



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

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LOCTITE ABLESTIK CE 8500 known as ECCOBOND CE 8500
25 G

SDS No. : 373860
V005.0

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Replaces version from: 10.01.2014

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

1.1. Product identifier

LOCTITE ABLESTIK CE 8500 known as ECCOBOND CE 8500 25 G

Contains:

Siloxanes and Silicones, di-Me, 10-carboxydecyl group-terminated, polymers with bisphenol A diglycidyl ether
Dihydro-3-(tetrapropenyl)furan-2,5-dione
1,4-Bis(2,3-epoxypropoxy)butane
Epoxy resin (number average molecular weight ≤ 700)
Formaldehyde polymer with phenol

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

Intended use:
Epoxy adhesive

1.3. Details of the supplier of the safety data sheet

Henkel Ltd
Wood Lane End
HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 1442 278000
Fax-no.: +44 1442 278071

ua-productsafety.uk@henkel.com

1.4. Emergency telephone number

24 Hours Emergency Tel: +44 (0)1442 278497

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Skin irritation Category 2

H315 Causes skin irritation.

||| Serious eye damage Category 1

||| H318 Causes serious eye damage.

Skin sensitizer Category 1

H317 May cause an allergic skin reaction.

||| Acute hazards to the aquatic environment Category 1


||| H400 Very toxic to aquatic life.

||| Chronic hazards to the aquatic environment Category 1

||| H410 Very toxic to aquatic life with long lasting effects.

2.2. Label elements

Label elements (CLP):

Hazard pictogram:	
Signal word:	Danger
Hazard statement:	H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H410 Very toxic to aquatic life with long lasting effects.
Precautionary statement: Prevention	P273 Avoid release to the environment. P280 Wear protective gloves/eye protection.
Precautionary statement: Response	P302+P352 IF ON SKIN: Wash with plenty of soap and water. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

2.3. Other hazards

None if used properly.

Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General chemical description:

Adhesive

Base substances of preparation:

Epoxy resin

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

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	231-131-3 01-2119555669-21	50- 100 %	Aquatic Acute 1 H400 Aquatic Chronic 1 H410 M factor (Acute Aquat Tox): 10 M factor (Chron Aquat Tox): 10
Siloxanes and Silicones, di-Me, 10- carboxydecylgroup-terminated, polymers with bisphenol A diglycidyl ether 217448-17-4		10- 20 %	Eye Irrit. 2 H319 Skin Irrit. 2 H315 Skin Sens. 1 H317
Dihydro-3-(tetrapropenyl)furan-2,5-dione 26544-38-7	247-781-6 01-2119979080-37	5- < 10 %	Skin Sens. 1A H317 Eye Irrit. 2 H319 Aquatic Chronic 4 H413
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	219-371-7 01-2119494060-45	1- < 5 %	Acute Tox. 4 H302 Acute Tox. 4 H312 Acute Tox. 4 H332 Skin Irrit. 2 H315 Skin Sens. 1 H317 Eye Dam. 1 H318 Aquatic Chronic 3 H412
Epoxy resin (number average molecular weight ≤ 700) 25068-38-6	500-033-5 500-033-5 01-2119456619-26	1- < 3 %	Skin Irrit. 2 H315 Skin Sens. 1 H317 Eye Irrit. 2 H319 Aquatic Chronic 2 H411
Formaldehyde polymer with phenol 9003-35-4	500-005-2	0,1- < 1 %	Eye Irrit. 2 H319 STOT SE 3 H335 Skin Sens. 1 H317

For full text of the H - statements and other abbreviations see section 16 "Other information".
Substances without classification may have community workplace exposure limits available.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Should not be a problem as product is of low volatility. However, if feeling unwell remove patient to fresh air.

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: Redness, inflammation.

SKIN: Rash, Urticaria.

After eye contact: Corrosive, may cause permanent damage to eyes (impairment of vision).

Prolonged or repeated skin contact with silver and its salts may cause a blue-gray discoloration of the skin and mucous membranes that is irreversible (Argyria).

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 (NO_x) 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.

Ensure adequate ventilation.

Wear protective equipment.

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.

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)
Epoxy adhesive**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Occupational Exposure Limits**Valid for
Great Britain

Ingredient [Regulated substance]	ppm	mg/m ³	Value type	Short term exposure limit category/ Remarks	Regulatory list
Silver 7440-22-4 [SILVER (METALLIC)]		0,1	Time Weighted Average (TWA):		EH40 WEL
Silver 7440-22-4 [SILVER, METALLIC]		0,1	Time Weighted Average (TWA):	Indicative	ECTLV

Occupational Exposure LimitsValid for
Ireland

Ingredient [Regulated substance]	ppm	mg/m ³	Value type	Short term exposure limit category/ Remarks	Regulatory list
Silver 7440-22-4 [SILVER (METALLIC)]		0,1	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
Silver 7440-22-4 [SILVER, METALLIC]		0,1	Time Weighted Average (TWA):	Indicative	ECTLV

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Silver >= 99,9 % Ag as powder (>100nm<1 mm) classified for environment 7440-22-4	aqua (freshwater)		0,00004 mg/l				
Silver >= 99,9 % Ag as powder (>100nm<1 mm) classified for environment 7440-22-4	aqua (marine water)		0,00086 mg/l				
Silver >= 99,9 % Ag as powder (>100nm<1 mm) classified for environment 7440-22-4	sewage treatment plant (STP)		0,025 mg/l				
Silver >= 99,9 % Ag as powder (>100nm<1 mm) classified for environment 7440-22-4	sediment (freshwater)				438,13 mg/kg		
Silver >= 99,9 % Ag as powder (>100nm<1 mm) classified for environment 7440-22-4	sediment (marine water)				438,13 mg/kg		
Silver >= 99,9 % Ag as powder (>100nm<1 mm) classified for environment 7440-22-4	Air						
Silver >= 99,9 % Ag as powder (>100nm<1 mm) classified for environment 7440-22-4	soil				1,41 mg/kg		
Dihydro-3-(tetrapropenyl)furan-2,5-dione 26544-38-7	aqua (freshwater)		0,02 mg/l				
Dihydro-3-(tetrapropenyl)furan-2,5-dione 26544-38-7	sediment (freshwater)				1,7 mg/kg		
Dihydro-3-(tetrapropenyl)furan-2,5-dione 26544-38-7	aqua (marine water)		0,002 mg/l				
Dihydro-3-(tetrapropenyl)furan-2,5-dione 26544-38-7	sediment (marine water)				0,17 mg/kg		
Dihydro-3-(tetrapropenyl)furan-2,5-dione 26544-38-7	aqua (intermittent releases)		0,2 mg/l				
Dihydro-3-(tetrapropenyl)furan-2,5-dione 26544-38-7	soil				0,2 mg/kg		
Dihydro-3-(tetrapropenyl)furan-2,5-dione 26544-38-7	sewage treatment plant (STP)		10 mg/l				
Dihydro-3-(tetrapropenyl)furan-2,5-dione 26544-38-7	Air						
Dihydro-3-(tetrapropenyl)furan-2,5-dione 26544-38-7	Predator						
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	aqua (freshwater)		0,006 mg/l				
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	aqua (marine water)		0,001 mg/l				
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	sewage treatment plant (STP)		10 mg/l				
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	sediment (freshwater)				0,996 mg/kg		
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	sediment (marine water)				0,1 mg/kg		
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	soil				0,196 mg/kg		
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	oral				11 mg/kg		

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Silver >= 99,9 % Ag as powder (>100nm<1 mm) classified for environment 7440-22-4	Workers	inhalation	Long term exposure - systemic effects		0,1 mg/m ³	
Silver >= 99,9 % Ag as powder (>100nm<1 mm) classified for environment 7440-22-4	General population	inhalation	Long term exposure - systemic effects		0,04 mg/m ³	
Silver >= 99,9 % Ag as powder (>100nm<1 mm) classified for environment 7440-22-4	General population	oral	Long term exposure - systemic effects		1,2 mg/kg	
Dihydro-3-(tetrapropenyl)furan-2,5-dione 26544-38-7	Workers	dermal	Long term exposure - systemic effects		0,33 mg/kg	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	Workers	dermal	Acute/short term exposure - systemic effects		8,33 mg/kg	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	Workers	Inhalation	Acute/short term exposure - systemic effects		12,25 mg/m ³	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	Workers	dermal	Long term exposure - systemic effects		8,33 mg/kg	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	Workers	Inhalation	Long term exposure - systemic effects		12,25 mg/m ³	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	General population	dermal	Acute/short term exposure - systemic effects		3,571 mg/kg	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	General population	dermal	Long term exposure - systemic effects		3,571 mg/kg	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	General population	oral	Acute/short term exposure - systemic effects		0,75 mg/kg	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	General population	oral	Long term exposure - systemic effects		0,75 mg/kg	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	General population	inhalation	Acute/short term exposure - systemic effects		0,75 mg/m ³	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	General population	inhalation	Long term exposure - systemic effects		0,75 mg/m ³	

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.

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

Appearance	paste silver
Odor	mild
Odour threshold	No data available / Not applicable
pH	No data available / Not applicable
Melting point	No data available / Not applicable
Solidification temperature	No data available / Not applicable
Initial boiling point	No data available / Not applicable
Flash point	> 93 °C (> 199.4 °F)
Evaporation rate	No data available / Not applicable
Flammability	No data available / Not applicable
Explosive limits	No data available / Not applicable
Vapour pressure	No data available / Not applicable
Relative vapour density:	No data available / Not applicable
Density (ρ)	3,2 g/cm ³
Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative)	No data available / Not applicable
Partition coefficient: n-octanol/water	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Decomposition temperature	No data available / Not applicable
Viscosity	No data available / Not applicable
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Oxidising properties	No data available / Not applicable

9.2. Other information

No data available / Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with alcohols and amines.

Reacts with oxidants, acids and lyes

Reaction with some curing agents may produce an exothermic reaction which in large masses could cause runaway polymerization.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

No decomposition if stored and applied as directed.

10.5. Incompatible materials

See section reactivity.

10.6. Hazardous decomposition products

Hydrocarbons

carbon oxides.

nitrogen oxides

Rapid polymerisation may generate excessive heat and pressure.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

General toxicological information:

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation (EC) No 1272/2008. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Oral toxicity:

May cause irritation to the digestive tract.

Inhalative toxicity:

May cause irritation to respiratory system.

Dermal toxicity:

Prolonged or repeated skin contact with silver and its salts may cause a blue-gray discoloration of the skin and mucous membranes that is irreversible (Argyria).

Skin irritation:

Causes skin irritation.

Eye irritation:

Causes serious eye damage.

Sensitizing:

May cause an allergic skin reaction.

Acute oral toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	LD50	> 2.000 mg/kg	oral		rat	OECD Guideline 401 (Acute Oral Toxicity)
Dihydro-3-(tetrapropenyl)furan-2,5-dione 26544-38-7	LD50	2.900 mg/kg	oral		rat	OECD Guideline 423 (Acute Oral toxicity)
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	LD50	1.118 mg/kg	oral		rat	OECD Guideline 401 (Acute Oral Toxicity)
Epoxy resin (number average molecular weight ≤ 700) 25068-38-6	LD50	> 2.000 mg/kg	oral		rat	OECD Guideline 420 (Acute Oral Toxicity)
Formaldehyde polymer with phenol 9003-35-4	LD50	4.100 mg/kg	oral		rat	

Acute inhalative toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
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Acute dermal toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	LD50	> 2.000 mg/kg	dermal		rat	OECD Guideline 402 (Acute Dermal Toxicity)
Dihydro-3-(tetrapropenyl)furan-2,5-dione 26544-38-7	LD50	6.200 mg/kg	dermal		rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
Epoxy resin (number average molecular weight ≤ 700) 25068-38-6	LD50	> 2.000 mg/kg	dermal		rat	not specified

Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Dihydro-3-(tetrapropenyl)furan-2,5-dione 26544-38-7	not irritating		rabbit	other guideline:
Epoxy resin (number average molecular weight ≤ 700) 25068-38-6	moderately irritating	24 h	rabbit	Draize Test

Serious eye damage/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Dihydro-3-(tetrapropenyl)furan-2,5-dione 26544-38-7	irritating		rabbit	Evaluated according F.H.S.A.= Federal Hazardous Substance Act.
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	Category 1 (irreversible effects on the eye)		rabbit	OECD Guideline 405 (Acute Eye Irritation/ Corrosion)
Epoxy resin (number average molecular weight ≤ 700) 25068-38-6	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation/ Corrosion)

Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
Dihydro-3-(tetrapropenyl)furan-2,5-dione 26544-38-7	sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Epoxy resin (number average molecular weight ≤ 700) 25068-38-6	sensitising	Mouse local lymph node assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study/ Route of administration	Metabolic activation/ Exposure time	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	negative	in vitro mammalian cell micronucleus test	with and without		OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
Dihydro-3-(tetrapropenyl)furan-2,5-dione 26544-38-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
	positive	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
	positive	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Epoxy resin (number average molecular weight ≤ 700) 25068-38-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 472 (Genetic Toxicology: Escherichia coli, Reverse Mutation Assay)
Epoxy resin (number average molecular weight ≤ 700) 25068-38-6	negative	oral: gavage		mouse	not specified

Carcinogenicity:

Hazardous components CAS-No.	Result	Species	Sex	Exposure time/Frequency of treatment	Route of application	Method
Epoxy resin (number average molecular weight ≤ 700) 25068-38-6	not carcinogenic	mouse	male	2 y daily	dermal	OECD Guideline 453 (Combined Chronic Toxicity/ Carcinogenicity Studies)
Epoxy resin (number average molecular weight ≤ 700) 25068-38-6	not carcinogenic	rat	male/female	2 y daily	oral: gavage	OECD Guideline 453 (Combined Chronic Toxicity/ Carcinogenicity Studies)

Reproductive toxicity:

Hazardous substances CAS-No.	Result / Classification	Species	Exposure time	Species	Method
Dihydro-3- (tetrapropenyl)furan-2,5- dione 26544-38-7	NOAEL P = 50 mg/kg	screening oral: gavage	m: 28 d; f: ca. 54 d	rat	OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)
Epoxy resin (number average molecular weight ≤ 700) 25068-38-6	NOAEL P = >= 50 mg/kg NOAEL F1 = >= 750 mg/kg NOAEL F2 = >= 750 mg/kg	Two generation study oral: gavage	238 d	rat	OECD Guideline 416 (Two- Generation Reproduction Toxicity Study)

Repeated dose toxicity

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
Dihydro-3- (tetrapropenyl)furan-2,5- dione 26544-38-7	NOAEL=50 mg/kg	oral: gavage	28 days	rat	EPA Guideline
1,4-Bis(2,3- epoxypropoxy)butane 2425-79-8	NOAEL=200 mg/kg	oral: gavage	28 ddaily	rat	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
Epoxy resin (number average molecular weight ≤ 700) 25068-38-6	NOAEL=50 mg/kg	oral: gavage	14 wdaily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

SECTION 12: Ecological information**General ecological information:**

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation (EC) No 1272/2008. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

12.1. Toxicity**Ecotoxicity:**

Do not empty into drains / surface water / ground water.
Very toxic to aquatic life with long lasting effects.

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	LC50	0,0012 mg/l	Fish	96 h	Pimephales promelas	other guideline:
	EC10	0,00019 mg/l	Fish	217 d	Salmo trutta	OECD Guideline 210 (fish early lite stage toxicity test)
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	EC50	0,00022 mg/l	Daphnia	48 h	Daphnia magna	other guideline:
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	EC10	0,00016 mg/l	Algae	15 d	other:	other guideline:
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	NOEC	0,00032 mg/l	chronic Daphnia	21 d	Daphnia magna	EPA OPPTS 850.1300 (Daphnid Chronic Toxicity Test)
1,4-Bis(2,3- epoxypropoxy)butane 2425-79-8	LC50	24 mg/l	Fish	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)
1,4-Bis(2,3- epoxypropoxy)butane 2425-79-8	EC50	75 mg/l	Daphnia	24 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
1,4-Bis(2,3- epoxypropoxy)butane 2425-79-8	EC 50	> 100 mg/l	Bacteria	3 h		OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Epoxy resin (number average molecular weight ≤ 700) 25068-38-6	LC50	1,75 mg/l	Fish	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Epoxy resin (number average molecular weight ≤ 700) 25068-38-6	EC50	1,7 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Epoxy resin (number average molecular weight ≤ 700) 25068-38-6	EC50	> 11 mg/l	Algae	72 h	Scenedesmus capricornutum	OECD Guideline 201 (Alga, Growth Inhibition Test)
	NOEC	4,2 mg/l	Algae	72 h	Scenedesmus capricornutum	OECD Guideline 201 (Alga, Growth Inhibition Test)
Epoxy resin (number average molecular weight ≤ 700) 25068-38-6	IC50	> 100 mg/l	Bacteria	3 h	activated sludge, industrial	other guideline:
Epoxy resin (number average molecular weight ≤ 700) 25068-38-6	NOEC	0,3 mg/l	chronic Daphnia	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

12.2. Persistence and degradability

Persistence and Biodegradability:

The product is not biodegradable.

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
Dihydro-3- (tetrapropenyl)furan-2,5-dione 26544-38-7	not readily biodegradable.	aerobic	9,9 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
1,4-Bis(2,3- epoxypropoxy)butane 2425-79-8		aerobic	38 %	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
Epoxy resin (number average molecular weight ≤ 700) 25068-38-6		aerobic	5 %	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)

12.3. Bioaccumulative potential / 12.4. Mobility in soil

Mobility:

Cured adhesives are immobile.

Bioaccumulative potential:

No data available.

Hazardous components CAS-No.	LogPow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4 Dihydro-3-(tetrapropenyl)furan-2,5-dione 26544-38-7	>= 4,39	70	42 d	Cyprinus carpio	20 °C 22 °C	other guideline: OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	-0,269				25 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Epoxy resin (number average molecular weight ≤ 700) 25068-38-6	3,242				25 °C	EU Method A.8 (Partition Coefficient)

12.5. Results of PBT and vPvB assessment

Hazardous components CAS-No.	PBT/vPvB
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Dihydro-3-(tetrapropenyl)furan-2,5-dione 26544-38-7	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Epoxy resin (number average molecular weight ≤ 700) 25068-38-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Other adverse effects

No data available.

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

Product disposal:

Dispose of in accordance with local and national regulations.

Collection and delivery to recycling enterprise or other registered elimination institution.

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**

ADR	3077
RID	3077
ADN	3077
IMDG	3077
IATA	3077

14.2. UN proper shipping name

ADR	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Silver)
RID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Silver)
ADN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Silver)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Silver)
IATA	Environmentally hazardous substance, solid, n.o.s. (Silver)

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	not applicable
RID	not applicable
ADN	not applicable
IMDG	Marine pollutant
IATA	not applicable

14.6. Special precautions for user

ADR	not applicable
	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), 197 (IATA), 969 (IMDG) may be applied, which can result in a deviation from the transport classification for packed goods.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

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

VOC content < 3 %
(2010/75/EC)

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:

- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H335 May cause respiratory 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.
- H412 Harmful to aquatic life with long lasting effects.
- H413 May cause long lasting harmful effects to aquatic life.

Further information:

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.

Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.