



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

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LOCTITE EDAG AV 458 E<(>&<)>C

SDS No. : 635001
V001.0

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

1.1. Product identifier

LOCTITE EDAG AV 458 E<(>&<)>C

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

Intended use:

Coating

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):

Corrosive to metals	Category 1
H290 May be corrosive to metals.	
Serious eye irritation	Category 2
H319 Causes serious eye irritation.	
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:	Warning
Hazard statement:	H290 May be corrosive to metals. H319 Causes serious eye irritation. H410 Very toxic to aquatic life with long lasting effects.
Precautionary statement:	P280 Wear eye protection/face protection.
Prevention	

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****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	20- 40 %	Aquatic Acute 1 H400 Aquatic Chronic 1 H410 M factor (Acute Aquat Tox): 10 M factor (Chron Aquat Tox): 10
Methoxypropyl acetate 2- 108-65-6	203-603-9 01-2119475791-29	5- < 10 %	Flam. Liq. 3 H226
2-(2-Butoxyethoxy)ethanol 112-34-5	203-961-6 01-2119475104-44	20- 40 %	Eye Irrit. 2 H319
Silver chloride 7783-90-6	232-033-3	20- 40 %	Met. Corr. 1 H290 Aquatic Acute 1 H400 Aquatic Chronic 1 H410 M factor (Acute Aquat Tox): 1.000 M factor (Chron Aquat Tox): 100

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:**

Fresh air, oxygen supply, warmth; seek specialist medical attention.

Skin contact:

Immediately wash skin thoroughly with soap and water.

In case of adverse health effects seek medical advice.

Eye contact:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

In case of adverse health effects seek medical advice.

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

EYE: Irritation, conjunctivitis.

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:**

Carbon dioxide, foam, powder

Fine water spray

Extinguishing media which must not be used for safety reasons:

Water jet (solvent-containing product).

5.2. Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in fires.

5.3. Advice for firefighters

Wear self-contained breathing apparatus.

Wear protective equipment.

Additional information:

Cool endangered containers with water spray jet.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Avoid contact with skin and eyes.

Danger of slipping on spilled product.

6.2. Environmental precautions

Do not empty into drains / surface water / ground water.

6.3. Methods and material for containment and cleaning up

Remove with liquid-absorbing material (sand, peat, sawdust).

Dispose of contaminated material as waste according to Section 13.

6.4. Reference to other sections

See advice in section 8

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Avoid skin and eye contact.

Ensure that workrooms are adequately ventilated.

See advice in section 8

Take measures to prevent the build-up of electrostatic charges.

Hygiene measures:

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

Store in sealed original container.

Temperatures between + 5 °C and + 30 °C

Protect from direct sunlight.

Keep only in original container.

7.3. Specific end use(s)

Coating

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
2-(2-Butoxyethoxy)ethanol 112-34-5 [2-(2-BUTOXYETHOXY)ETHANOL]	10	67,5	Time Weighted Average (TWA):		EH40 WEL
2-(2-Butoxyethoxy)ethanol 112-34-5 [2-(2-BUTOXYETHOXY)ETHANOL]	15	101,2	Short Term Exposure Limit (STEL):		EH40 WEL
2-(2-Butoxyethoxy)ethanol 112-34-5 [2-(2-BUTOXYETHOXY)ETHANOL]	10	67,5	Time Weighted Average (TWA):	Indicative	ECTLV
2-(2-Butoxyethoxy)ethanol 112-34-5 [2-(2-BUTOXYETHOXY)ETHANOL]	15	101,2	Short Term Exposure Limit (STEL):	Indicative	ECTLV
2-Methoxy-1-methylethyl acetate 108-65-6 [2-METHOXY-1-METHYLETHYLACETATE]			Skin designation:	Can be absorbed through the skin.	ECTLV
2-Methoxy-1-methylethyl acetate 108-65-6 [1-METHOXYPROPYL ACETATE]	100	548	Short Term Exposure Limit (STEL):		EH40 WEL
2-Methoxy-1-methylethyl acetate 108-65-6 [1-METHOXYPROPYL ACETATE]	50	274	Time Weighted Average (TWA):		EH40 WEL
2-Methoxy-1-methylethyl acetate 108-65-6 [1-METHOXYPROPYL ACETATE]			Skin designation:	Can be absorbed through the skin.	EH40 WEL
2-Methoxy-1-methylethyl acetate 108-65-6 [2-METHOXY-1-METHYLETHYLACETATE]	100	550	Short Term Exposure Limit (STEL):	Indicative	ECTLV
2-Methoxy-1-methylethyl acetate 108-65-6 [2-METHOXY-1-METHYLETHYLACETATE]	50	275	Time Weighted Average (TWA):	Indicative	ECTLV

Occupational Exposure Limits

Valid 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
2-(2-Butoxyethoxy)ethanol 112-34-5 [2-(2-BUTOXYETHOXY)ETHANOL]	15	101,2	Short Term Exposure Limit (STEL):	Indicative OELV	IR_OEL
2-(2-Butoxyethoxy)ethanol 112-34-5 [2-(2-BUTOXYETHOXY)ETHANOL]	10	67,5	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
2-(2-Butoxyethoxy)ethanol 112-34-5 [2-(2-BUTOXYETHOXY)ETHANOL]	10	67,5	Time Weighted Average (TWA):	Indicative	ECTLV

2-(2-Butoxyethoxy)ethanol 112-34-5 [2-(2-BUTOXYETHOXY)ETHANOL]	15	101,2	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Silver chloride 7783-90-6 [SILVER COMPOUNDS (AS AG)]		0,01	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
2-Methoxy-1-methylethyl acetate 108-65-6 [2-METHOXY-1- METHYLETHYLACETATE]			Skin designation:	Can be absorbed through the skin.	ECTLV
2-Methoxy-1-methylethyl acetate 108-65-6 [2-METHOXY-1- METHYLETHYLACETATE]			Skin designation:	Can be absorbed through the skin.	IR_OEL
2-Methoxy-1-methylethyl acetate 108-65-6 [2-METHOXY-1- METHYLETHYLACETATE]	100	550	Short Term Exposure Limit (STEL):	Indicative OELV	IR_OEL
2-Methoxy-1-methylethyl acetate 108-65-6 [2-METHOXY-1- METHYLETHYLACETATE]	50	275	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
2-Methoxy-1-methylethyl acetate 108-65-6 [2-METHOXY-1- METHYLETHYLACETATE]	100	550	Short Term Exposure Limit (STEL):	Indicative	ECTLV
2-Methoxy-1-methylethyl acetate 108-65-6 [2-METHOXY-1- METHYLETHYLACETATE]	50	275	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<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		
1-Methoxy-2-propyl 108-65-6	aqua (freshwater)		0,635 mg/l				
1-Methoxy-2-propyl 108-65-6	aqua (marine water)		0,0635 mg/l				
1-Methoxy-2-propyl 108-65-6	aqua (intermittent releases)		6,35 mg/l				
1-Methoxy-2-propyl 108-65-6	sewage treatment plant (STP)		100 mg/l				
1-Methoxy-2-propyl 108-65-6	sediment (freshwater)				3,29 mg/kg		
1-Methoxy-2-propyl 108-65-6	sediment (marine water)				0,329 mg/kg		
1-Methoxy-2-propyl 108-65-6	soil				0,29 mg/kg		
2-(2-Butoxyethoxy)ethanol 112-34-5	aqua (freshwater)		1 mg/l				
2-(2-Butoxyethoxy)ethanol 112-34-5	aqua (marine water)		0,1 mg/l				
2-(2-Butoxyethoxy)ethanol 112-34-5	aqua (intermittent releases)		3,9 mg/l				
2-(2-Butoxyethoxy)ethanol 112-34-5	sediment (freshwater)				4 mg/kg		
2-(2-Butoxyethoxy)ethanol 112-34-5	sediment (marine water)				0,4 mg/kg		
2-(2-Butoxyethoxy)ethanol 112-34-5	sewage treatment plant (STP)		200 mg/l				
2-(2-Butoxyethoxy)ethanol 112-34-5	oral				56 mg/kg		
2-(2-Butoxyethoxy)ethanol 112-34-5	soil				0,4 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/m ³	
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/m ³	
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	
1-Methoxy-2-propyl 108-65-6	Workers	dermal	Long term exposure - systemic effects		153,5 mg/kg	
1-Methoxy-2-propyl 108-65-6	Workers	Inhalation	Long term exposure - systemic effects		275 mg/m ³	
1-Methoxy-2-propyl 108-65-6	General population	dermal	Long term exposure - systemic effects		54,8 mg/kg	
1-Methoxy-2-propyl 108-65-6	General population	Inhalation	Long term exposure - systemic effects		33 mg/m ³	
1-Methoxy-2-propyl 108-65-6	General population	oral	Long term exposure - systemic effects		1,67 mg/kg	
2-(2-Butoxyethoxy)ethanol 112-34-5	Workers	inhalation	Long term exposure - systemic effects		67,5 mg/m ³	
2-(2-Butoxyethoxy)ethanol 112-34-5	Workers	dermal	Long term exposure - systemic effects		83 mg/kg	
2-(2-Butoxyethoxy)ethanol 112-34-5	General population	inhalation	Acute/short term exposure - local effects		60,7 mg/m ³	
2-(2-Butoxyethoxy)ethanol 112-34-5	General population	inhalation	Long term exposure - systemic effects		40,5 mg/m ³	
2-(2-Butoxyethoxy)ethanol 112-34-5	General population	dermal	Long term exposure - systemic effects		50 mg/kg	
2-(2-Butoxyethoxy)ethanol 112-34-5	Workers	inhalation	Acute/short term exposure - local effects		101,2 mg/m ³	
2-(2-Butoxyethoxy)ethanol 112-34-5	Workers	inhalation	Long term exposure - local effects		67,5 mg/m ³	
2-(2-Butoxyethoxy)ethanol 112-34-5	General population	oral	Long term exposure - systemic effects		5 mg/kg	
2-(2-Butoxyethoxy)ethanol 112-34-5	General population	inhalation	Long term exposure - local effects		40,5 mg/m ³	

Biological Exposure Indices:

None

8.2. Exposure controls:

Engineering controls:

Ensure good ventilation/suction at the workplace.

Respiratory protection:

In case of aerosol formation, we recommend wearing of appropriate respiratory protection equipment with ABEK P2 filter (EN 14387).

This recommendation should be matched to local conditions.

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): Isobutylene-isoprene rubber (IIR; ≥ 0.7 mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Isobutylene-isoprene rubber (IIR; ≥ 0.7 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:

Protective goggles

Protective eye equipment should conform to EN166.

Skin protection:

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 Silvery
Odor	Acetate
Odour threshold	No data available / Not applicable
pH	Not applicable
Melting point	No data available / Not applicable
Solidification temperature	No data available / Not applicable
Initial boiling point	Not applicable
Flash point	62 °C (143.6 °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 (20 °C (68 °F))	1,920 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 (; 20 °C (68 °F))	22.500 mPa.s
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 strong oxidants.

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 used according to specifications.

10.5. Incompatible materials

See section reactivity.

10.6. Hazardous decomposition products

None if used for intended purpose.

In case of fire toxic gases can be released.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:

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

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)
Methoxypropyl acetate 2- 108-65-6	LD50	6.190 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
2-(2- Butoxyethoxy)ethanol 112-34-5	LD50	> 2.000 mg/kg	rat	EU Method B.1 (Acute Toxicity (Oral))

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)
Methoxypropyl acetate 2- 108-65-6	LD50	> 5.000 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
2-(2- Butoxyethoxy)ethanol 112-34-5	LD50	2.764 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)

Acute inhalative toxicity:

No data available.

Skin corrosion/irritation:

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

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Methoxypropyl acetate 2-108-65-6	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
2-(2-Butoxyethoxy)ethanol 112-34-5	not irritating		rabbit	Draize Test

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
Methoxypropyl acetate 2-108-65-6	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
2-(2-Butoxyethoxy)ethanol 112-34-5	moderately irritating		rabbit	not specified

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
Methoxypropyl acetate 2-108-65-6	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
2-(2-Butoxyethoxy)ethanol 112-34-5	not sensitising	Guinea pig maximisation test	guinea pig	Magnusson and Kligman Method

Germ cell mutagenicity:

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

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
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)
Methoxypropyl acetate 2-108-65-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Methoxypropyl acetate 2-108-65-6	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Methoxypropyl acetate 2-108-65-6	negative	DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro	without		OECD Guideline 482 (Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells In Vitro)
2-(2-Butoxyethoxy)ethanol 112-34-5	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)

Carcinogenicity

No data available.

Reproductive toxicity:

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

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
Methoxypropyl acetate 2-108-65-6	NOAEL P 1.000 mg/kg NOAEL F1 1.000 mg/kg	screening	oral: gavage	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

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
Methoxypropyl acetate 2-108-65-6	NOAEL >= 1.000 mg/kg	oral: gavage	41 - 45 d daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
2-(2-Butoxyethoxy)ethanol 112-34-5	NOAEL < 50 mg/kg	oral: gavage	90 days 5 days/week	rat	not specified
2-(2-Butoxyethoxy)ethanol 112-34-5	NOAEL 2 - 6 ppm	inhalation	90 days	rat	not specified
2-(2-Butoxyethoxy)ethanol 112-34-5	NOAEL > 2.000 mg/kg	dermal	13 weeks 6 hours/day, 5 days/week	rat	not specified

Aspiration hazard:

No data available.

SECTION 12: Ecological information

General ecological information:

Do not empty into drains / surface water / ground water.

12.1. Toxicity

Toxicity (Fish):

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

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)
Methoxypropyl acetate 2-108-65-6	LC50	100 - 180 mg/l	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	OECD Guideline 203 (Fish, Acute Toxicity Test)
Methoxypropyl acetate 2-108-65-6	LC50	63,5 mg/l	14 d	Oryzias latipes	OECD Guideline 204 (Fish, Prolonged Toxicity Test: 14-day Study)
2-(2-Butoxyethoxy)ethanol 112-34-5	LC50	1.300 mg/l	96 h	Lepomis macrochirus	OECD Guideline 203 (Fish, Acute Toxicity Test)
Silver chloride 7783-90-6	LC50	1,93 mg/l	96 h	Pimephales promelas	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:
Methoxypropyl acetate 2-108-65-6	EC50	> 500 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2-(2-Butoxyethoxy)ethanol 112-34-5	EC50	3.300 mg/l	24 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Silver chloride 7783-90-6	EC50	0,00022 mg/l	48 h	Daphnia magna	not specified

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)
Methoxypropyl acetate 2-108-65-6	NOEC	> 100 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:
Methoxypropyl acetate 2-108-65-6	NOEC	> 1.000 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Methoxypropyl acetate 2-108-65-6	EC50	> 1.000 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-(2-Butoxyethoxy)ethanol 112-34-5	NOEC	> 100 mg/l	96 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-(2-Butoxyethoxy)ethanol 112-34-5	EC50	> 100 mg/l	96 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Silver chloride 7783-90-6	EC10	0,00041 mg/l	24 h	Pseudokirchneriella subcapitata	not specified

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
Methoxypropyl acetate 2-108-65-6	EC 50	> 100 mg/l			not specified
2-(2-Butoxyethoxy)ethanol 112-34-5	EC10	> 1.995 mg/l	30 min	activated sludge, industrial	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Silver chloride 7783-90-6	EC10	0,006 mg/l	16 h		DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)

12.2. Persistence and degradability

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Methoxypropyl acetate 2-108-65-6	inherently biodegradable	aerobic	100 %	8 d	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
Methoxypropyl acetate 2-108-65-6	readily biodegradable		90 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
2-(2-Butoxyethoxy)ethanol 112-34-5	inherently biodegradable	aerobic	100 %	9 d	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
2-(2-Butoxyethoxy)ethanol 112-34-5	readily biodegradable	aerobic	> 60 %	28 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))

12.3. Bioaccumulative potential

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

Hazardous substances CAS-No.	LogPow	Temperature	Method
Methoxypropyl acetate 2-108-65-6	0,56		not specified
2-(2-Butoxyethoxy)ethanol 112-34-5	1	20 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)

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.
Methoxypropyl acetate 2-108-65-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
2-(2-Butoxyethoxy)ethanol 112-34-5	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Silver chloride 7783-90-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Other adverse effects

Do not empty into drains, soil or bodies of water.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:

In consultation with the responsible local authority, must be subjected to special treatment.

Waste code

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.

06 04 05 - wastes containing other heavy metals

SECTION 14: Transport information

14.1. UN number

ADR	1760
RID	1760
ADN	1760
IMDG	1760
IATA	1760

14.2. UN proper shipping name

ADR	CORROSIVE LIQUID, N.O.S. (Silver chloride)
RID	CORROSIVE LIQUID, N.O.S. (Silver chloride)
ADN	CORROSIVE LIQUID, N.O.S. (Silver chloride)
IMDG	CORROSIVE LIQUID, N.O.S. (Silver chloride,Silver)
IATA	Corrosive liquid, n.o.s. (Silver chloride)

14.3. Transport hazard class(es)

ADR	8
RID	8
ADN	8
IMDG	8
IATA	8

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	not applicable

14.6. Special precautions for user

ADR	not applicable Tunnelcode: (E)
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

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 (2010/75/EU)	8,5 %
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15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

National regulations/information (Great Britain):

Remarks	Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, e.g COSHH Essentials. EH40 Occupational Exposure Limits Chemicals (Hazard Information & Packaging for Supply) Regulations. The Personnel Protective Equipment at Work Regulations. The Carriage of Dangerous Goods by Road Regulations. The Health & Safety at Work Act 1974. (Note: Use latest editions/amendments of above referenced documents.)
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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:

- H226 Flammable liquid and vapor.
- H290 May be corrosive to metals.
- H319 Causes serious eye irritation.
- H400 Very toxic to aquatic life.
- H410 Very toxic 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.