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Safety Data Sheet according to (EC) No 1907/2006 as amended

SDS No. : 656894
V003.1

LOCTITE 3296

Revision: 24.04.2025
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Replaces version from: 31.03.2025

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

1.1. Product identifier

LOCTITE 3296
UFI: RHSS-EWKU-P201-XJ7A

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

Intended use:
Adhesive

1.3. Details of the supplier of the safety data sheet

Henkel Ireland
Operations and Research Limited
Tallaght Business Park, Whitestown
24 Dublin

Ireland

Phone: +353 (0353) 1 404 6444

SDSinfo.Adhesive@henkel.com
For Safety Data Sheet updates please visit our website www.mysds.henkel.com or www.henkel-adhesives.com.

1.4. Emergency telephone number

00353 14046280

National Poisons Information Centre: Members of Public: +353 (1) 809 2166. (8.00 a.m. to 10.00 p.m. 7 days a week)
Healthcare Professionals: +353 (1) 809 2566 (24-hour service)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Germ cell mutagenicity	Category 2
H341 Suspected of causing genetic defects.	
Chronic hazards to the aquatic environment	Category 3
H412 Harmful to aquatic life with long lasting effects.	

2.2. Label elements

Label elements (CLP):

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Hazard pictogram:



Contains	3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate Bisphenol-F epichlorhydrin resin;
Signal word:	Warning
Hazard statement:	H317 May cause an allergic skin reaction. H341 Suspected of causing genetic defects. H412 Harmful to aquatic life with long lasting effects.
Precautionary statement: Prevention	P280 Wear protective gloves/protective clothing. P273 Avoid release to the environment.
Precautionary statement: Response	P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

2.3. Other hazards

None if used properly.

Following substances are present in a concentration ≥ the concentration limit for depiction in Section 3 and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in a concentration ≥ the concentration limit for depiction in Section 3 that are assessed to be a PBT, vPvB or ED.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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Declaration of the ingredients according to CLP (EC) No 1272/2008:

Hazardous components CAS-No. EC Number REACH-Reg. No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0 219-207-4 01-2119846133-44	5- < 10 %	Aquatic Chronic 3, H412 Skin Sens. 1, H317 STOT RE 2, H373 Muta. 2, H341		
3,3'-[Oxybis(methylene)]bis[(3-ethyl)oxetane] 18934-00-4 444-140-4 01-0000018730-73	5- < 10 %	Acute Tox. 4, Oral, H302 Aquatic Chronic 3, H412	oral:ATE = 301 mg/kg	
Bisphenol-F epichlorhydrin resin; ----- 500-006-8 01-2119454392-40	1- < 5 %	Skin Irrit. 2, H315 Skin Sens. 1A, H317 Aquatic Chronic 2, H411		
3-Ethyloxetane-3-methanol 3047-32-3 221-254-0 01-2119953280-43	1- < 5 %	Eye Irrit. 2, H319		
(4-(1-methylethyl)phenyl)-(4-methylphenyl)iodonium tetrakis(pentafluorophenyl)borate (1-) 178233-72-2 422-960-3 01-0000016947-56	0,1- < 1 %	Aquatic Chronic 1, H410 Aquatic Acute 1, H400 STOT RE 2, H373 Acute Tox. 4, Oral, H302 Acute Tox. 4, Dermal, H312		
Quartz (SiO2), <1% respirable 14808-60-7 238-878-4	1- < 5 %			

If no ATE values are displayed, please refer to LD/LC50 values in Section 11.
For full text of the H - statements and other abbreviations see section 16 "Other information".

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Move to fresh air. If symptoms persist, seek medical advice.

Skin contact:
Rinse with running water and soap.
Obtain medical attention if irritation persists.

Eye contact:
Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.

Ingestion:
Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

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4.2. Most important symptoms and effects, both acute and delayed
SKIN: Rash, Urticaria.

Prolonged or repeated contact may cause eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed
See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
water, carbon dioxide, foam, powder

Extinguishing media which must not be used for safety reasons:
High pressure waterjet

5.2. Special hazards arising from the substance or mixture
In the event of a fire, carbon monoxide (CO), carbon dioxide (CO2) and nitrogen oxides (NOx) can be released.

5.3. Advice for firefighters
Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

Additional information:
In case of fire, keep containers cool with water spray.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Avoid contact with skin and eyes.
Wear protective equipment.
Ensure adequate ventilation.

6.2. Environmental precautions
Do not empty into drains / surface water / ground water.

6.3. Methods and material for containment and cleaning up
For small spills wipe up with paper towel and place in container for disposal.
For large spills absorb onto inert absorbent material and place in sealed container for disposal.
Dispose of contaminated material as waste according to Section 13.

6.4. Reference to other sections
See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid skin and eye contact.
See advice in section 8

Hygiene measures:
Good industrial hygiene practices should be observed.
Wash hands before work breaks and after finishing work.
Do not eat, drink or smoke while working.

7.2. Conditions for safe storage, including any incompatibilities
Keep container tightly sealed.
Refer to Technical Data Sheet.

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7.3. Specific end use(s)
Adhesive

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Ireland

Ingredient [Regulated substance]	ppm	mg/m³	Value type	Short term exposure limit category / Remarks	Regulatory list
Silica, vitreous 60676-86-0 [SILICA, FUSED]		0,08	Time Weighted Average (TWA):		IR_OEL
Quartz (SiO2) 14808-60-7 [RESPIRABLE CRYSTALLINE SILICA DUST]		0,1	Time Weighted Average (TWA):		EU OELIII
Quartz (SiO2) 14808-60-7 [Silica, crystalline, respirable dust (Cristobalite, Quartz, Tridymite, Tripoli)]		0,1	Time Weighted Average (TWA):	Binding OELV	IR_OEL
(4-(1-methylethyl)phenyl)-(4-methylphenyl)iodonium tetrakis(pentafluorophenyl)borate(1-) 178233-72-2 [BORATE COMPOUNDS INORGANIC]		2	Time Weighted Average (TWA):		IR_OEL

Occupational Exposure Limits

Valid for
Great Britain

Ingredient [Regulated substance]	ppm	mg/m³	Value type	Short term exposure limit category / Remarks	Regulatory list
Silica, amorphous, naturally 60676-86-0 [SILICA, FUSED, RESPIRABLE DUST]		0,08	Time Weighted Average (TWA):		EH40 WEL
Quartz (SiO2), <1% respirable 14808-60-7 [SILICA, RESPIRABLE CRYSTALLINE]		0,1	Time Weighted Average (TWA):		EH40 WEL

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Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	aqua (freshwater)		0,024 mg/l				
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	aqua (marine water)		0,0024 mg/l				
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	aqua (intermittent releases)		0,24 mg/l				
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	sewage treatment plant (STP)		19,5 mg/l				
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	sediment (freshwater)				0,211 mg/kg		
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	sediment (marine water)				0,021 mg/kg		
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Soil				0,028 mg/kg		
Formaldehyde, polymer with (chloromethyl)oxirane and phenol -----	aqua (freshwater)		0,003 mg/l				
Formaldehyde, polymer with (chloromethyl)oxirane and phenol -----	aqua (marine water)		0,0003 mg/l				
Formaldehyde, polymer with (chloromethyl)oxirane and phenol -----	sediment (freshwater)				0,294 mg/kg		
Formaldehyde, polymer with (chloromethyl)oxirane and phenol -----	sediment (marine water)				0,0294 mg/kg		
Formaldehyde, polymer with (chloromethyl)oxirane and phenol -----	aqua (intermittent releases)		0,0254 mg/l				
Formaldehyde, polymer with (chloromethyl)oxirane and phenol -----	Soil				0,237 mg/kg		
Formaldehyde, polymer with (chloromethyl)oxirane and phenol -----	sewage treatment plant (STP)		10 mg/l				
3-Ethyloxetane-3-methanol 3047-32-3	aqua (freshwater)		2,66 mg/l				
3-Ethyloxetane-3-methanol 3047-32-3	aqua (marine water)		0,266 mg/l				
3-Ethyloxetane-3-methanol 3047-32-3	aqua (intermittent releases)		26,6 mg/l				
3-Ethyloxetane-3-methanol 3047-32-3	sewage treatment plant (STP)		10 mg/l				

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Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Workers	inhalation	Long term exposure - systemic effects		0,18 mg/m3	
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Workers	inhalation	Long term exposure - local effects		0,18 mg/m3	
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	Workers	dermal	Long term exposure - systemic effects		0,05 mg/kg	
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	General population	inhalation	Long term exposure - systemic effects		0,043 mg/m3	
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	General population	inhalation	Long term exposure - local effects		0,043 mg/m3	
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	General population	dermal	Long term exposure - systemic effects		0,025 mg/kg	
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate 2386-87-0	General population	oral	Long term exposure - systemic effects		0,025 mg/kg	
Formaldehyde, polymer with (chloromethyl)oxirane and phenol -----	Workers	Inhalation	Long term exposure - systemic effects		29,39 mg/m3	
Formaldehyde, polymer with (chloromethyl)oxirane and phenol -----	Workers	dermal	Long term exposure - systemic effects		104,15 mg/kg	
Formaldehyde, polymer with (chloromethyl)oxirane and phenol -----	Workers	dermal	Acute/short term exposure - local effects		0,0083 mg/cm2	
Formaldehyde, polymer with (chloromethyl)oxirane and phenol -----	General population	Inhalation	Long term exposure - systemic effects		8,7 mg/m3	
Formaldehyde, polymer with (chloromethyl)oxirane and phenol -----	General population	dermal	Long term exposure - systemic effects		62,5 mg/kg	
Formaldehyde, polymer with (chloromethyl)oxirane and phenol -----	General population	oral	Long term exposure - systemic effects		6,25 mg/kg	
3-Ethyloxetane-3-methanol 3047-32-3	Workers	inhalation	Long term exposure - systemic effects		5,9 mg/m3	
3-Ethyloxetane-3-methanol 3047-32-3	Workers	dermal	Long term exposure - systemic effects		1,7 mg/kg	

Biological Exposure Indices:

None

8.2. Exposure controls:

Engineering controls:
Ensure good ventilation/extraction.

Respiratory protection:
Ensure adequate ventilation.
An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area
Filter type: A (EN 14387)

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Hand protection:
Chemical-resistant protective gloves (EN 374).
Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):
nitrile rubber (NBR; >= 0.4 mm thickness)
Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):
nitrile rubber (NBR; >= 0.4 mm thickness)
This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:
Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.
Protective eye equipment should conform to EN166.

Skin protection:
Wear suitable protective clothing.
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:
The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions.
Personal protective equipment should conform to the relevant EN standard.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Delivery form	paste
Colour	White
Odor	odourless
Physical state	liquid
Melting point	Currently under determination
Initial boiling point	Polymerizes before boiling point is reached.
Flammability	Currently under determination
Explosive limits	Currently under determination
Flash point	> 93 °C (> 199.4 °F)
Auto-ignition temperature	Currently under determination
Decomposition temperature	Currently under determination
pH	Not applicable, Product is non-soluble (in water).
Viscosity (kinematic)	Currently under determination
Viscosity, dynamic (; 23 °C (73.4 °F))	20 - 80 Pa*s Viscosity by Rheometer
Solubility (qualitative)	Currently under determination
Partition coefficient: n-octanol/water	Currently under determination
Vapour pressure	Currently under determination
Density (23 °C (73.4 °F))	1,8 g/ml no method / method unknown
Relative vapour density:	Currently under determination
Particle characteristics	Currently under determination

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity

10.1. Reactivity

Reaction with strong acids.
Reacts with strong oxidants.

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10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
See section reactivity

10.4. Conditions to avoid
Stable under normal conditions of storage and use.

10.5. Incompatible materials
See section reactivity.

10.6. Hazardous decomposition products
carbon oxides.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute oral toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Value type	Value	Species	Method
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	LD50	5.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
3,3'-[Oxybis(methylene)]bis[(3-ethyl)oxetane] 18934-00-4	LD50	300 - 500 mg/kg	rat	not specified
3,3'-[Oxybis(methylene)]bis[(3-ethyl)oxetane] 18934-00-4	Acute toxicity estimate (ATE)	301 mg/kg		Expert judgement
Bisphenol-F epichlorhydrin resin; -----	LD50	> 5.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
3-Ethyloxetane-3-methanol 3047-32-3	LD50	> 2.000 mg/kg	rat	OECD Guideline 420 (Acute Oral Toxicity)
Quartz (SiO2), <1% respirable 14808-60-7	LD50	> 5.050 mg/kg	rat	not specified

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Acute dermal toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Value type	Value	Species	Method
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Bisphenol-F epichlorhydrin resin; -----	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Quartz (SiO2), <1% respirable 14808-60-7	LD50	> 2.000 mg/kg	not specified	not specified

Acute inhalative toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	LC50	> 5,19 mg/l	dust/mist	4 h	rat	OECD Guideline 436 (Acute Inhalation Toxicity: Acute Toxic Class (ATC) Method)
3,3'-[Oxybis(methylene)]bis[(3-ethyl)oxetane] 18934-00-4	LC50	> 4,78 mg/l	dust/mist	4 h	rat	not specified

Skin corrosion/irritation:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Bisphenol-F epichlorhydrin resin; -----	irritating	4 h	rabbit	equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
3-Ethyloxetane-3-methanol 3047-32-3	not irritating		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

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Serious eye damage/irritation:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	not irritating	9 d	rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Bisphenol-F epichlorhydrin resin; -----	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
3-Ethyloxetane-3-methanol 3047-32-3	irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Test type	Species	Method
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Bisphenol-F epichlorhydrin resin; -----	Sub-Category 1A (sensitising)	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
3-Ethyloxetane-3-methanol 3047-32-3	not sensitising		guinea pig	OECD Guideline 406 (Skin Sensitisation)

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Germ cell mutagenicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	positive with metabolic activation	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	negative	mammalian cell gene mutation assay	with and without		equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	positive	mammalian cell gene mutation assay	with and without		OECD Guideline 490 (In Vitro Mammalian Cell Gene Mutation Tests Using the Thymidine Kinase Gene)
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	positive without metabolic activation	sister chromatid exchange assay in mammalian cells	with and without		equivalent or similar to OECD Guideline 479 (Genetic Toxicology: In Vitro Sister Chromatid Exchange Assay in Mammalian Cells)
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	ambiguous	DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro	with and without		equivalent or similar to OECD Guideline 482 (Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells
Bisphenol-F epichlorhydrin resin; -----	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
3-Ethyloxetane-3-methanol 3047-32-3	negative	mammalian cell gene mutation assay			OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
3-Ethyloxetane-3-methanol 3047-32-3	negative	bacterial reverse mutation assay (e.g Ames test)			OECD Guideline 471 (Bacterial Reverse Mutation Assay)

Carcinogenicity

No data available.

Reproductive toxicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
Bisphenol-F epichlorhydrin resin; -----	NOAEL P > 750 mg/kg NOAEL F1 750 mg/kg NOAEL F2 750 mg/kg	two-generation study	oral: gavage	rat	OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)

STOT-single exposure:

No data available.

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STOT-repeated exposure:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	NOAEL 5 mg/kg	oral: gavage	91 d daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Bisphenol-F epichlorhydrin resin; -----	NOAEL 250 mg/kg	oral: gavage	13 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
3-Ethyloxetane-3-methanol 3047-32-3	NOAEL 1.000 mg/kg	oral: unspecified	28 d	rat	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)

Aspiration hazard:

No data available.

11.2 Information on other hazards

not applicable

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SECTION 12: Ecological information

General ecological information:
Do not empty into drains / surface water / ground water.

12.1. Toxicity

Toxicity (Fish):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	LC50	24 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
3,3'-[Oxybis(methylene)]bis[(3-ethyl)oxetane] 18934-00-4	LC50	80 mg/l	96 h	Rainbow trout	OECD Guideline 203 (Fish, Acute Toxicity Test)
Bisphenol-F epichlorhydrin resin; -----	LC50	5,7 mg/l	96 h	Leuciscus idus	OECD Guideline 203 (Fish, Acute Toxicity Test)
3-Ethyloxetane-3-methanol 3047-32-3	LC50	7.500 mg/l	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)
(4-(1-methylethyl)phenyl)-(4-methylphenyl)iodonium tetrakis(pentafluorophenyl)borate(1-) 178233-72-2	LC50	Toxicity > Water solubility	96 h	Danio rerio	not specified
Quartz (SiO2), <1% respirable 14808-60-7	LC50	> 1.000 mg/l	96 h	not specified	OECD Guideline 203 (Fish, Acute Toxicity Test)

Toxicity (aquatic invertebrates):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	EC50	40 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Bisphenol-F epichlorhydrin resin; -----	EC50	2,55 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
3-Ethyloxetane-3-methanol 3047-32-3	EC50	6.910 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
(4-(1-methylethyl)phenyl)-(4-methylphenyl)iodonium tetrakis(pentafluorophenyl)borate(1-) 178233-72-2	EC50	0,2 mg/l	48 h	Daphnia magna	not specified
Quartz (SiO2), <1% respirable 14808-60-7	EC50	> 1.000 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Chronic toxicity (aquatic invertebrates):

The table below presents the data of the classified substances present in the mixture.

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Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Bisphenol-F epichlorhydrin resin; -----	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

Toxicity (Algae):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	EC50	> 110 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	NOEC	30 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Bisphenol-F epichlorhydrin resin; -----	EC50	1,8 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
3-Ethyloxetane-3-methanol 3047-32-3	ErC50	6.420 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
(4-(1-methylethyl)phenyl)-(4-methylphenyl)iodonium tetrakis(pentafluorophenyl)borate(1-) 178233-72-2	EC50	Toxicity > Water solubility	72 h	Pseudokirchneriella subcapitata	not specified
(4-(1-methylethyl)phenyl)-(4-methylphenyl)iodonium tetrakis(pentafluorophenyl)borate(1-) 178233-72-2	NOEC	Toxicity > Water solubility	72 h	Pseudokirchneriella subcapitata	not specified
Quartz (SiO2), <1% respirable 14808-60-7	EC50	> 1.000 mg/l	72 h	not specified	OECD Guideline 201 (Alga, Growth Inhibition Test)

Toxicity (microorganisms):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	EC10	409 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Bisphenol-F epichlorhydrin resin; -----	IC50	> 100 mg/l	3 h	activated sludge, industrial	other guideline:
Quartz (SiO2), <1% respirable 14808-60-7	EC0	> 1.000 mg/l	3 h	not specified	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

12.2. Persistence and degradability

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The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	not readily biodegradable.	aerobic	71 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	inherently biodegradable	aerobic	71 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Bisphenol-F epichlorhydrin resin; -----	not readily biodegradable.	aerobic	0 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
(4-(1-methylethyl)phenyl)-(4-methylphenyl)iodonium tetrakis(pentafluorophenyl)borate(1-) 178233-72-2	not readily biodegradable.		0 %	28 day	OECD 301 A - F

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	LogPow	Temperature	Method
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	1,34	20 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Bisphenol-F epichlorhydrin resin; -----	2,7 - 3,6		OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)

12.5. Results of PBT and vPvB assessment

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	PBT / vPvB
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate 2386-87-0	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Bisphenol-F epichlorhydrin resin; -----	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
3-Ethyloxetane-3-methanol 3047-32-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
(4-(1-methylethyl)phenyl)-(4-methylphenyl)iodonium tetrakis(pentafluorophenyl)borate(1-) 178233-72-2	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Quartz (SiO2), <1% respirable 14808-60-7	According to Annex XIII to Regulation (EC) No 1907/2006, a PBT and vPvB assessment shall not be conducted for inorganic substances.

12.6. Endocrine disrupting properties

not applicable

12.7. Other adverse effects

No data available.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:
Do not empty into drains / surface water / ground water.
Dispose of in accordance with local and national regulations.

Disposal of uncleaned packages:
After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorised legal land fill site or incinerated.

Waste code

08 04 09* waste adhesives and sealants containing organic solvents and other dangerous substances
The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

SECTION 14: Transport information

14.1. UN number or ID number

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

14.2. UN proper shipping name

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

14.3. Transport hazard class(es)

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

14.4. Packing group

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

14.5. Environmental hazards

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

14.6. Special precautions for user

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

Ozone Depleting Substance (ODS) (Regulation (EC) No 2024/590):	Not applicable
Prior Informed Consent (PIC) (Regulation (EU) No 649/2012):	Not applicable
Persistent organic pollutants (Regulation (EU) 2019/1021):	Not applicable
VOC content (2010/75/EC)	< 3 %

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

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SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H341 Suspected of causing genetic defects.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
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.

ED:	Substance identified as having endocrine disrupting properties
EU OEL:	Substance with a Union workplace exposure limit
EU EXPLD 1:	Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD 2	Substance listed in Annex II, Reg (EC) No. 2019/1148
SVHC:	Substance of very high concern (REACH Candidate List)
PBT:	Substance fulfilling persistent, bioaccumulative and toxic criteria
PBT/vPvB:	Substance fulfilling persistent, bioaccumulative and toxic plus very persistent and very bioaccumulative criteria
vPvB:	Substance fulfilling very persistent and very bioaccumulative criteria

Further information:

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