



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

Page 1 of 17

LOCTITE ABLESTIK QMI2569 known as Hysol QMI2569 (155g)

SDS No. : 255523
V005.0

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Replaces version from: 26.06.2024

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

1.1. Product identifier

LOCTITE ABLESTIK QMI2569 known as Hysol QMI2569 (155g)
UFI: WCJE-7XEF-X20H-N9QU

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

Intended use:
Die attach adhesive

1.3. Details of the supplier of the safety data sheet

Henkel AG & Co. KGaA
Henkelstr. 67
40589 Düsseldorf

Germany

Phone: +49 211 797 0

SDSinfo.Adhesive@henkel.com

For Safety Data Sheet updates please visit our website www.mysds.henkel.com or www.henkel-adhesives.com.

1.4. Emergency telephone number

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Toxic to reproduction	Category 1A
H360Df May damage the unborn child. Suspected of damaging fertility.	
Specific target organ toxicity - repeated exposure	Category 2
H373 May cause damage to organs through prolonged or repeated exposure.	
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:



Contains

Chemical frits (containing lead)

Silver $\geq 99,9$ % Ag in powder ($>100\text{nm}<1\text{mm}$)

Signal word:

Danger

Hazard statement:

H360Df May damage the unborn child. Suspected of damaging fertility.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Supplemental information

Restricted to professional users.

**Precautionary statement:
Prevention**

P201 Obtain special instructions before use.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing.

**Precautionary statement:
Response**

P308+P313 IF exposed or concerned: Get medical advice/attention.

2.3. Other hazards

None if used properly.

Following substances are present in a concentration $\geq$ the concentration limit for depiction in Section 3 and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in a concentration $\geq$ the concentration limit for depiction in Section 3 that are assessed to be a PBT, vPvB or ED.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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

Hazardous components CAS-No. EC Number REACH-Reg No.	Concentration	Classification	Specific Conc. Limits, M- factors and ATEs	Add. Information
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4 231-131-3 01-2119555669-21	50- < 100 %	Repr. 2, H361f STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M acute = 10 M chronic = 10	EU OEL
Chemical frits (containing lead) 65997-18-4 266-047-6	10- < 20 %	Aquatic Acute 1, H400 Repr. 1A, H360Df Aquatic Chronic 1, H410 STOT RE 2, H373 Acute Tox. 4, Oral, H302 Acute Tox. 4, Inhalation, H332	Repr. 2; H361f; C >= 2,5 % STOT RE 2; H373; C >= 0,5 % ===== M acute = 1 M chronic = 1	
1-isopropyl-2,2- dimethyltrimethylene diisobutyrate 6846-50-0 229-934-9 01-2119451093-47	1- < 3 %	Aquatic Chronic 3, H412 Repr. 2, H361d		
p-Menth-1-en-8-ol 98-55-5 202-680-6 01-2119980717-23	1- < 5 %	Skin Irrit. 2, H315 Eye Irrit. 2, H319		

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

For full text of the H - statements and other abbreviations see section 16 "Other information".

SECTION 4: First aid measures**4.1. Description of first aid measures**

Inhalation:

Move to fresh air. If symptoms persist, seek medical advice.

Skin contact:

Rinse with running water and soap.

Obtain medical attention if irritation persists.

Eye contact:

Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.

Ingestion:

Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

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

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).

Prolonged or repeated contact may cause skin irritation.

Prolonged or repeated contact may cause eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

water, carbon dioxide, foam, powder

Extinguishing media which must not be used for safety reasons:

High pressure waterjet

5.2. Special hazards arising from the substance or mixture

In the event of a fire, carbon monoxide (CO), carbon dioxide (CO₂) and nitrogen oxides (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.

Wear protective equipment.

Ensure adequate ventilation.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Dispose of contaminated material as waste according to Section 13.

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:

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

Good industrial hygiene practices should be observed.

7.2. Conditions for safe storage, including any incompatibilities

Store in sealed original container.

Protect against contamination.

Store in a cool, dry place.

Must be stored in a room with spill collection facilities.

Keep away from heat and direct sunlight.

Refer to Technical Data Sheet.

Do not store together with food or other consumables (coffee, tea, tobacco, etc.).

Do not store with strongly acidic or strongly alkaline products.

7.3. Specific end use(s)

Die attach adhesive

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Germany

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	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						no hazard identified
Silver >= 99,9 % Ag as powder (>100nm<1mm) classified for environment 7440-22-4	Soil				1,41 mg/kg		
1-Isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	aqua (freshwater)		0,014 mg/l				
1-Isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	aqua (marine water)		0,0014 mg/l				
1-Isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	sediment (freshwater)				5,29 mg/kg		
1-Isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	sediment (marine water)				0,529 mg/kg		
1-Isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	Soil				1,05 mg/kg		
1-Isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	sewage treatment plant (STP)		3 mg/l				
1-Isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	oral				83,3 mg/kg		
1-Isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	aqua (intermittent releases)		0,14 mg/l				

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	no hazard identified
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	no hazard identified
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	no hazard identified
1-Isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	Workers	dermal	Long term exposure - systemic effects		5 mg/kg	
1-Isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	Workers	inhalation	Long term exposure - systemic effects		17,62 mg/m3	
1-Isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	General population	dermal	Long term exposure - systemic effects		5 mg/kg	
1-Isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	General population	inhalation	Long term exposure - systemic effects		4,35 mg/m3	
1-Isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	General population	oral	Long term exposure - systemic effects		5 mg/kg	

Biological Exposure Indices:

None

8.2. Exposure controls:**Engineering controls:**

Ensure good ventilation/extraction.

Respiratory protection:

Ensure adequate ventilation.

An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area

Filter type: A (EN 14387)

Hand protection:

Chemical-resistant protective gloves (EN 374).

Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):

nitrile rubber (NBR; >= 0.4 mm thickness)

Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):

nitrile rubber (NBR; >= 0.4 mm thickness)

This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:

Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.

Protective eye equipment should conform to EN166.

Skin protection:

Wear suitable protective clothing.

Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:

The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions. Personal protective equipment should conform to the relevant EN standard.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Delivery form	liquid
Colour	Silver
Odor	Of hydrocarbons
Physical state	liquid
Melting point	Not applicable, Product is a liquid
Solidification temperature	< -40 °C (< -40 °F)
Initial boiling point	Not applicable, Polymerizes before boiling point is reached.
Flammability	The product is not flammable.
Explosive limits	Not applicable, The product is not flammable.
Flash point	81,11 °C (178 °F); Closed cup
Auto-ignition temperature	> 200 °C (> 392 °F)
Decomposition temperature	> 200 °C (> 392 °F);
pH	Product is non-soluble (in water),, Not applicable
Viscosity (kinematic) (40 °C (104 °F);)	> 20,5 mm2/s thixotropic
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Insoluble
Partition coefficient: n-octanol/water	Not applicable
Vapour pressure (20 °C (68 °F))	Mixture < 0,1 hPa
Density (20 °C (68 °F))	3,8 g/cm3 None
Relative vapour density: (20 °C)	Heavier than air
Particle characteristics	Not applicable Product is a liquid

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity

10.1. Reactivity

None if used properly.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

Stable under normal conditions of storage and use.

10.5. Incompatible materials

None if used properly.

SECTION 11: Toxicological information**General toxicological information:**

Prolonged or repeated contact may cause skin irritation.

Prolonged or repeated contact may cause eye irritation.

Chronic overexposure to lead may result in damage to the blood forming, nervous, urinary and reproductive systems. Severe lead toxicity will cause sterility, abortion and neonatal mortality and morbidity.

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**Acute oral toxicity:**

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

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)
1-isopropyl-2,2- dimethyltrimethylene diisobutyrate 6846-50-0	LD50	> 2.000 mg/kg	rat	OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure)
p-Menth-1-en-8-ol 98-55-5	LD50	2.830 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)
1-isopropyl-2,2- dimethyltrimethylene diisobutyrate 6846-50-0	LD50	> 2.000 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
p-Menth-1-en-8-ol 98-55-5	LD50	> 3.000 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)

Acute inhalative toxicity:

No substance data available.

No substance data available.

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
1-isopropyl-2,2- dimethyltrimethylene diisobutyrate 6846-50-0	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
p-Menth-1-en-8-ol 98-55-5	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
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
p-Menth-1-en-8-ol 98-55-5	irritating		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
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	not sensitising	Patch-Test	human	Patch Test
p-Menth-1-en-8-ol 98-55-5	not sensitising	Skin sensitisation	rat	not specified

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)
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		EU Method B.13/14 (Mutagenicity)
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	negative	in vitro mammalian chromosome aberration test	with and without		equivalent or similar to OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
p-Menth-1-en-8-ol 98-55-5	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
p-Menth-1-en-8-ol 98-55-5	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
p-Menth-1-en-8-ol 98-55-5	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)

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
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	NOAEL P 276 mg/kg	screening	oral: feed	rat	OECD Guideline 421 (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
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	NOAEL 150 mg/kg	oral: feed	13 w daily	rat	FDA Guideline
p-Menth-1-en-8-ol 98-55-5	NOAEL >= 314 mg/kg	oral: feed	20 w daily	rat	equivalent or similar to OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

Aspiration hazard:

No data available.

11.2 Information on other hazards

not applicable

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

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

12.1. Toxicity**Toxicity (Fish):**

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

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
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-isopropyl-2,2- dimethyltrimethylene diisobutyrate 6846-50-0	LC50	6 mg/l	96 h	Lepomis macrochirus	OECD Guideline 203 (Fish, Acute Toxicity Test)
p-Menth-1-en-8-ol 98-55-5	LC50	> 10 - 100 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)

Toxicity (aquatic invertebrates):

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

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	EC50	0,00022 mg/l	48 h	Daphnia magna	other guideline:
1-isopropyl-2,2- dimethyltrimethylene diisobutyrate 6846-50-0	EC50	> 1,46 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Chronic toxicity (aquatic invertebrates):

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
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)
1-isopropyl-2,2- dimethyltrimethylene diisobutyrate 6846-50-0	NOEC	0,7 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

Toxicity (Algae):

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

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	EC10	0,00016 mg/l	15 d	other:	other guideline:
1-isopropyl-2,2- dimethyltrimethylene diisobutyrate 6846-50-0	NOEC	3,56 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
1-isopropyl-2,2- dimethyltrimethylene diisobutyrate 6846-50-0	EC50	> 7,49 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)

Toxicity (microorganisms):

No data available.

12.2. Persistence and degradability

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
1-isopropyl-2,2- dimethyltrimethylene diisobutyrate 6846-50-0	not readily biodegradable.	aerobic	70,73 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
1-isopropyl-2,2- dimethyltrimethylene diisobutyrate 6846-50-0	inherently biodegradable	aerobic	70,73 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
p-Menth-1-en-8-ol 98-55-5	readily biodegradable	aerobic	100 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)

12.3. Bioaccumulative potential

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Bioconcentratio n 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:
1-isopropyl-2,2- dimethyltrimethylene diisobutyrate 6846-50-0	> 183 - 194			fish	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)

12.4. Mobility in soil

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	LogPow	Temperature	Method
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	> 4,04 - 4,91		OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
p-Menth-1-en-8-ol 98-55-5	2,98		not specified

12.5. Results of PBT and vPvB assessment

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	PBT / vPvB
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.
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate 6846-50-0	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Endocrine disrupting properties

not applicable

12.7. Other adverse effects

The product contains wastewater-relevant heavy metals. Officially determined threshold values for wastewater (also for partial flows, if applicable) and local discharge guidelines must be observed.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:

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

Dispose of in accordance with local and national regulations.

Disposal of uncleaned packages:

After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorised legal land fill site or incinerated.

Waste code

08 04 09* waste adhesives and sealants containing organic solvents and other dangerous substances

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

SECTION 14: Transport information**14.1. UN number or ID number**

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

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), A197 (IATA), 2.10.2.7 (IMDG), NZ 4.3(10) may be applied, which can result in a deviation from the transport classification for packed goods.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Ozone Depleting Substance (ODS) (Regulation (EC) No 2024/590):	Not applicable
Prior Informed Consent (PIC) (Regulation (EU) No 649/2012):	Chemical frits (containing lead) CAS 65997-18-4
Persistent organic pollutants (Regulation (EU) 2019/1021):	Not applicable
VOC content (2010/75/EC)	< 3 %

National regulations/information (Germany):

WGK:	WGK 3: highly hazardous to water (Ordinance on facilities for handling substances that are hazardous to water (AwSV)) Classification according to AwSV, Annex 1 (5.2)
Storage class according to TRGS 510:	6.1B
General remarks (DE):	This product is in scope of the German regulation "ChemikalienVerbotsVerordnung"

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.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H360Df May damage the unborn child. Suspected of damaging fertility.
H361d Suspected of damaging the unborn child.
H361f Suspected of damaging fertility.
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.
H412 Harmful to aquatic life with long lasting effects.

ED:	Substance identified as having endocrine disrupting properties
EU OEL:	Substance with a Union workplace exposure limit
EU EXPLD 1:	Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD 2	Substance listed in Annex II, Reg (EC) No. 2019/1148
SVHC:	Substance of very high concern (REACH Candidate List)
PBT:	Substance fulfilling persistent, bioaccumulative and toxic criteria
PBT/vPvB:	Substance fulfilling persistent, bioaccumulative and toxic plus very persistent and very bioaccumulative criteria
vPvB:	Substance fulfilling very persistent and very bioaccumulative criteria

Further information:

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

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