshwater sediment	600,4 mg/kg
	Micro-organisms in sewage treatment plants (STP)	62,2 mg/l
	Soil	207,7 mg/kg
933999-84-9	Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)	
	Freshwater	0,011 mg/l
	Freshwater (intermittent releases)	0,115 mg/l
	Marine water	0,001 mg/l
	Freshwater sediment	0,283 mg/kg
	Marine sediment	0,028 mg/kg
	Micro-organisms in sewage treatment plants (STP)	1 mg/l
	Soil	0,223 mg/kg
1675-54-3	2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran	
	Freshwater	0,006 mg/l
	Freshwater (intermittent releases)	0,018 mg/l
	Marine water	0,001 mg/l
	Freshwater sediment	0,341 mg/kg
	Marine sediment	0,034 mg/kg
	Secondary poisoning	11 mg/kg
	Micro-organisms in sewage treatment plants (STP)	10 mg/l
	Soil	0,065 mg/kg
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	

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Freshwater	0,106 mg/l
Freshwater (intermittent releases)	0,072 mg/l
Marine water	0,011 mg/l
Freshwater sediment	307,16 mg/kg
Marine sediment	30,72 mg/kg
Micro-organisms in sewage treatment plants (STP)	10 mg/l
Soil	1,234 mg/kg
61788-44-1	Phenol, styrenated
Freshwater	0,004 mg/l
Freshwater (intermittent releases)	0,046 mg/l
Marine water	0,0004 mg/l
Freshwater sediment	0,248 mg/kg
Marine sediment	0,0248 mg/kg
Micro-organisms in sewage treatment plants (STP)	36,2 mg/l
Soil	0,0473 mg/kg

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation as well as local exhaust at critical locations.

Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection:

- Eye glasses with side protection
- goggles

Hand protection

Tested protective gloves must be worn: EN ISO 374

NBR (Nitrile rubber), Butyl caoutchouc (butyl rubber)

Wearing time with permanent contact: Thickness of the glove material: $\geq 0,4$ mm, Breakthrough time: >480 min

Wearing time with occasional contact (splashes):: Thickness of the glove material: $\geq 0,1$ mm, Breakthrough time: > 30 min

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Breakthrough times and swelling properties of the material must be taken into consideration.

Skin protection

Protective clothing

Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Combination filtering device A-P3

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Self-contained respirator (breathing apparatus)

Thermal hazards

No data available

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	various	
Odour:	characteristic	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
Flammability		
Solid/liquid:		No data available
Lower explosion limits:		No data available
Upper explosion limits:		No data available
Flash point:		> 65 °C
Auto-ignition temperature:		No data available
Decomposition temperature:		No data available
pH-Value:		No data available
Water solubility:		No data available
Solubility in other solvents		
No information available.		
Partition coefficient n-octanol/water:		No data available
Vapour pressure:		No data available
Density:		~ 1,75 g/cm ³
Relative vapour density:		No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

No information available.

Self-ignition temperature

Solid:

No data available

Gas:

No data available

Oxidizing properties

No information available.

Other safety characteristics

Evaporation rate:

No data available

Sublimation point:

No data available

Softening point:

No data available

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Pour point: No data available
Viscosity / dynamic: ~ 8000 mPa·s

Further Information

No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable under storage at normal ambient temperatures.

10.2. Chemical stability

Does not decompose when used for intended uses. No known hazardous decomposition products.

10.3. Possibility of hazardous reactions

Exothermic reaction with:

- Acid,
- Oxidising agent

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

10.5. Incompatible materials

- Acid,
- Oxidising agent

10.6. Hazardous decomposition products

Does not decompose when used for intended uses. No known hazardous decomposition products.

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.

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
9003-36-5	Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({ 2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy) methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane				
	oral	LD50 > 5000 mg/kg	Rat	Study report (1988)	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rat	Study report (1988)	OECD Guideline 402
933999-84-9	Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)				
	oral	LD50 3010 mg/kg	Rat	Study report (1981)	OECD Guideline 401
13463-67-7	titanium dioxide				
	oral	LD50 > 2000 mg/kg	Rat	Study report (1996)	OECD Guideline 401
1675-54-3	2,2'-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran				
	oral	LD50 19800 mg/kg	Rabbit	Publication (1958)	Rabbits were orally gavaged with test ma
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2007)	OECD Guideline 402
	inhalation (4 h) vapour	LC50 ca. 24,6 mg/l	Rat	AMA Arch. Ind. Hyg. Occ. Med. 10: 61-68	Rats were exposed to 8000 ppm of the tes
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.				
	oral	LD50 > 2000 mg/kg	Rat	Study report (1977)	Three groups each of four female rats re
61788-44-1	Phenol, styrenated				
	oral	LD50 > 2000 mg/kg	Rat	Study report (2014)	OECD Guideline 423
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2014)	OECD Guideline 402

Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

Sensitising effects

May cause an allergic skin reaction. (Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({ 2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy) methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane; Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2); Polypropyleneglycol-Epichlorhydrine-Copolymer; 2,2'-[(1-Methylethyliden)bis(4,1-phenylenoxymethylen)]bisoxiran; oxirane, mono[(C12-14-alkyloxy)methyl] derivs.; Phenol, styrenated)

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Carcinogenic/mutagenic/toxic effects for reproduction

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

No data available

SECTION 12: Ecological information

12.1. Toxicity

Toxic to aquatic life with long lasting effects.

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
9003-36-5	Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({ 2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy) methyl}oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane					
	Acute fish toxicity	LC50 > 1000 mg/l	96 h	Oncorhynchus mykiss	Study report (1998)	OECD Guideline 203
	Acute algae toxicity	ErC50 > 1,8 mg/l	72 h	Raphidocelis subcapitata	Study report (1993)	OECD Guideline 201
	Acute crustacea toxicity	EL50 > 1000 mg/l	48 h	Daphnia magna	Study report (1998)	OECD Guideline 202
	Crustacea toxicity	NOEC 0,3 mg/l	21 d	Daphnia magna	Study report (1984)	OECD Guideline 211
933999-84-9	Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)					
	Acute fish toxicity	LC50 ca. 30 mg/l	96 h	Oncorhynchus mykiss	Study report (1990)	OECD Guideline 203
	Acute crustacea toxicity	EC50 ca. 39 - ca. 57 mg/l	48 h	Daphnia magna	Study report (1989)	OECD Guideline 202
13463-67-7	titanium dioxide					
	Acute fish toxicity	LC50 > 100 mg/l	96 h	Carassius auratus	REACH Registration Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50 > 50 mg/l	72 h	Raphidocelis subcapitata	REACH Registration Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50 > 100 mg/l	48 h	Artemia salina	REACH Registration Dossier	OECD Guideline 202
	Fish toxicity	NOEC >= 80 mg/l	6 d	Danio rerio	REACH Registration Dossier	OECD TG 210
	Algae toxicity	NOEC >= 1 mg/l	32 d	Synedra ulna, Scenedesmus quadricauda, Stigeocloni	Environ. Tox. Chem. 31, 2414-2422 (2012)	In this study, the authors report the re
	Crustacea toxicity	NOEC > 1 mg/l	10 d	Chironomus riparius	REACH Registration Dossier	other: OECD Guideline 219
	Acute bacteria toxicity	(EC50 > 1000 mg/l)	3 h	activated sludge, domestic	REACH Registration Dossier	OECD Guideline 209
1675-54-3	2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran					
	Acute fish toxicity	LC50 3,6 mg/l	96 h	Oncorhynchus mykiss	Study report (1982)	OECD Guideline 203

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	Acute algae toxicity	ErC50 mg/l	> 100	72 h	Raphidocelis subcapitata	Study report (2007)	OECD Guideline 201
	Acute crustacea toxicity	EC50	2,8 mg/l	48 h	Daphnia magna	REACH Registration Dossier	OECD Guideline 202
	Crustacea toxicity	NOEC	0,3 mg/l	21 d	Daphnia magna	REACH Registration Dossier	OECD Guideline 211
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.						
	Acute fish toxicity	LL50 mg/l	> 100	96 h	Oncorhynchus mykiss	Study report (2015)	OECD Guideline 203
	Crustacea toxicity	NOEC	56 mg/l	21 d	Daphnia magna	(2017)	OECD Guideline 211
61788-44-1	Phenol, styrenated						
	Acute fish toxicity	LC50	5,6 mg/l	96 h		REACH Registration Dossier	other: Refer below principle
	Acute algae toxicity	ErC50 mg/l	20,42	72 h	Chlorella vulgaris	REACH Registration Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50	4,6 mg/l	48 h	Daphnia magna	REACH Registration Dossier	OECD Guideline 202
	Fish toxicity	NOEC mg/l	0,0618	63 d	Danio rerio	REACH Registration Dossier	other: OECD 234 Fish Sexual Development
	Crustacea toxicity	NOEC	0,2 mg/l	21 d	Daphnia magna	REACH Registration Dossier	other: Refer below principle

12.2. Persistence and degradability

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
1675-54-3	2,2'-[(1-Methylethylidene)bis(4,1-phenylenoxymethylen)]bisoxiran			
	OECD 302B	12%	28	
	Not readily biodegradable (according to OECD criteria)			
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.			
	OECD 301F	87%	28	
61788-44-1	Phenol, styrenated			
	OECD 301F	7%	28	

12.3. Bioaccumulative potential

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Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
9003-36-5	Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({ 2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane	2,7
933999-84-9	Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)	ca. 0,822
1675-54-3	2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran	>= 2,64
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	3,77
61788-44-1	Phenol, styrenated	3,03

BCF

CAS No	Chemical name	BCF	Species	Source
9003-36-5	Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({ 2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane	150		Other company data (
933999-84-9	Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)	3,57		Publication (2009)
13463-67-7	titanium dioxide	> 0,47 - < 3,19	Artemia salina	REACH Registration D
1675-54-3	2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran	31		Study report (2010)
68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	>= 160		REACH Registration D
61788-44-1	Phenol, styrenated	11440		Estimation Programs

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Dispose of waste according to applicable legislation.

Contaminated packaging

Non-contaminated packages may be recycled. Dispose of waste according to applicable legislation.

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SECTION 14: Transport information

Land transport (ADR/RID)

<u>14.1. UN number or ID number:</u>	UN 3082
<u>14.2. UN proper shipping name:</u>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resin)
<u>14.3. Transport hazard class(es):</u>	9
<u>14.4. Packing group:</u>	III
Hazard label:	9
Classification code:	M6
Special Provisions:	274 335 375 601
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	90
Tunnel restriction code:	-

Inland waterways transport (ADN)

<u>14.1. UN number or ID number:</u>	UN 3082
<u>14.2. UN proper shipping name:</u>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resin)
<u>14.3. Transport hazard class(es):</u>	9
<u>14.4. Packing group:</u>	III
Hazard label:	9
Classification code:	M6
Special Provisions:	274 335 375 601
Limited quantity:	5 L
Excepted quantity:	E1

Marine transport (IMDG)

<u>14.1. UN number or ID number:</u>	UN 3082
<u>14.2. UN proper shipping name:</u>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resin)
<u>14.3. Transport hazard class(es):</u>	9
<u>14.4. Packing group:</u>	III
Hazard label:	9
Marine pollutant:	p
Special Provisions:	274 335 969
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-A, S-F

Air transport (ICAO-TI/IATA-DGR)

<u>14.1. UN number or ID number:</u>	UN 3082
<u>14.2. UN proper shipping name:</u>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resin)

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14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9
Special Provisions:	A97 A158 A197 A215
Limited quantity Passenger:	30 kg G
Passenger LQ:	Y964
Excepted quantity:	E1
IATA-packing instructions - Passenger:	964
IATA-max. quantity - Passenger:	450 L
IATA-packing instructions - Cargo:	964
IATA-max. quantity - Cargo:	450 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS:	Yes
Danger releasing substance:	epoxy resin

14.6. Special precautions for user

No information available.

14.7. Maritime transport in bulk according to IMO instruments

No information available.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

Information according to 2012/18/EU (SEVESO III): E2 Hazardous to the Aquatic Environment

National regulatory information

Water hazard class (D): 2 - obviously hazardous to water

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:

Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({ 2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane

Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)
titanium dioxide

2,2'-[(1-Methylethyliden)bis(4,1-phenyleneoxymethylen)]bisoxiran
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

Phenol, styrenated

SECTION 16: Other information

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Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer
(Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
SVHC: Substance of Very High Concern

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method
Aquatic Chronic 2; H411	Calculation method

Relevant H and EUH statements (number and full text)

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

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H351	Suspected of causing cancer.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH211	Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)