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

LOCTITE ECCOBOND 3593 known as HYSOL 3593 SNP CRE UF SEM WHT

SDS No. : 153635
V004.0
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

LOCTITE ECCOBOND 3593 known as HYSOL 3593 SNP CRE UF SEM WHT
UFI: 2YX5-7W4K-U20A-T6ET

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

Intended use:
Underfill

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.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Chronic hazards to the aquatic environment	Category 2
H411 Toxic to aquatic life with long lasting effects.	

2.2. Label elements

Label elements (CLP):

Hazard pictogram:



Contains Bisphenol-F epichlorhydrin resin; MW<700

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Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, N1,N1-diethyl-1,3-propanediamine and 1-piperazineethanamine

Formaldehyde polymer with phenol

Signal word: Warning

Hazard statement:
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statement: Prevention
P280 Wear protective gloves.
P273 Avoid release to the environment.

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.

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 Number REACH-Reg. No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
Bisphenol-F epichlorhydrin resin; MW<700 ----- 500-006-8 01-2119454392-40	50- < 100 %	Skin Irrit. 2, H315 Skin Sens. 1A, H317 Aquatic Chronic 2, H411		
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, N1,N1-diethyl-1,3-propanediamine and 1-piperazineethanamine 68698-70-4 500-230-6 01-2120778121-59	1- < 5 %	Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Acute Tox. 4, Oral, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317	M acute = 1 M chronic = 1 ===== oral:ATE = 500 mg/kg	
Formaldehyde polymer with phenol 9003-35-4 500-005-2 01-2120735197-51	1- < 5 %	Eye Irrit. 2, H319 Skin Sens. 1, H317	dermal:ATE = 2.500 mg/kg	

If no ATE values are displayed, please refer to LD/LC50 values in Section 11.

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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.

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.

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6.3. Methods and material for containment and cleaning up
Dispose of contaminated material as waste according to Section 13.
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.

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
Refer to Technical Data Sheet.

7.3. Specific end use(s)
Underfill

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Germany

None

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Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
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
Formaldehyde polymer with phenol 9003-35-4	aqua (freshwater)		0,172 mg/l				
Formaldehyde polymer with phenol 9003-35-4	sediment (marine water)				0,0647 mg/kg		
Formaldehyde polymer with phenol 9003-35-4	Soil				0,0284 mg/kg		
Formaldehyde polymer with phenol 9003-35-4	sediment (freshwater)				0,647 mg/kg		
Formaldehyde polymer with phenol 9003-35-4	aqua (marine water)		0,0172 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
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
Formaldehyde polymer with phenol 9003-35-4	Workers	inhalation	Long term exposure - systemic effects		98,7 mg/m3	
Formaldehyde polymer with phenol 9003-35-4	Workers	dermal	Long term exposure - systemic effects		28 mg/kg	
Formaldehyde polymer with phenol 9003-35-4	General population	inhalation	Long term exposure - systemic effects		14,8 mg/m3	
Formaldehyde polymer with phenol 9003-35-4	General population	oral	Long term exposure - systemic effects		10 mg/kg	
Formaldehyde polymer with phenol 9003-35-4	General population	dermal	Long term exposure - systemic effects		10 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)

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.

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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	liquid
Colour	Black
Odor	characteristic
Physical state	liquid
Melting point	Not applicable, Product is a liquid
Solidification temperature	< -15 °C (< 5 °F)
Initial boiling point	Not applicable, Polymerizes before boiling point is reached.
Flammability	The product is not flammable.
Explosive limits	Not applicable, The product is not flammable.
Flash point	> 93 °C (> 199.4 °F); Tagliabue closed cup
Auto-ignition temperature	Not applicable, The product is not flammable.
Decomposition temperature	Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use
pH	Not applicable, Product is non-soluble (in water).
Viscosity (kinematic) (20 °C (68 °F);)	> 20 mm2/s
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Not miscible
Partition coefficient: n-octanol/water	Not applicable Mixture
Vapour pressure (20 °C (68 °F))	5,0 mm hg
Density (25 °C (77 °F))	1,18 g/cm3
Relative vapour density: (20 °C)	> 1
Particle characteristics	Not applicable Product is a liquid

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.

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
See section reactivity

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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-F epichlorhydrin resin; MW<700 -----	LD50	> 5.000 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, N1,N1-diethyl-1,3-propanediamine and 1-piperazineethanamine 68698-70-4	LD50	> 300 - < 1.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, N1,N1-diethyl-1,3-propanediamine and 1-piperazineethanamine 68698-70-4	Acute toxicity estimate (ATE)	500 mg/kg		Expert judgement
Formaldehyde polymer with phenol 9003-35-4	LD50	> 5.000 mg/kg	rat	not specified

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-F epichlorhydrin resin; MW<700 -----	LD50	> 2.000 mg/kg	rat	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
Formaldehyde polymer with phenol 9003-35-4	LD50	> 2.000 mg/kg	rat	not specified
Formaldehyde polymer with phenol 9003-35-4	Acute toxicity estimate (ATE)	2.500 mg/kg		Expert judgement

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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
Bisphenol-F epichlorhydrin resin; MW<700 -----	irritating	4 h	rabbit	equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, N1,N1-diethyl-1,3-propanediamine and 1-piperazineethanamine 68698-70-4		4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Formaldehyde polymer with phenol 9003-35-4	not irritating		Human, EpiDermTM SIT (EPI-200), Reconstructed Human Epidermis (RHE)	OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method)

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
Bisphenol-F epichlorhydrin resin; MW<700 -----	not irritating		rabbit	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, N1,N1-diethyl-1,3-propanediamine and 1-piperazineethanamine 68698-70-4	no prediction can be made		Bovine, cornea, in vitro test	OECD Guideline 437 (BCOP)
Formaldehyde polymer with phenol 9003-35-4	irritating			Weight of evidence

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
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)
Formaldehyde polymer with phenol 9003-35-4	sensitising		human	Patch Test

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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
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)
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, N1,N1-diethyl-1,3-propanediamine and 1-piperazineethanamine 68698-70-4	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Formaldehyde polymer with phenol 9003-35-4	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Formaldehyde polymer with phenol 9003-35-4	negative	in vitro mammalian chromosome aberration test	with and without		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

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; 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.

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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
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)
Formaldehyde polymer with phenol 9003-35-4	NOAEL 1.000 mg/kg	oral: feed	2 years daily	rat	not specified

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
Bisphenol-F epichlorhydrin resin; MW<700 -----	LC50	5,7 mg/l	96 h	Leuciscus idus	OECD Guideline 203 (Fish, Acute Toxicity Test)
Formaldehyde polymer with phenol 9003-35-4	LC50	185 mg/l	48 h	Oncorhynchus mykiss	other guideline:

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-F epichlorhydrin resin; MW<700 -----	EC50	2,55 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, N1,N1-diethyl-1,3-propanediamine and 1-piperazineethanamine 68698-70-4	EC50	11,4 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Formaldehyde polymer with phenol 9003-35-4	EC50	172 mg/l	48 h	Daphnia pulex	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.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Bisphenol-F epichlorhydrin resin; MW<700 -----	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

Toxicity (Algae):

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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-F epichlorhydrin resin; MW<700 -----	EC50	1,8 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, N1,N1-diethyl-1,3-propanediamine and 1-piperazineethanamine 68698-70-4	EC50	0,13 mg/l	72 h	Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, N1,N1-diethyl-1,3-propanediamine and 1-piperazineethanamine 68698-70-4	EC10	0,062 mg/l	72 h	Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Formaldehyde polymer with phenol 9003-35-4	EC50	575 mg/l	24 h	Desmodesmus subspicatus	other guideline:

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
Bisphenol-F epichlorhydrin resin; MW<700 -----	IC50	> 100 mg/l	3 h	activated sludge, industrial	other guideline:

12.2. Persistence and degradability

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-F epichlorhydrin resin; MW<700 -----	not readily biodegradable.	aerobic	0 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, N1,N1-diethyl-1,3-propanediamine and 1-piperazineethanamine 68698-70-4	not readily biodegradable.	aerobic	8,3 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Formaldehyde polymer with phenol 9003-35-4	readily biodegradable	aerobic	> 60 %	10 d	ISO DIS 9408 (Ultimate Aerobic BiodegradabilityMethod by Determining the Oxygen Demand in a Closed Respirometer)

12.3. Bioaccumulative potential

No substance data available.

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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
Bisphenol-F epichlorhydrin resin; MW<700 -----	2,7 - 3,6		OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, N1,N1-diethyl-1,3-propanediamine and 1-piperazineethanamine 68698-70-4	4,39	25 °C	QSAR (Quantitative Structure Activity Relationship)

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
Bisphenol-F epichlorhydrin resin; MW<700 -----	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, N1,N1-diethyl-1,3-propanediamine and 1-piperazineethanamine 68698-70-4	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Formaldehyde polymer with phenol 9003-35-4	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Endocrine disrupting properties

not applicable

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.

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SECTION 14: Transport information

14.1. UN number or ID number

ADR	3082
RID	3082
ADN	3082
IMDG	3082
IATA	3082

14.2. UN proper shipping name

ADR	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol-F Epichlorhydrin resin)
RID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol-F Epichlorhydrin resin)
ADN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol-F Epichlorhydrin resin)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol-F Epichlorhydrin resin)
IATA	Environmentally hazardous substance, liquid, n.o.s. (Bisphenol-F Epichlorhydrin resin)

14.3. Transport hazard class(es)

ADR	9
RID	9
ADN	9
IMDG	9
IATA	9

14.4. Packing group

ADR	III
RID	III
ADN	III
IMDG	III
IATA	III

14.5. Environmental hazards

ADR	Environmentally Hazardous
RID	Environmentally Hazardous
ADN	Environmentally Hazardous
IMDG	Marine Pollutant
IATA	Environmentally Hazardous

14.6. Special precautions for user

ADR	not applicable

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	Tunnelcode:
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

The transport classifications in this section apply generally to packed and bulk goods alike. For containers with a net volume of no more than 5 L for liquid substances or a net mass of no more than 5 kg for solid substances per individual or inner package, the exemptions SP 375 (ADR), A197 (IATA), 2.10.2.7 (IMDG), NZ 4.3(10) may be applied, which can result in a deviation from the transport classification for packed goods.

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)	< 3,00 %

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:	10

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

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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This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

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