



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

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LOCTITE ABLESTIK 59C known as ECCOBOND 59 C 400 G

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V006.0

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

1.1. Product identifier

LOCTITE ABLESTIK 59C known as ECCOBOND 59 C 400 G

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

Intended use:
Silicone sealant

1.3. Details of the supplier of the safety data sheet

Henkel Ltd
Adhesives
Wood Lane End
HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 (1442) 278000

ua-productsafety.uk@henkel.com

For Safety Data Sheet updates please visit our website <https://mysds.henkel.com/index.html#/appSelection> or www.henkel-adhesives.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):

Flammable liquids	Category 2
H225 Highly flammable liquid and vapor.	
Skin irritation	Category 2
H315 Causes skin irritation.	
Toxic to reproduction	Category 2
H361d Suspected of damaging the unborn child.	
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**

Toluene

Signal word:

Danger

Hazard statement:

H225 Highly flammable liquid and vapor.
H315 Causes skin irritation.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statement:
Prevention**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
No smoking.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing.

**Precautionary statement:
Response**

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

**Precautionary statement:
Storage**

P403+P235 Store in a well-ventilated place. Keep cool.

2.3. Other hazards

None if used properly.

This mixture contains components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB).

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	50- 100 %	Aquatic Acute 1 H400 Aquatic Chronic 1 H410 M factor (Acute Aquat Tox): 10 M factor (Chron Aquat Tox): 10
Toluene 108-88-3	203-625-9 01-2119471310-51	10- 20 %	Flam. Liq. 2 H225 Repr. 2 H361d Asp. Tox. 1 H304 STOT RE 2; Inhalation H373 Skin Irrit. 2 H315 STOT SE 3; Inhalation H336 Aquatic Chronic 3 H412
octamethylcyclotetrasiloxane 556-67-2	209-136-7 01-2119529238-36	0,1- < 1 %	Aquatic Chronic 1 H410 Repr. 2 H361f Flam. Liq. 3 H226 ===== EU. REACH Candidate List of Substances of Very High Concern for Authorization (SVHC) M factor (Chron Aquat Tox): 10
Decamethylcyclopentasiloxane 541-02-6	208-764-9 01-2119511367-43	0,1- < 1 %	===== EU. REACH Candidate List of Substances of Very High Concern for Authorization (SVHC) EU. REACH Candidate List of Substances of Very High Concern for Authorization (SVHC)
Dodecamethylcyclohexasiloxane 540-97-6	208-762-8 01-2119517435-42	0,1- < 1 %	Aquatic Chronic 4 H413 ===== EU. REACH Candidate List of Substances of Very High Concern for Authorization (SVHC) EU. REACH Candidate List of Substances of Very High Concern for Authorization (SVHC)

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:

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

Skin contact:

Rinse with running water and soap.

Obtain medical attention if irritation persists.

Eye contact:

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

Ingestion:

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

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

SKIN: Redness, inflammation.

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 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.

Keep away from 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

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**

See advice in section 8

Avoid skin and eye contact.

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 away from sources of ignition.
Keep refrigerated
Refer to Technical Data Sheet

7.3. Specific end use(s)

Silicone sealant

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
Toluene 108-88-3 [TOLUENE]	50	191	Time Weighted Average (TWA):		EH40 WEL
Toluene 108-88-3 [TOLUENE]			Skin designation:	Can be absorbed through the skin.	EH40 WEL
Toluene 108-88-3 [TOLUENE]	50	192	Time Weighted Average (TWA):	Indicative	ECTLV
Toluene 108-88-3 [TOLUENE]	100	384	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Toluene 108-88-3 [TOLUENE]	100	384	Short Term Exposure Limit (STEL):	15 minutes	EH40 WEL

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
Toluene 108-88-3 [TOLUENE]	50	192	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
Toluene 108-88-3 [TOLUENE]			Skin designation:	Can be absorbed through the skin.	IR_OEL
Toluene 108-88-3 [TOLUENE]	50	192	Time Weighted Average (TWA):	Indicative	ECTLV
Toluene 108-88-3 [TOLUENE]	100	384	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Toluene 108-88-3 [TOLUENE]	100	384	Short Term Exposure Limit (STEL):	15 minutes Indicative OELV	IR_OEL

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		
Toluene 108-88-3	aqua (freshwater)		0,68 mg/l				
Toluene 108-88-3	sediment (freshwater)				16,39 mg/kg		
Toluene 108-88-3	sediment (marine water)				16,39 mg/kg		
Toluene 108-88-3	Soil				2,89 mg/kg		
Toluene 108-88-3	sewage treatment plant (STP)		13,61 mg/l				
Toluene 108-88-3	aqua (marine water)		0,68 mg/l				
Toluene 108-88-3	aqua (intermittent releases)		0,68 mg/l				
Octamethylcyclotetrasiloxane 556-67-2	aqua (freshwater)		0,0015 mg/l				
Octamethylcyclotetrasiloxane 556-67-2	aqua (marine water)		0,00015 mg/l				
Octamethylcyclotetrasiloxane 556-67-2	sewage treatment plant (STP)		10 mg/l				
Octamethylcyclotetrasiloxane 556-67-2	sediment (freshwater)				3 mg/kg		
Octamethylcyclotetrasiloxane 556-67-2	sediment (marine water)				0,3 mg/kg		
Octamethylcyclotetrasiloxane 556-67-2	oral				41 mg/kg		
Octamethylcyclotetrasiloxane 556-67-2	Soil				0,54 mg/kg		
Decamethylcyclopentasiloxane 541-02-6	aqua (freshwater)		0,0012 mg/l				
Decamethylcyclopentasiloxane 541-02-6	aqua (marine water)		0,00012 mg/l				
Decamethylcyclopentasiloxane 541-02-6	sewage treatment plant (STP)		10 mg/l				
Decamethylcyclopentasiloxane 541-02-6	sediment (freshwater)				11 mg/kg		
Decamethylcyclopentasiloxane 541-02-6	Soil				2,54 mg/kg		
Decamethylcyclopentasiloxane 541-02-6	oral				16 mg/kg		
Decamethylcyclopentasiloxane 541-02-6	sediment (marine water)				1,1 mg/kg		
Dodecamethylcyclohexasiloxane 540-97-6	sediment (freshwater)				13,5 mg/kg		

Dodecamethylcyclohexasiloxane 540-97-6	oral				66,7 mg/kg		
Dodecamethylcyclohexasiloxane 540-97-6	sediment (marine water)				1,35 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	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
Toluene 108-88-3	Workers	Inhalation	Acute/short term exposure - local effects		384 mg/m3	
Toluene 108-88-3	Workers	Inhalation	Acute/short term exposure - systemic effects		384 mg/m3	
Toluene 108-88-3	Workers	Inhalation	Long term exposure - local effects		192 mg/m3	
Toluene 108-88-3	Workers	Inhalation	Long term exposure - systemic effects		192 mg/m3	
Toluene 108-88-3	Workers	dermal	Long term exposure - systemic effects		384 mg/kg	
Toluene 108-88-3	General population	Inhalation	Acute/short term exposure - local effects		226 mg/m3	
Toluene 108-88-3	General population	Inhalation	Acute/short term exposure - systemic effects		226 mg/m3	
Toluene 108-88-3	General population	Inhalation	Long term exposure - systemic effects		56,5 mg/m3	
Toluene 108-88-3	General population	dermal	Long term exposure - systemic effects		226 mg/kg	
Toluene 108-88-3	General population	oral	Long term exposure - systemic effects		8,13 mg/kg	
Toluene 108-88-3	General population	inhalation	Long term exposure - local effects		56,5 mg/m3	
Octamethylcyclotetrasiloxane 556-67-2	Workers	inhalation	Long term exposure - systemic effects		73 mg/m3	
Octamethylcyclotetrasiloxane 556-67-2	Workers	inhalation	Long term exposure - local effects		73 mg/m3	
Octamethylcyclotetrasiloxane 556-67-2	General population	inhalation	Long term exposure - systemic effects		13 mg/m3	
Octamethylcyclotetrasiloxane 556-67-2	General population	inhalation	Long term exposure - local effects		13 mg/m3	
Octamethylcyclotetrasiloxane 556-67-2	General population	oral	Long term exposure - systemic effects		3,7 mg/kg	
Decamethylcyclopentasiloxane 541-02-6	Workers	inhalation	Long term exposure - systemic effects		97,3 mg/m3	
Decamethylcyclopentasiloxane 541-02-6	Workers	inhalation	Long term exposure - local effects		24,2 mg/m3	
Decamethylcyclopentasiloxane 541-02-6	General population	oral	Long term exposure - systemic effects		5 mg/kg	
Decamethylcyclopentasiloxane 541-02-6	General population	inhalation	Long term exposure - systemic effects		17,3 mg/m3	
Decamethylcyclopentasiloxane 541-02-6	General population	inhalation	Long term exposure - local		4,3 mg/m3	

			effects			
Dodecamethylcyclohexasiloxane 540-97-6	Workers	inhalation	Long term exposure - local effects		1,22 mg/m ³	
Dodecamethylcyclohexasiloxane 540-97-6	Workers	inhalation	Acute/short term exposure - local effects		6,1 mg/m ³	
Dodecamethylcyclohexasiloxane 540-97-6	General population	inhalation	Long term exposure - local effects		0,3 mg/m ³	
Dodecamethylcyclohexasiloxane 540-97-6	General population	inhalation	Acute/short term exposure - local effects		1,5 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; \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

solid

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	7 °C (44.6 °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	2,1 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

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

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)
Toluene 108-88-3	LD50	5.580 mg/kg	rat	EU Method B.1 (Acute Toxicity (Oral))
octamethylcyclotetrasiloxane 556-67-2	LD50	> 4.800 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
Decamethylcyclopentasiloxane 541-02-6	LD50	> 5.000 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
Dodecamethylcyclohexasiloxane 540-97-6	LD50	> 2.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)

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)
Toluene 108-88-3	LD50	> 5.000 mg/kg	rabbit	not specified
octamethylcyclotetrasiloxane 556-67-2	LD50	> 2.375 mg/kg	rat	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
Decamethylcyclopentasiloxane 541-02-6	LD50	> 2.000 mg/kg	rabbit	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
Dodecamethylcyclohexasiloxane 540-97-6	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)

Acute inhalative 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	Test atmosphere	Exposure time	Species	Method
Toluene 108-88-3	LC50	28,1 mg/l	vapour	4 h	rat	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)
octamethylcyclotetrasiloxane 556-67-2	LC50	36 mg/l	dust/mist	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)
Decamethylcyclopentasiloxane 541-02-6	LC50	8,67 mg/l	dust/mist	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)

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
Toluene 108-88-3	irritating	4 h	rabbit	EU Method B.4 (Acute Toxicity: Dermal Irritation / Corrosion)
octamethylcyclotetrasiloxane 556-67-2	not irritating		rabbit	equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Decamethylcyclopentasiloxane 541-02-6	not irritating	24 h	rabbit	equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Dodecamethylcyclohexasiloxane 540-97-6	not 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
Toluene 108-88-3	slightly irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
octamethylcyclotetrasiloxane 556-67-2	not irritating		rabbit	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Decamethylcyclopentasiloxane 541-02-6	not irritating		rabbit	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Dodecamethylcyclohexasiloxane 540-97-6	not 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
Toluene 108-88-3	not sensitising	Guinea pig maximisation test	guinea pig	EU Method B.6 (Skin Sensitisation)
octamethylcyclotetrasiloxane 556-67-2	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Decamethylcyclopentasiloxane 541-02-6	not sensitising	Mouse local lymphnode assay (LLNA)	mouse	equivalent or similar to OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Dodecamethylcyclohexasiloxane 540-97-6	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)

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)
Toluene 108-88-3	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		EU Method B.13/14 (Mutagenicity)
Toluene 108-88-3	negative	mammalian cell gene mutation assay	with and without		equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
octamethylcyclotetrasiloxane 556-67-2	negative	bacterial gene mutation assay	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
octamethylcyclotetrasiloxane 556-67-2	negative	in vitro mammalian chromosome aberration test	with and without		equivalent or similar to OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
octamethylcyclotetrasiloxane 556-67-2	negative	mammalian cell gene mutation assay	with and without		equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Decamethylcyclopentasiloxane 541-02-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Decamethylcyclopentasiloxane 541-02-6	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Decamethylcyclopentasiloxane 541-02-6	negative	mammalian cell gene mutation assay	with and without		equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Dodecamethylcyclohexasiloxane 540-97-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Dodecamethylcyclohexasiloxane 540-97-6	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Toluene 108-88-3	negative	intraperitoneal		rat	not specified
Toluene 108-88-3	negative	inhalation: vapour		mouse	OECD Guideline 478 (Genetic Toxicology: Rodent Dominant Lethal Test)
octamethylcyclotetrasiloxane 556-67-2	negative	inhalation		rat	equivalent or similar to OECD Guideline 475 (Mammalian Bone Marrow Chromosome Aberration Test)
octamethylcyclotetrasiloxane 556-67-2	negative	oral: gavage		rat	equivalent or similar to OECD Guideline 478 (Genetic Toxicology: Rodent Dominant Lethal Test)
Decamethylcyclopentasiloxane 541-02-6	negative	inhalation		rat	OECD Guideline 486 (Unscheduled DNA Synthesis (UDS) Test with Mammalian Liver Cells in vivo)
Decamethylcyclopentasiloxane 541-02-6	negative	inhalation: vapour		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Dodecamethylcyclohexasiloxane 540-97-6	negative	intraperitoneal		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Carcinogenicity

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

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
Toluene 108-88-3	not carcinogenic	inhalation: vapour	103 w 6.5 h/d, 5 d/w	rat	male/female	equivalent or similar OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
Decamethylcyclopentasiloxane 541-02-6	not carcinogenic	inhalation: vapour	2 y 6 h/d, 5 d/w	rat	male/female	EPA OPPTS 870.4300 (Combined Chronic Toxicity / Carcinogenicity)

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
Toluene 108-88-3	NOAEL P 7500 mg/m ³ NOAEL F1 1875 mg/m ³ NOAEL F2 1875 mg/m ³	Two generation study	inhalation: vapour	rat	OECD Guideline 416 (Two- Generation Reproduction Toxicity Study)
Toluene 108-88-3	NOAEL P 2261 mg/m ³ NOAEL F1 2261 mg/m ³	fertility	inhalation: vapour	rat	not specified
octamethylcyclotetrasiloxane 556-67-2	NOAEL P 300 ppm NOAEL F1 300 ppm	two- generation study	inhalation	rat	equivalent or similar to OECD Guideline 416 (Two- Generation Reproduction Toxicity Study)
Decamethylcyclopentasiloxane 541-02-6	NOAEL P >= 2,496 mg/l NOAEL F1 >= 2,496 mg/l NOAEL F2 >= 2,496 mg/l	two- generation study	inhalation: vapour	rat	EPA OPPTS 870.3800 (Reproduction and Fertility Effects)
Dodecamethylcyclohexasiloxane 540-97-6	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
Toluene 108-88-3	NOAEL 625 mg/kg	oral: gavage	13 w daily, 5 d/w	rat	EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents)
Toluene 108-88-3	NOAEL 1131 mg/m ³	inhalation: vapour	24 m 6.5 h/d, 5 d/w	rat	equivalent or similar to OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
Toluene 108-88-3	NOAEL 2355 mg/m ³	inhalation: vapour	15 w 6.5 h/d, 5 d/w	rat	EU Method B.29 (Sub-Chronic Inhalation Toxicity Test: 90-Day Repeated Inhalation Dose Study Using Rodent Species)
octamethylcyclotetrasiloxane 556-67-2	LOAEL 35 ppm	inhalation	6 h nose only inhalation 5 days/week for 13 weeks	rat	OECD Guideline 412 (Repeated Dose Inhalation Toxicity: 28/14-Day)
octamethylcyclotetrasiloxane 556-67-2	NOAEL 960 mg/kg	dermal	3 w 5 d/w	rabbit	equivalent or similar to OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)
Decamethylcyclopentasiloxane 541-02-6	NOAEL >= 1.000 mg/kg	oral: gavage	13 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Decamethylcyclopentasiloxane 541-02-6	NOAEL >= 2,42 mg/l	inhalation: vapour	2 y 6 h/d, 5 d/w	rat	equivalent or similar to OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
Decamethylcyclopentasiloxane 541-02-6	NOAEL >= 1.600 mg/kg	oral: gavage	28 d 6 h/d, 7 d/w	rat	equivalent or similar to OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)
Dodecamethylcyclohexasiloxane 540-97-6	NOAEL 1.000 mg/kg	oral: gavage	29 d daily, 7 d/w	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Aspiration hazard:

The mixture is classified based on Viscosity data.

Hazardous substances CAS-No.	Viscosity (kinematic) Value	Temperature	Method	Remarks
Toluene 108-88-3	0,57 mm ² /s	40 °C	not specified	

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)
Toluene 108-88-3	NOEC	3,2 mg/l	28 d	Cyprinodon variegatus	OECD Guideline 204 (Fish, Prolonged Toxicity Test: 14-day Study)
Toluene 108-88-3	LC50	5,5 mg/l	96 h	Oncorhynchus kisutch	OECD Guideline 203 (Fish, Acute Toxicity Test)
octamethylcyclotetrasiloxane 556-67-2	NOEC	0,0044 mg/l	93 d	Salmo gairdneri (new name: Oncorhynchus mykiss)	EPA OPPTS 797.1600 (Fish Early Life Stage Toxicity Test)
octamethylcyclotetrasiloxane 556-67-2	LC50	Toxicity > Water solubility	96 h	Oncorhynchus mykiss	EPA OTS 797.1400 (Fish Acute Toxicity Test)
Decamethylcyclopentasiloxane 541-02-6	LC50	Toxicity > Water solubility	96 h	Leuciscus idus	OECD Guideline 204 (Fish, Prolonged Toxicity Test: 14-day Study)
Decamethylcyclopentasiloxane 541-02-6	NOEC	Toxicity > Water solubility	90 d	Oncorhynchus mykiss	OECD Guideline 210 (fish early lite stage 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:
Toluene 108-88-3	EC50	3,78 mg/l	48 h	Ceriodaphnia dubia	other guideline:
octamethylcyclotetrasiloxane 556-67-2	EC50	Toxicity > Water solubility	48 h	Daphnia magna	EPA OTS 797.1300 (Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids)
Decamethylcyclopentasiloxane 541-02-6	EC50	Toxicity > Water solubility	48 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)
Toluene 108-88-3	NOEC	0,74 mg/l	7 d	Ceriodaphnia dubia	other guideline:
octamethylcyclotetrasiloxane 556-67-2	NOEC	7,9 µg/l	21 d	Daphnia magna	EPA OTS 797.1330 (Daphnid Chronic Toxicity Test)
Decamethylcyclopentasiloxane 541-02-6	NOEC	Toxicity > Water solubility	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Dodecamethylcyclohexasiloxane	NOEC	Toxicity > Water		Daphnia magna	OECD 211 (Daphnia

ne 540-97-6		solubility			magna, Reproduction Test)
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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:
Toluene 108-88-3	IC50	12 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
octamethylcyclotetrasiloxane 556-67-2	EC50	Toxicity > Water solubility	96 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	EPA OTS 797.1050 (Algal Toxicity, Tiers I and II)
octamethylcyclotetrasiloxane 556-67-2	EC10	0,022 mg/l	96 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	EPA OTS 797.1050 (Algal Toxicity, Tiers I and II)
Decamethylcyclopentasiloxan e 541-02-6	NOEC	Toxicity > Water solubility	96 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Decamethylcyclopentasiloxan e 541-02-6	EC50	Toxicity > Water solubility	96 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Dodecamethylcyclohexasiloxa ne 540-97-6	NOEC	Toxicity > Water solubility		Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Dodecamethylcyclohexasiloxa ne 540-97-6	EC50	Toxicity > Water solubility		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
Toluene 108-88-3	NOEC	29 mg/l	16 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm- Test)
octamethylcyclotetrasiloxane 556-67-2	EC50	Toxicity > Water solubility	3 h	activated sludge	ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge)
Decamethylcyclopentasiloxan e 541-02-6	EC50	> 2.000 mg/l	3 h	activated sludge, domestic	EU Method C.11 (Biodegradation: Activated Sludge Respiration Inhibition Test)

12.2. Persistence and degradability

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Toluene 108-88-3	readily biodegradable	aerobic	80 %	20 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
octamethylcyclotetrasiloxane 556-67-2	not readily biodegradable.	aerobic	3,7 %	29 d	OECD Guideline 310 (Ready BiodegradabilityCO2 in Sealed Vessels (Headspace Test)
Decamethylcyclopentasiloxan e 541-02-6	not readily biodegradable.	aerobic	0,14 %	28 d	OECD Guideline 310 (Ready BiodegradabilityCO2 in Sealed Vessels (Headspace Test)
Dodecamethylcyclohexasiloxa ne 540-97-6	not readily biodegradable.	aerobic	4,47 %	28 d	OECD Guideline 310 (Ready BiodegradabilityCO2 in Sealed Vessels (Headspace Test)

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:
Toluene 108-88-3	90	3 d		Leuciscus idus melanotus	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
octamethylcyclotetrasiloxane 556-67-2	12.400	28 d		Pimephales promelas	EPA OTS 797.1520 (Fish Bioconcentration Test-Rainbow Trout)
Decamethylcyclopentasiloxane 541-02-6	7.060	35 d		Pimephales promelas	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
Dodecamethylcyclohexasiloxane 540-97-6	1.160	49 d		Pimephales promelas	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)

12.4. Mobility in soil

Hazardous substances CAS-No.	LogPow	Temperature	Method
Toluene 108-88-3	2,73	20 °C	EU Method A.8 (Partition Coefficient)
octamethylcyclotetrasiloxane 556-67-2	6,488	25,1 °C	OECD Guideline 123 (Partition Coefficient (1-Octanol / Water), Slow-Stirring Method)
Decamethylcyclopentasiloxane 541-02-6	8,07	24,6 °C	other guideline:
Dodecamethylcyclohexasiloxane 540-97-6	8,87	23,6 °C	other guideline:

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.
Toluene 108-88-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
octamethylcyclotetrasiloxane 556-67-2	Fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Decamethylcyclopentasiloxane 541-02-6	Fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Dodecamethylcyclohexasiloxane 540-97-6	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:

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

ADR	1294
RID	1294
ADN	1294
IMDG	1294
IATA	1294

14.2. UN proper shipping name

ADR	TOLUENE (solution)
RID	TOLUENE (solution)
ADN	TOLUENE (solution)
IMDG	TOLUENE (Silver) (solution)
IATA	Toluene (solution)

14.3. Transport hazard class(es)

ADR	3
RID	3
ADN	3
IMDG	3
IATA	3

14.4. Packing group

ADR	II
RID	II
ADN	II
IMDG	II
IATA	II

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: (D/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

Ozone Depleting Substance (ODS) (Regulation (EC) No 1005/2009):	Not applicable
Prior Informed Consent (PIC) (Regulation (EU) No 649/2012):	Not applicable
Persistent organic pollutants (Regulation (EU) 2019/1021):	Not applicable
VOC content (2010/75/EC)	< 20 %

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:

- H225 Highly flammable liquid and vapor.
- H226 Flammable liquid and vapor.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H336 May cause drowsiness or dizziness.
- 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.
- H413 May cause long lasting harmful effects to aquatic life.

Further information:

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