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

LOCTITE EA 9845LC 020-029 AERO known as HYSOL EA 9845LSC 0.020/0.029

SDS No. : 459048
V005.0
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

LOCTITE EA 9845LC 020-029 AERO known as HYSOL EA 9845LSC 0.020/0.029
UFI: Y64N-TX0W-220C-0R40

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

Intended use:
Adhesive for the Aerospace Industry

1.3. Details of the supplier of the safety data sheet

Henkel AG & Co. KGaA
Henkelstr. 67
40589 Düsseldorf

Germany

Phone: +49 211 797 0

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

The Henkel information service also provides an around-the-clock telephone service on phone no.+49-(0)211-797-3350 for exceptional cases.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Skin irritation	Category 2
H315 Causes skin irritation.	
Serious eye irritation	Category 2
H319 Causes serious eye irritation.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Chronic hazards to the aquatic environment	Category 3
H412 Harmful to aquatic life with long lasting effects.	

2.2. Label elements

Label elements (CLP):

Hazard pictogram:	
Contains	Bisphenol A diglycidyl ether polymer Phenol, polymer with formaldehyde, glycidyl ether 2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane Bisphenol-F epichlorhydrin resin; MW<700
Signal word:	Warning
Hazard statement:	H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H412 Harmful to aquatic life with long lasting effects.
Precautionary statement: Prevention	P273 Avoid release to the environment. P280 Wear protective gloves.
Precautionary statement: Response	P302+P352 IF ON SKIN: Wash with plenty of soap and water. P333+P313 If skin irritation or rash occurs: Get medical advice/attention. P337+P313 If eye irritation persists: 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

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

Hazardous components CAS No. EC No REACH-Reg. No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
Bisphenol A diglycidyl ether polymer 25085-99-8	1- < 5 %	Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319 Aquatic Chronic 2, H411		
Phenol, polymer with formaldehyde, glycidyl ether 28064-14-4	1- < 5 %	Aquatic Chronic 2, H411 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317		
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorohydrin 68610-41-3	1- < 5 %	Aquatic Chronic 2, H411		
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3 216-823-5 01-2119456619-26	1- < 5 %	Aquatic Chronic 2, H411 Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319	Eye Irrit. 2; H319; C >= 5 % Skin Irrit. 2; H315; C >= 5 %	
Bisphenol-F epichlorhydrin resin; MW<700 ----- 01-2119454392-40	1- < 5 %	Skin Irrit. 2, H315 Skin Sens. 1A, H317 Aquatic Chronic 2, H411		

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.

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

SKIN: Rash, Urticaria.

SKIN: Redness, inflammation.

EYE: Irritation, conjunctivitis.

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.
Avoid dust formation.

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

6.3. Methods and material for containment and cleaning up
Dispose of contaminated material as waste according to Section 13.
Scrape up as much material as possible.
Sweep up spilled material. Avoid creating dust.
Store in a partly filled, closed container until disposal.

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
Ensure good ventilation/extraction.
Keep container tightly sealed.
Refer to Technical Data Sheet.

7.3. Specific end use(s)
Adhesive for the Aerospace Industry

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Germany

Ingredient [Regulated substance]	ppm	mg/m³	Value type	Short term exposure limit category / Remarks	Regulatory list
Copper 7440-50-8		0,045	Exposure limit(s):	8	TRGS 900
Copper 7440-50-8			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Copper 7440-50-8			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Copper 7440-50-8		0,2	Exposure limit(s):	4	TRGS 900
Silicon dioxide 112945-52-5		1,25	Exposure limit(s):	If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Silicon dioxide 112945-52-5		10	Exposure limit(s):	2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Silicon dioxide 112945-52-5			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Silicon dioxide 112945-52-5		1	Exposure limit(s):	8 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Silicon dioxide 112945-52-5			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	aqua (freshwater)		0,006 mg/l				
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	aqua (marine water)		0,001 mg/l				
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	sewage treatment plant (STP)		10 mg/l				
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	sediment (freshwater)				0,341 mg/kg		
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	sediment (marine water)				0,034 mg/kg		
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Soil				0,065 mg/kg		
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	oral				11 mg/kg		
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Freshwater - intermittent		0,018 mg/l				
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Marine water - intermittent		0,002 mg/l				
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Air						no hazard identified
Reaction mass bisphenol-F-(epichlorhydrin) -----	aqua (freshwater)		0,003 mg/l				
Reaction mass bisphenol-F-(epichlorhydrin) -----	aqua (marine water)		0,0003 mg/l				
Reaction mass bisphenol-F-(epichlorhydrin) -----	sewage treatment plant (STP)		10 mg/l				
Reaction mass bisphenol-F-(epichlorhydrin) -----	sediment (freshwater)				0,294 mg/kg		
Reaction mass bisphenol-F-(epichlorhydrin) -----	sediment (marine water)				0,0294 mg/kg		
Reaction mass bisphenol-F-(epichlorhydrin) -----	Soil				0,237 mg/kg		
Reaction mass bisphenol-F-(epichlorhydrin) -----	aqua (intermittent releases)		0,0254 mg/l				
Reaction mass bisphenol-F-(epichlorhydrin) -----	Air						no hazard identified
Reaction mass bisphenol-F-(epichlorhydrin) -----	Predator						no potential for bioaccumulation

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Workers	dermal	Long term exposure - systemic effects		0,75 mg/kg	no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Workers	Inhalation	Long term exposure - systemic effects		4,93 mg/m3	no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	General population	dermal	Long term exposure - systemic effects		0,0893 mg/kg	no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	General population	oral	Long term exposure - systemic effects		0,5 mg/kg	no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	General population	inhalation	Long term exposure - systemic effects		0,87 mg/m3	no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Workers	Inhalation	Long term exposure - local effects			no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Workers	Inhalation	Acute/short term exposure - local effects			no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Workers	dermal	Long term exposure - local effects			no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	Workers	dermal	Acute/short term exposure - local effects			no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	General population	Inhalation	Long term exposure - local effects			no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	General population	Inhalation	Acute/short term exposure - local effects			no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	General population	dermal	Long term exposure - local effects			no hazard identified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	General population	dermal	Acute/short term exposure - local effects			no hazard identified
Reaction mass bisphenol-F-(epichlorhydrin) -----	Workers	Inhalation	Long term exposure - systemic effects		29,39 mg/m3	no hazard identified
Reaction mass bisphenol-F-(epichlorhydrin) -----	Workers	dermal	Long term exposure - systemic effects		104,15 mg/kg	no hazard identified
Reaction mass bisphenol-F-(epichlorhydrin) -----	Workers	dermal	Acute/short term exposure - local effects		0,0083 mg/cm2	no hazard identified
Reaction mass bisphenol-F-(epichlorhydrin) -----	General population	Inhalation	Long term exposure - systemic effects		8,7 mg/m3	no hazard identified
Reaction mass bisphenol-F-(epichlorhydrin) -----	General population	dermal	Long term exposure - systemic effects		62,5 mg/kg	no hazard identified
Reaction mass bisphenol-F-(epichlorhydrin) -----	General population	oral	Long term exposure - systemic effects		6,25 mg/kg	no hazard identified

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
Dust mask, P2 particle filter.

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	Film
Colour	Clear
Odor	Odourless / Odorless
Physical state	solid
Melting point	< 4 °C (< 39.2 °F)
Solidification temperature	Not applicable, Product is a solid
Initial boiling point	> 120 °C (> 248 °F)
Flammability	The product is not flammable.
Explosive limits	Not applicable, Product is a solid
Flash point	Not applicable, Product is a solid
Auto-ignition temperature	Not applicable, Product is a solid
Decomposition temperature	> 200 °C (> 392 °F);
pH	Not applicable, Product is non-soluble (in water).
Viscosity (kinematic)	Not applicable, Product is a solid
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Insoluble
Partition coefficient: n-octanol/water	Not applicable Mixture
Vapour pressure (20 °C (68 °F))	< 0,1 hPa
Density ()	2,5 g/cm3 no method / method unknown
Relative vapour density:	Not applicable, Product is a solid
Particle characteristics	Not applicable Product is not powder.

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity

10.1. Reactivity
Reacts with strong oxidants.
Reaction with strong acids.

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
Bisphenol A diglycidyl ether polymer 25085-99-8	LD50	> 2.000 mg/kg	rat	not specified
Phenol, polymer with formaldehyde, glycidyl ether 28064-14-4	LD50	> 5.000 mg/kg	rat	not specified
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorohydrin 68610-41-3	LD50	> 2.000 mg/kg	rat	not specified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane 1675-54-3	LD50	> 2.000 mg/kg	rat	OECD Guideline 420 (Acute Oral Toxicity)
Bisphenol-F epichlorhydrin resin; MW<700 -----	LD50	> 5.000 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)

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
Bisphenol A diglycidyl ether polymer 25085-99-8	LD50	> 2.000 mg/kg	rabbit	not specified
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorohydrin 68610-41-3	LD50	> 2.000 mg/kg	rabbit	not specified
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane 1675-54-3	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Bisphenol-F epichlorhydrin resin; MW<700 -----	LD50	> 2.000 mg/kg	rat	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)

Acute inhalative toxicity:

No data available.

Skin corrosion/irritation:

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

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane 1675-54-3	irritating			Weight of evidence
Bisphenol-F epichlorhydrin resin; MW<700 -----	irritating	4 h	rabbit	equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

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

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane 1675-54-3	irritating			Weight of evidence
Bisphenol-F epichlorhydrin resin; MW<700 -----	not irritating		rabbit	equivalent or similar to 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
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane 1675-54-3	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Bisphenol-F epichlorhydrin resin; MW<700 -----	Sub-Category 1A (sensitising)	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

Germ cell mutagenicity:

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	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane 1675-54-3	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 472 (Genetic Toxicology: Escherichia coli, Reverse Mutation Assay)
Bisphenol-F epichlorhydrin resin; MW<700 -----	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane 1675-54-3	negative	oral: gavage		mouse	not specified
Bisphenol-F epichlorhydrin resin; MW<700 -----	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Bisphenol-F epichlorhydrin resin; MW<700 -----	negative	oral: gavage		rat	OECD Guideline 486 (Unscheduled DNA Synthesis (UDS) Test with Mammalian Liver Cells in vivo)

Carcinogenicity

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 components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane 1675-54-3	not carcinogenic	dermal	2 y daily	mouse	male	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane 1675-54-3	not carcinogenic	oral: gavage	2 y daily	rat	male/female	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

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
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane 1675-54-3	NOAEL P >= 50 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)
Bisphenol-F epichlorhydrin resin; MW<700 -----	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.

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
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane 1675-54-3	NOAEL 50 mg/kg	oral: gavage	14 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Bisphenol-F epichlorhydrin resin; MW<700 -----	NOAEL 250 mg/kg	oral: gavage	13 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

Aspiration hazard:

No data available.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

No substance data available.

No data available.

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
Bisphenol A diglycidyl ether polymer 25085-99-8	LC50	2 mg/l	96 h	not specified	OECD Guideline 203 (Fish, Acute Toxicity Test)
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorohydrin 68610-41-3	LC50	> 1 - 10 mg/l	96 h	not specified	OECD Guideline 203 (Fish, Acute Toxicity Test)
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	LC50	1,2 mg/l	96 h	Oncorhynchus mykiss	EPA-660 (Methods for Acute Toxicity Tests with Fish, Macroinvertebrates and Amphibians)
Bisphenol-F epichlorhydrin resin; MW<700 -----	LC50	5,7 mg/l	96 h	Leuciscus idus	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
Bisphenol A diglycidyl ether polymer 25085-99-8	EC50	2 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorohydrin 68610-41-3	EC50	> 1 - 10 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	EC50	2,7 mg/l	48 h	Daphnia magna	other guideline:
Bisphenol-F epichlorhydrin resin; MW<700 -----	EC50	2,55 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Chronic 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
Bisphenol A diglycidyl ether	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia

polymer 25085-99-8					magna, Reproduction Test)
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Bisphenol-F epichlorhydrin resin; MW<700 -----	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
Bisphenol A diglycidyl ether polymer 25085-99-8	EC50	> 11 mg/l	72 h	not specified	OECD Guideline 201 (Alga, Growth Inhibition Test)
Bisphenol A diglycidyl ether polymer 25085-99-8	NOEC	4,2 mg/l	72 h	not specified	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	EC50	> 11 mg/l	72 h	Scenedesmus capricornutum	other guideline:
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	NOEC	4,2 mg/l	72 h	Scenedesmus capricornutum	other guideline:
Bisphenol-F epichlorhydrin resin; MW<700 -----	EC50	1,8 mg/l	72 h	Pseudokirchneriella subcapitata	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
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	IC50	> 100 mg/l	3 h	activated sludge, industrial	other guideline:
Bisphenol-F epichlorhydrin resin; MW<700 -----	IC50	> 100 mg/l	3 h	activated sludge, industrial	other guideline:

12.2. Persistence and degradability

Biodegradability (Screening Tests):
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
Bisphenol A diglycidyl ether polymer 25085-99-8	not readily biodegradable.	aerobic	5 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorohydrin 68610-41-3	not readily biodegradable.	aerobic	> 0 - < 60 %	28 d	OECD 301 A - F
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	not readily biodegradable.	aerobic	5 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Bisphenol-F epichlorhydrin resin; MW<700 -----	not readily biodegradable.	aerobic	0 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

No substance data available.

(Bio)degradability (Simulation Tests):
No data available.

12.3. Bioaccumulative potential

Partition Coefficient (octanol/water)
The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	LogPow	Temperature	Method
2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	> 2,64 - 3,78	25 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Bisphenol-F epichlorhydrin resin; MW<700 -----	2,7 - 3,6		OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)

No substance data available.
Bioconcentration factor (BCF)
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.	LogKoc	pH	Method
Bisphenol-F epichlorhydrin resin; MW<700 -----	3,65		OECD Guideline 121 (OECD 121: Estimation of the Koc on Soil and on Sewage Sludge using HPLC)

12.5. Results of PBT / vPvB / PMT / vPvM assessment

PBT/vPvB
This mixture does not contain any substances that are assessed to be a PBT or vPvB.
Based on available data, the classification criteria are not met.

PMT/vPvM
This mixture does not contain any substances that are assessed to be a PMT or vPvM.
Based on available data, the classification criteria are not met.

12.6. Endocrine disrupting properties

No substance data available.

No data available.

12.7. Other adverse effects

No data available.

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 %
Seveso III (2012/18/EU):	Not applicable

National regulations/information (Germany):

WGK:	WGK 2: significantly water endangering (Ordinance on facilities for handling substances that are hazardous to water (AwSV)) Classification according to AwSV, Annex 1 (5.2)
Storage class according to TRGS 510:	11

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

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:

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.

Abbreviations and acronyms:

ADG(-Code): Australian Dangerous Goods (Code)
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road
ASTM: American Society for Testing and Materials
ATE: acute toxicity estimate
AS: Australian Standard
AwSV: Ordinance on Installations for the Handling of Substances Hazardous to Water
CAS: Chemical Abstract Service
CLP: Regulation (EC) No 1272/2008
CMR: cancerogenic, mutagenic or reprotoxic
DIN: German Institute for Standardization
ECx: Effective concentration (x% effective level)
ECHA: European Chemicals Agency
EC-Nummer: Substance number in the EU-inventories EINECS/ELINCS
ECTLV: European community threshold limit value
ED:Substance identified as having endocrine disrupting properties
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
EN : European Standard
ENCS: Japanese chemical inventory
EPA: US Environmental Protection Agency
EU: European Union
EU EXPLD1: Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD2: Substance listed in Annex II, Reg (EC) No. 2019/1148
EWC: European Waste Catalogue
GHS: Globally Harmonised System for Classification and Labelling of Chemicals
GLP: Good Laboratory Practice
HSNO: Hazardous Substances and New Organisms
IARC: International Agency for Research of Cancer
IATA: International Air Transport Association
IBC-Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50: half maximal inhibitory concentration
ICAO: International Civil Aviation Organization
IMDG-Code: International Maritime Code for Dangerous Goods
IMO: International Maritime Organization
ISO: International Standardization Organisation
LC50: Median lethal concentration
LD50: Median lethal dose
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
n.o.s.: not otherwise specified
NO(A)EC: No (adverse) effect concentration
NO(A)EL: No (adverse) effect level
NZS: New Zealand Standard
OECD: Organisation for Economic Co-operation and Development
OEL: Occupational Exposure Limit
OPPT: US EPA Office of Pollution Prevention and Toxics
OPPTS: US EPA Office of Prevention, Pesticides and Toxic Substances
PBT: Persistent, bioaccumulative, toxic
PMT: Persistent, mobile and toxic
(Q)SAR: (Quantitative) structure–activity relationship
REACH: Regulation (EC) No. 1907/2006
RID: Regulations concerning the International Transport of Dangerous Goods by Rail
SADT: Self Accelerating Decomposition Temperature
SDS: Safety Data Sheet

STOT: Specific Target Organ Toxicity
STOT SE: Specific Target Organ Toxicity - single exposure
STOT RE: Specific Target Organ Toxicity - repeated exposure
SUSMP: Standard for the Uniform Scheduling of Medicines and Poisons
SVHC: Substance of very high concern (REACH Candidate List)
TRGS: German Technical Rules for hazardous substances
UN: United Nations
VOC: Volatile Organic Compound
814.018 VOC Reg CH: Swiss Ordinance 814.018 on the Incentive Tax on Volatile Organic Compounds
vPvB: Very persistent, very bioaccumulative
vPvM: Very persistent and very mobile
VwVwS: Administrative Regulation on Substances Hazardous to Waters
WGK: Water hazard class

Further information:

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