



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

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LOCTITE ABLESTIK 84-1LMIS known as Ablebond 84-1LMIS  
(18g),

SDS No. : 390762

V001.0

Revision: 17.10.2017

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Replaces version from: -

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

#### 1.1. Product identifier

LOCTITE ABLESTIK 84-1LMIS known as Ablebond 84-1LMIS (18g),

#### Contains:

Bisphenol-F epichlorhydrin resin; MW<700

1,4-Bis(2,3-epoxypropoxy)butane

#### 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 AG & Co. KGaA

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40589 Düsseldorf

Germany

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#### 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 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.  
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**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:**

<b>Hazardous components CAS-No.</b>	<b>EC Number REACH-Reg No.</b>	<b>content</b>	<b>Classification</b>
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
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	500-006-8 500-006-8 01-2119454392-40	10- 20 %	Skin Irrit. 2; Dermal H315 Skin Sens. 1A H317 Aquatic Chronic 2 H411
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	219-371-7 01-2119494060-45	5- < 10 %	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
Dapsone 80-08-0	201-248-4 01-2119949572-30	1- < 3 %	Acute Tox. 4 H302 STOT SE 2 H371 STOT RE 2 H373 Aquatic Chronic 2 H411

**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: Rash, Urticaria.

SKIN: Redness, inflammation.

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 (CO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) can be released.

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

#### **5.3. Advice for firefighters**

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

### **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.

Remove sources of ignition.

#### **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.

Keep frozen.

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  
Germany

<b>Ingredient [Regulated substance]</b>	<b>ppm</b>	<b>mg/m<sup>3</sup></b>	<b>Value type</b>	<b>Short term exposure limit category / Remarks</b>	<b>Regulatory list</b>
Silver 7440-22-4 [SILVER, METALLIC]		0,1	Time Weighted Average (TWA):	Indicative	ECTLV
Silver 7440-22-4			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Silver 7440-22-4		0,1	Exposure limit(s):	8	TRGS 900

**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<1mm ) classified for environment 7440-22-4	aqua (freshwater)		0,00004 mg/l				
Silver >= 99,9 % Ag as powder (>100nm<1mm ) classified for environment 7440-22-4	aqua (marine water)		0,00086 mg/l				
Silver >= 99,9 % Ag as powder (>100nm<1mm ) classified for environment 7440-22-4	sewage treatment plant (STP)		0,025 mg/l				
Silver >= 99,9 % Ag as powder (>100nm<1mm ) classified for environment 7440-22-4	sediment (freshwater)				438,13 mg/kg		
Silver >= 99,9 % Ag as powder (>100nm<1mm ) classified for environment 7440-22-4	sediment (marine water)				438,13 mg/kg		
Silver >= 99,9 % Ag as powder (>100nm<1mm ) classified for environment 7440-22-4	Air						
Silver >= 99,9 % Ag as powder (>100nm<1mm ) classified for environment 7440-22-4	soil				1,41 mg/kg		
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	aqua (freshwater)		0,003 mg/l				
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	aqua (marine water)		0,0003 mg/l				
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	sewage treatment plant (STP)		10 mg/l				
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	sediment (freshwater)				0,294 mg/kg		
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	sediment (marine water)				0,0294 mg/kg		
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	soil				0,237 mg/kg		
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	aqua (intermittent releases)		0,0254 mg/l				
Dapsone 80-08-0	aqua (freshwater)		0,004 mg/l				
Dapsone 80-08-0	aqua (marine water)		0 mg/l				
Dapsone 80-08-0	aqua (intermittent releases)		0,01 mg/l				
Dapsone 80-08-0	sewage treatment plant (STP)		10 mg/l				
Dapsone 80-08-0	sediment (freshwater)				0,041 mg/kg		
Dapsone 80-08-0	sediment (marine water)				0,004 mg/kg		
Dapsone 80-08-0	Air						
Dapsone 80-08-0	soil				0,006 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<1mm ) classified for environment 7440-22-4	Workers	inhalation	Long term exposure - systemic effects		0,1 mg/m3	
Silver >= 99,9 % Ag as powder (>100nm<1mm ) classified for environment 7440-22-4	General population	inhalation	Long term exposure - systemic effects		0,04 mg/m3	
Silver >= 99,9 % Ag as powder (>100nm<1mm ) classified for environment 7440-22-4	General population	oral	Long term exposure - systemic effects		1,2 mg/kg	
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	Workers	dermal	Acute/short term exposure - local effects		0,0083 mg/cm2	
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	Workers	dermal	Long term exposure - systemic effects		104,15 mg/kg	
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	Workers	Inhalation	Long term exposure - systemic effects		29,39 mg/m3	
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	General population	dermal	Long term exposure - systemic effects		62,5 mg/kg	
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	General population	Inhalation	Long term exposure - systemic effects		8,7 mg/m3	
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 9003-36-5	General population	oral	Long term exposure - systemic effects		6,25 mg/kg	
Dapsone 80-08-0	Workers	inhalation	Long term exposure - systemic effects		2,5 mg/m3	
Dapsone 80-08-0	Workers	inhalation	Acute/short term exposure - systemic effects		2,5 mg/m3	
Dapsone 80-08-0	Workers	inhalation	Long term exposure - local effects		0,35 mg/m3	
Dapsone 80-08-0	Workers	inhalation	Acute/short term exposure - local effects		0,35 mg/m3	
Dapsone 80-08-0	Workers	dermal	Long term exposure - systemic effects		0,35 mg/m3	
Dapsone 80-08-0	Workers	dermal	Acute/short term exposure - systemic effects		0,001225 mg/cm2 1,225 µg/cm2	

**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;  $\geq 0.4$  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;  $\geq 0.4$  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 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	Not applicable
Relative vapour density:	No data available / Not applicable
Density	No data available / Not applicable
Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative) (Solvent: Water)	Insoluble
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****Acute oral toxicity:**

May cause irritation to the digestive tract.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm ) 7440-22-4	LD50	> 2.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	LD50	> 5.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
1,4-Bis(2,3- epoxypropoxy)butane 2425-79-8	LD50	1.118 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Dapsone 80-08-0	LD50	375 mg/kg	mouse	not specified

**Acute 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).

Hazardous substances CAS-No.	Value type	Value	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm ) 7440-22-4	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Dapsone 80-08-0	LD50	> 2.000 mg/kg	rabbit	EPA OPP 81-2 (Acute Dermal Toxicity)

**Acute inhalative toxicity:**

May cause irritation to respiratory system.

No substance data available.

No substance 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 9003-36-5	irritating	4 h	rabbit	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
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
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)

**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 9003-36-5	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
1,4-Bis(2,3- epoxypropoxy)butane 2425-79-8	sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Dapsone 80-08-0	not 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.

<b>Hazardous substances CAS-No.</b>	<b>Result</b>	<b>Type of study / Route of administration</b>	<b>Metabolic activation / Exposure time</b>	<b>Species</b>	<b>Method</b>
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)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
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)
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	positive	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	positive	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Dapsone 80-08-0	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Dapsone 80-08-0	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	negative	oral: gavage		rat	OECD Guideline 486 (Unscheduled DNA Synthesis (UDS) Test with Mammalian Liver Cells in vivo)
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Dapsone 80-08-0	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

**Carcinogenicity**

No data available.

**Reproductive toxicity:**

No data available.

**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.

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	NOAEL 250 mg/kg	oral: gavage	13 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
1,4-Bis(2,3- epoxypropoxy)butane 2425-79-8	NOAEL 200 mg/kg	oral: gavage	28 d daily	rat	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)

**Aspiration hazard:**

No data available.

**SECTION 12: Ecological information****12.1. Toxicity****Toxicity (Fish):**

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm ) 7440-22-4	LC50	0,0012 mg/l	96 h	Pimephales promelas	other guideline:
Silver >= 99,9 % Ag in powder (>100nm<1mm ) 7440-22-4	EC10	0,00019 mg/l	217 d	Salmo trutta	OECD Guideline 210 (fish early lite stage toxicity test)
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	LC50	24 mg/l	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)
Dapsone 80-08-0	LC50	> 100 mg/l	96 h	Cyprinus carpio	OECD Guideline 203 (Fish, Acute Toxicity Test)

**Toxicity (Daphnia):**

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm ) 7440-22-4	EC50	0,00022 mg/l	48 h	Daphnia magna	other guideline:
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	EC50	1,6 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	EC50	75 mg/l	24 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

**Chronic toxicity to aquatic invertebrates**

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm ) 7440-22-4	NOEC	0,00032 mg/l	21 d	Daphnia magna	EPA OPPTS 850.1300 (Daphnid Chronic Toxicity Test)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Dapsone 80-08-0	NOEC	0,22 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.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm ) 7440-22-4	EC10	0,00016 mg/l	15 d	other:	other guideline:
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	EC50	1,8 mg/l	72 h		OECD Guideline 201 (Alga, Growth Inhibition Test)
Dapsone 80-08-0	EC50	2,7 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)

#### Toxicity to microorganisms

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	EC 50	> 100 mg/l	3 h		OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Dapsone 80-08-0	EC50	> 1.000 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

#### 12.2. Persistence and degradability

The product is not biodegradable.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5		aerobic	5 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8		aerobic	38 %	28 d	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
Dapsone 80-08-0	not readily biodegradable.	aerobic	> 0 - < 1 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

#### 12.3. Bioaccumulative potential

No data available.

Hazardous substances CAS-No.	Bioconcentration factor (BCF)	Exposure time	Temperature	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm ) 7440-22-4	70	42 d	20 °C	Cyprinus carpio	other guideline:

#### 12.4. Mobility in soil

Cured adhesives are immobile.

Hazardous substances CAS-No.	LogPow	Temperature	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)
Dapsone 80-08-0	0,97	25 °C	QSAR (Quantitative Structure Activity Relationship)

#### 12.5. Results of PBT and vPvB assessment

Hazardous substances 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.
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	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.
Dapsone 80-08-0	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	3082
RID	3082
ADN	3082
IMDG	3082
IATA	3082

**14.2. UN proper shipping name**

ADR	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Silver)
RID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Silver)
ADN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Silver)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Silver)
IATA	Environmentally hazardous substance, liquid, 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.

#### National regulations/information (Germany):

WGK: WGK = 3, highly water endangering product. Classification according to the mixture rules in German VwVwS regulation annex 4 from 27 July 2005.

WGK: WGK = 3, highly water endangering mixture. Classification according to the mixture rules in German AwSV regulation annex 1, number 5.2 from 18. April 2017.

Storage class according to TRGS 510: 10

### 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.

H332 Harmful if inhaled.

H371 May cause damage to organs.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

H411 Toxic to aquatic life with long lasting effects.

H412 Harmful to aquatic life with long lasting effects.

#### 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.**