



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

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LOCTITE FREKOTE FMS

SDS No. : 153847
V005.0

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

1.1. Product identifier

LOCTITE FREKOTE FMS

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

Intended use:

Release agent

1.3. Details of the supplier of the safety data sheet

Henkel AG & Co. KGaA

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Germany

Phone: +49 211 797 0

SDSinfo.Adhesive@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

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):

Flammable liquids	Category 3
H226 Flammable liquid and vapour.	
Skin irritation	Category 2
H315 Causes skin irritation.	
Serious eye irritation	Category 2
H319 Causes serious eye irritation.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Specific target organ toxicity - single exposure	Category 3
H335 May cause respiratory irritation.	
Target organ: respiratory tract irritation	
Specific target organ toxicity - single exposure	Category 3
H336 May cause drowsiness or dizziness.	
Target organ: Central nervous system	
Aspiration hazard	Category 1
H304 May be fatal if swallowed and enters airways.	
Chronic hazards to the aquatic environment	Category 3
H412 Harmful to aquatic life with long lasting effects.	

2.2. Label elements**Label elements (CLP):****Hazard pictogram:****Contains**

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics

Dibutyl ether

PDMS Polymer

Signal word:

Danger

Hazard statement:

H226 Flammable liquid and vapour.
 H304 May be fatal if swallowed and enters airways.
 H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.
 H335 May cause respiratory irritation.
 H336 May cause drowsiness or dizziness.
 H412 Harmful 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.
 P261 Avoid breathing vapors.
 P273 Avoid release to the environment.
 P280 Wear protective gloves.

**Precautionary statement:
Response**

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/...
 P331 Do NOT induce vomiting.
 P302+P352 IF ON SKIN: Wash with plenty of soap and water.
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 P337+P313 If eye irritation persists: Get medical advice/attention.

**Precautionary statement:
Storage**

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

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):

octamethylcyclotetrasiloxane 556-67-2	PBT/vPvB
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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
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9 927-241-2 01-2119471843-32	50- 100 %	Asp. Tox. 1, H304 Flam. Liq. 3, H226 STOT SE 3, H336 Aquatic Chronic 3, H412		
Dibutyl ether 142-96-1 205-575-3 01-2119982240-42	2,5- < 25 %	Flam. Liq. 3, H226 Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Aquatic Chronic 3, H412	STOT SE 3; H335; C >= 10 %	
PDMS Polymer 1432471-92-5	1- < 3 %	Flam. Liq. 1, H224 Pyr. Liq. 1, H250 Water-react. 1, H260 Acute Tox. 4, Inhalation, H332 STOT SE 3, H335 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317		
octamethylcyclotetrasiloxane 556-67-2 209-136-7 01-2119529238-36	0,0025- < 0,025 % (25 ppm- < 250 ppm)	Aquatic Chronic 1, H410 Repr. 2, H361f Flam. Liq. 3, H226	M chronic = 10	SVHC PBT/vPvB

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.

After ingestion or vomit: danger of product entering the lung.

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

SKIN: Rash, Urticaria.

RESPIRATORY: Irritation, coughing, shortness of breath, chest tightness.

SKIN: Redness, inflammation.

EYE: Irritation, conjunctivitis.

ASPIRATION: Coughing, shortness of breath, nausea. Delayed effect: bronchopneumonia or pulmonary oedema

Vapors may cause drowsiness and dizziness.

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

Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause bronchopneumonia or pulmonary oedema.

Do not induce vomiting.

Seek medical attention from a specialist.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media:**

Carbon dioxide, foam, powder

Water spray jet

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.

Can form explosive gas/air mixtures.

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**

Avoid skin and eye contact.

See advice in section 8

Hygiene measures:

Good industrial hygiene practices should be observed.

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

7.2. Conditions for safe storage, including any incompatibilities

Store in sealed original container protected against moisture.
 Must be stored in a room with spill collection facilities.
 Keep away from heat and direct sunlight.
 Store in a cool, well-ventilated place.
 Do not store near sources of heat or ignition, or reactive materials.
 Take precautionary measures against static discharges during storage and transport.
 Refer to Technical Data Sheet
 Do not store together with oxidants.

7.3. Specific end use(s)

Release agent

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational Exposure Limits**

Valid for
 Germany

None

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Dibutyl ether 142-96-1	aqua (freshwater)		0,019 mg/l				
Dibutyl ether 142-96-1	aqua (intermittent releases)		0,191 mg/l				
Dibutyl ether 142-96-1	aqua (marine water)		0,002 mg/l				
Dibutyl ether 142-96-1	sewage treatment plant (STP)		10 mg/l				
Dibutyl ether 142-96-1	sediment (freshwater)				0,073 mg/kg		
Dibutyl ether 142-96-1	sediment (marine water)				0,007 mg/kg		
Dibutyl ether 142-96-1	Soil				0,004 mg/kg		
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				0,84 mg/kg		

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	Workers	inhalation	Long term exposure - systemic effects		871 mg/m3	
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	Workers	dermal	Long term exposure - systemic effects		77 mg/kg	
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	General population	inhalation	Long term exposure - systemic effects		185 mg/m3	
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	General population	dermal	Long term exposure - systemic effects		46 mg/kg	
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	General population	oral	Long term exposure - systemic effects		46 mg/kg	
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	

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**

Delivery form	liquid
Colour	Colorless
Odor	mild, Solvent
Physical state	liquid
Melting point	Not applicable, Product is a liquid
Initial boiling point (1.013 hPa)	141 °C (285.8 °F)
Flammability	flammable
Explosive limits	
lower	0,6 % (V);
upper	7,6 % (V);
	Upper/lower explosion limit
Explosive limits	
lower	1,5 % (V);
upper	7,6 % (V);
	Upper/lower explosion limit (value for solvent)
Flash point	31 °C (87.8 °F)
Auto-ignition temperature	> 200 °C (> 392 °F)
Decomposition temperature	Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use
	Not applicable, Product is non-polar/aprotic.
pH	
Viscosity (kinematic) (40 °C (104 °F);)	1,02 mm ² /s
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Not miscible or difficult to mix
Solubility (qualitative) (20 °C (68 °F); Solvent: other organic solvents)	Soluble
Partition coefficient: n-octanol/water	Not applicable
	Mixture
Vapour pressure (20 °C (68 °F))	28 hPa
Density (20 °C (68 °F))	0,755 g/cm ³ no method / method unknown
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**

Reaction with strong oxidants.

Water.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

Heat, flames, sparks and other sources of ignition.
 Vapours may form explosive mixture with air.
 Spray mist may be flammable at temperatures below the flash point.

10.5. Incompatible materials

None if used properly.

10.6. Hazardous decomposition products

Hydrocarbons
 Irritating organic vapours.
 carbon oxides.

SECTION 11: Toxicological information**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
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	LD50	> 5.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Dibutyl ether 142-96-1	LD50	7.400 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
octamethylcyclotetrasiloxane 556-67-2	LD50	> 4.800 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)

Acute dermal 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
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	LD50	> 5.000 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
Dibutyl ether 142-96-1		7.741 mg/kg	rabbit	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
octamethylcyclotetrasiloxane 556-67-2	LD50	> 2.375 mg/kg	rat	equivalent or similar to 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
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	LC50	> 4,951 mg/l	vapour	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)
Dibutyl ether 142-96-1	LC50	21,6 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)

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
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	slightly irritating		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
octamethylcyclotetrasiloxane 556-67-2	not irritating		rabbit	equivalent or similar to 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
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	not 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)

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
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Dibutyl ether 142-96-1	not sensitising	Open epicutaneous test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)
octamethylcyclotetrasiloxane 556-67-2	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
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	negative	in vitro mammalian chromosome aberration test	with and without		equivalent or similar to OECD Guideline 479 (Genetic Toxicology: In Vitro Sister Chromatid Exchange Assay in Mammalian Cells)
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	negative	mammalian cell gene mutation assay	with and without		equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Dibutyl ether 142-96-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Dibutyl ether 142-96-1	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Dibutyl ether 142-96-1	negative	mammalian cell gene mutation assay	with and without		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)
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	negative	inhalation: vapour		rat	equivalent or similar to OECD Guideline 478 (Genetic Toxicology: Rodent Dominant Lethal Test)
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	negative	oral: gavage		mouse	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus 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)

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
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	not carcinogenic	inhalation: vapour	6 hours plus T90 (12 minutes) 5 days per week for 105 weeks	rat	male/female	equivalent or similar OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

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
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)

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
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	NOAEL \geq 1.000 mg/kg	oral: gavage	7 days/week	rat	equivalent or similar to OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reprod./Develop. Tox. Screening Test)
Dibutyl ether 142-96-1	NOAEL 200 mg/kg	oral: gavage	28 d 5 d/w	rat	not specified
Dibutyl ether 142-96-1	NOAEL 500 mg/m ³	inhalation	28 d 6 h/d, 5 d/w	rat	OECD Guideline 412 (Repeated Dose Inhalation Toxicity: 28/14-Day)
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)

Aspiration hazard:

The mixture is classified based on Viscosity data.

Hazardous substances CAS-No.	Viscosity (kinematic) Value	Temperature	Method	Remarks
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	0,9 mm ² /s	40 °C	calculated	

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
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	LL50	> 10 - < 30 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Dibutyl ether 142-96-1	LC50	32,3 mg/l	96 h	Pimephales promelas	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)

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
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	EL50	> 22 - < 46 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Dibutyl ether 142-96-1	EC50	> 18,76 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
octamethylcyclotetrasiloxane 556-67-2	EC50	Toxicity > Water solubility	48 h	Daphnia magna	EPA OTS 797.1300 (Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids)

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
octamethylcyclotetrasiloxane 556-67-2	NOEC	7.9 µg/l	21 d	Daphnia magna	EPA OTS 797.1330 (Daphnid Chronic Toxicity 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
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	EL50	> 1.000 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	NOELR	< 1 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Dibutyl ether 142-96-1	EC50	19,1 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Dibutyl ether 142-96-1	NOEC	8,91 mg/l	72 h	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)

Toxicity (microorganisms):

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
Dibutyl ether 142-96-1	EC 50	> 1.000 mg/l	30 min	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
octamethylcyclotetrasiloxane 556-67-2	EC50	Toxicity > Water solubility	3 h	activated sludge	ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge)

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
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	readily biodegradable	aerobic	89 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Dibutyl ether 142-96-1	not readily biodegradable.	aerobic	5 %	28 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 Biodegradability CO ₂ in Sealed Vessels (Headspace Test))

12.3. Bioaccumulative potential

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

Hazardous substances CAS-No.	Bioconcentration factor (BCF)	Exposure time	Temperature	Species	Method
Dibutyl ether 142-96-1	47 - 83	42 d	25 °C		OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)
octamethylcyclotetrasiloxane 556-67-2	12.400	28 d		Pimephales promelas	EPA OTS 797.1520 (Fish Bioconcentration Test-Rainbow Trout)

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
Dibutyl ether 142-96-1	3,35		not specified
octamethylcyclotetrasiloxane 556-67-2	6,98	21,7 °C	other guideline:

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
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-48-9	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.

12.6. Endocrine disrupting properties

not applicable

12.7. 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 or ID number

ADR	1866
RID	1866
ADN	1866
IMDG	1866
IATA	1866

14.2. UN proper shipping name

ADR	RESIN SOLUTION
RID	RESIN SOLUTION
ADN	RESIN SOLUTION
IMDG	RESIN SOLUTION
IATA	Resin solution

14.3. Transport hazard class(es)

ADR	3
RID	3
ADN	3
IMDG	3
IATA	3

14.4. Packing group

ADR	III
RID	III
ADN	III
IMDG	III
IATA	III

14.5. Environmental hazards

ADR	not applicable
RID	not applicable
ADN	not applicable
IMDG	not applicable
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. 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 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)	98 %

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

National regulations/information (Germany):

WGK:	WGK 1: slightly hazardous to water (Ordinance on facilities for handling substances that are hazardous to water (AwSV)) Classification according to AwSV, Annex I (5.2)
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Storage class according to TRGS 510: 3

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:

H224 Extremely flammable liquid and vapour.
 H226 Flammable liquid and vapour.
 H250 Catches fire spontaneously if exposed to air.
 H260 In contact with water releases flammable gases which may ignite spontaneously.
 H304 May be fatal if swallowed and enters airways.
 H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H318 Causes serious eye damage.
 H319 Causes serious eye irritation.
 H332 Harmful if inhaled.
 H335 May cause respiratory irritation.
 H336 May cause drowsiness or dizziness.
 H361f Suspected of damaging fertility.
 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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