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

LOCTITE MR 3863 known as Loctite 3863 2g De/Au

SDS No. : 290257
V003.1
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
LOCTITE MR 3863 known as Loctite 3863 2g De/Au

1.2. Relevant identified uses of the substance or mixture and uses advised against
Intended use:
Coating

1.3. Details of the supplier of the safety data sheet
Henkel 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 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 2
H225 Highly flammable liquid and vapour.	
Acute toxicity	Category 4
H332 Harmful if inhaled.	
Route of Exposure: Inhalation	
Serious eye irritation	Category 2
H319 Causes serious eye irritation.	
Carcinogenicity	Category 2
H351 Suspected of causing cancer.	
Specific target organ toxicity - single exposure	Category 3
H336 May cause drowsiness or dizziness.	
Target organ: Central nervous system	
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 4-methylpentan-2-one

methanol

Signal word: Danger

Hazard statement:
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H410 Very toxic to aquatic life with long lasting effects.

Supplemental information EUH066 Repeated exposure may cause skin dryness or cracking.

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.
P261 Avoid breathing spray.

Precautionary statement: Response
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
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 ≥ 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 ≥ 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
4-methylpentan-2-one 108-10-1 203-550-1 01-2119473980-30	50- < 75 %	Acute Tox. 4, Inhalation, H332 Carc. 2, H351 Flam. Liq. 2, H225 STOT SE 3, H336 Eye Irrit. 2, H319	inhalation:ATE = 11 mg/l;vapour	EU OEL
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4 231-131-3 01-2119555669-21	25- < 50 %	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M acute = 10 M chronic = 10	EU OEL
methanol 67-56-1 200-659-6 01-2119433307-44	0,1- < 1 %	Flam. Liq. 2, H225 Acute Tox. 3, Inhalation, H331 Acute Tox. 3, Dermal, H311 Acute Tox. 3, Oral, H301 STOT SE 1, H370	STOT SE 1; H370; C >= 10 % STOT SE 2; H371; C 3 - < 10 % ===== oral:ATE = 300 mg/kg	EU OEL

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

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

EYE: Irritation, conjunctivitis.

Vapors may cause drowsiness and dizziness.

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.

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

See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
Carbon dioxide, foam, powder

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 (NOx) 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
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 a cool, well-ventilated place.
Keep away from heat and direct sunlight.
Refer to Technical Data Sheet

7.3. Specific end use(s)
Coating

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
4-Methylpentan-2-one 108-10-1 [4-METHYLPENTAN-2-ONE]	20	83	Time Weighted Average (TWA):	Indicative	ECTLV
4-Methylpentan-2-one 108-10-1 [4-METHYLPENTAN-2-ONE]	50	208	Short Term Exposure Limit (STEL):	Indicative	ECTLV
4-Methylpentan-2-one 108-10-1	20	83	Exposure limit(s):	2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
4-Methylpentan-2-one 108-10-1			Skin designation:	Can be absorbed through the skin.	TRGS 900
4-Methylpentan-2-one 108-10-1			Short Term Exposure Classification:	Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages.	TRGS 900
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
Methanol 67-56-1 [METHANOL]	200	260	Time Weighted Average (TWA):	Indicative	ECTLV
Methanol 67-56-1			Skin designation:	Can be absorbed through the skin.	TRGS 900
Methanol 67-56-1			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Methanol 67-56-1	100	130	Exposure limit(s):	2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
4-methylpentan-2-one 108-10-1	aqua (freshwater)		0,6 mg/l				
4-methylpentan-2-one 108-10-1	aqua (marine water)		0,06 mg/l				
4-methylpentan-2-one 108-10-1	sediment (freshwater)				8,27 mg/kg		
4-methylpentan-2-one 108-10-1	sediment (marine water)				0,83 mg/kg		
4-methylpentan-2-one 108-10-1	Soil				1,3 mg/kg		
4-methylpentan-2-one 108-10-1	sewage treatment plant (STP)		27,5 mg/l				
4-methylpentan-2-one 108-10-1	aqua (intermittent releases)		1,5 mg/l				
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		
methanol 67-56-1	aqua (freshwater)						no hazard identified
methanol 67-56-1	sediment (freshwater)						no hazard identified
methanol 67-56-1	aqua (marine water)						no hazard identified
methanol 67-56-1	Soil						no hazard identified
methanol 67-56-1	sewage treatment plant (STP)						no hazard identified
methanol 67-56-1	aqua (intermittent releases)						no hazard identified
methanol 67-56-1	sediment (marine water)						no hazard identified

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
4-methylpentan-2-one 108-10-1	Workers	Inhalation	Acute/short term exposure - systemic effects		208 mg/m3	
4-methylpentan-2-one 108-10-1	Workers	Inhalation	Acute/short term exposure - local effects		208 mg/m3	
4-methylpentan-2-one 108-10-1	Workers	Inhalation	Long term exposure - systemic effects		83 mg/m3	
4-methylpentan-2-one 108-10-1	Workers	Inhalation	Long term exposure - local effects		83 mg/m3	
4-methylpentan-2-one 108-10-1	Workers	dermal	Long term exposure - systemic effects		11,8 mg/kg	
4-methylpentan-2-one 108-10-1	General population	Inhalation	Acute/short term exposure - systemic effects		155,2 mg/m3	
4-methylpentan-2-one 108-10-1	General population	Inhalation	Acute/short term exposure - local effects		155,2 mg/m3	
4-methylpentan-2-one 108-10-1	General population	Inhalation	Long term exposure - systemic effects		14,7 mg/m3	
4-methylpentan-2-one 108-10-1	General population	Inhalation	Long term exposure - local effects		14,7 mg/m3	
4-methylpentan-2-one 108-10-1	General population	dermal	Long term exposure - systemic effects		4,2 mg/kg	
4-methylpentan-2-one 108-10-1	General population	oral	Long term exposure - systemic effects		4,2 mg/kg	
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
methanol 67-56-1	Workers	inhalation	Long term exposure - systemic effects		260 mg/m3	no hazard identified
methanol 67-56-1	Workers	inhalation	Acute/short term exposure - systemic effects		260 mg/m3	no hazard identified
methanol 67-56-1	Workers	inhalation	Long term exposure - local effects		260 mg/m3	no hazard identified
methanol 67-56-1	Workers	inhalation	Acute/short term exposure - local effects		260 mg/m3	no hazard identified
methanol 67-56-1	Workers	dermal	Long term exposure - systemic effects		40 mg/kg	no hazard identified
methanol 67-56-1	Workers	dermal	Acute/short term exposure - systemic effects		40 mg/kg	no hazard identified
methanol 67-56-1	General population	inhalation	Long term exposure - systemic effects		50 mg/m3	no hazard identified
methanol 67-56-1	General population	inhalation	Acute/short term exposure - systemic effects		50 mg/m3	no hazard identified
methanol 67-56-1	General population	inhalation	Long term exposure - local effects		50 mg/m3	no hazard identified
methanol 67-56-1	General population	inhalation	Acute/short term exposure - local		50 mg/m3	no hazard identified

			effects			
methanol 67-56-1	General population	dermal	Long term exposure - systemic effects		8 mg/kg	no hazard identified
methanol 67-56-1	General population	dermal	Acute/short term exposure - systemic effects		8 mg/kg	no hazard identified
methanol 67-56-1	General population	oral	Long term exposure - systemic effects		8 mg/kg	no hazard identified
methanol 67-56-1	General population	oral	Acute/short term exposure - systemic effects		8 mg/kg	no hazard identified

Biological Exposure Indices:

Ingredient [Regulated substance]	Parameters	Biological specimen	Sampling time	Conc.	Basis of biol. exposure index	Remark	Additional Information
4-Methylpentan-2-one 108-10-1	4-methylpentan-2-one	Urine	Sampling time: End of shift.	3,5 mg/l	DE BAT		
4-Methylpentan-2-one 108-10-1	4-methylpentan-2-one	Urine	Sampling time: End of shift.	0,7 mg/l	DE BGW		
Methanol 67-56-1 [METHANOL]	methanol	Urine	Sampling time period is for long-term exposures, at the end of the shift after several preceding ones./ Sampling time period is at end of exposure or at end of shift.	15 mg/l	DE BGW		

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	characteristic
Physical state	liquid
Melting point	Not applicable, Product is a liquid
Solidification temperature	< 0 °C (< 32 °F)
Initial boiling point	114 °C (237.2 °F)
Flammability	Flammable liquid
Explosive limits	
lower	1,7 %(V);
upper	9 %(V);
Flash point	14 °C (57.2 °F)
Auto-ignition temperature	485 °C (905 °F)
Decomposition temperature	Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use
pH	Not applicable, Product is non-soluble (in water).
Viscosity (kinematic) (40 °C (104 °F);)	> 20,5 mm2/s
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Not miscible
Partition coefficient: n-octanol/water	Not applicable Mixture
Vapour pressure (20 °C (68 °F))	8 hPa
Vapour pressure (50 °C (122 °F))	8,8 kPa
Density (20 °C (68 °F))	0,96 g/cm3 None
Relative vapour density: (20 °C)	> 1
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 acids.
Reaction with strong oxidants.

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
See section reactivity

10.4. Conditions to avoid
Stable under normal conditions of storage and use.

10.5. Incompatible materials
See section reactivity.

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
4-methylpentan-2-one 108-10-1	LD50	2.080 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	LD50	> 2.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
methanol 67-56-1	Acute toxicity estimate (ATE)	300 mg/kg		Expert judgement

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
4-methylpentan-2-one 108-10-1	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
4-methylpentan-2-one 108-10-1	LD0	>= 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	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
4-methylpentan-2-one 108-10-1	Acute toxicity estimate (ATE)	11 mg/l	vapour			Expert judgement
4-methylpentan-2-one 108-10-1	LC50	8,2 - 16,4 mg/l	vapour	4 h	rat	equivalent or similar to 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
4-methylpentan-2-one 108-10-1	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
methanol 67-56-1	not irritating	20 h	rabbit	BASF Test

Serious eye damage/irritation:

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

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
4-methylpentan-2-one 108-10-1	slightly irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
methanol 67-56-1	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
4-methylpentan-2-one 108-10-1	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
methanol 67-56-1	not sensitising	Guinea pig maximisation test	guinea pig	equivalent or similar to 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
4-methylpentan-2-one 108-10-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
4-methylpentan-2-one 108-10-1	negative	in vitro mammalian chromosome aberration test	without		equivalent or similar to OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
4-methylpentan-2-one 108-10-1	ambiguous without metabolic activation	mammalian cell gene mutation assay	with and without		equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
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)
methanol 67-56-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
methanol 67-56-1	negative	in vitro mammalian cell micronucleus test	without		not specified
methanol 67-56-1	negative	mammalian cell gene mutation assay	with and without		equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
4-methylpentan-2-one 108-10-1	negative	intraperitoneal		mouse	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
methanol 67-56-1	negative	intraperitoneal		mouse	equivalent or similar to 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
4-methylpentan-2-one 108-10-1		inhalation: vapour	2 y 6 h/d, 5 d/w	rat	male/female	OECD Guideline 451 (Carcinogenicity Studies)
methanol 67-56-1	not carcinogenic	inhalation: vapour	18 m 19 h/d	mouse	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
4-methylpentan-2-one 108-10-1		screening	oral: gavage	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
4-methylpentan-2-one 108-10-1		One generation study	oral: gavage	rat	OECD Guideline 415 (One-Generation Reproduction Toxicity Study)
4-methylpentan-2-one 108-10-1		Two generation study	oral: gavage	rat	OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
methanol 67-56-1	NOAEL P 1,3 mg/l NOAEL F1 0,13 mg/l NOAEL F2 0,13 mg/l	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
4-methylpentan-2-one 108-10-1	NOAEL 250 mg/kg	oral: gavage	13 w daily	rat	equivalent or similar to OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
methanol 67-56-1	NOAEL 6,63 mg/l	inhalation: vapour	4 weeks 6 h/d, 5 d/w	rat	equivalent or similar to OECD Guideline 412 (Repeated Dose Inhalation Toxicity: 28/14-Day)
methanol 67-56-1	NOAEL 0,13 mg/l	inhalation: vapour	12 m 20 h/d	rat	equivalent or similar to OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

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
4-methylpentan-2-one 108-10-1	LC50	600 mg/l	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	OECD Guideline 203 (Fish, Acute Toxicity Test)
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)
methanol 67-56-1	LC50	15.400 mg/l	96 h	Lepomis macrochirus	EPA-660 (Methods for Acute Toxicity Tests with Fish, Macroinvertebrates and Amphibians)
methanol 67-56-1	NOEC	7.900 mg/l	200 h	Oryzias latipes	OECD Guideline 210 (fish early lite stage 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
4-methylpentan-2-one 108-10-1	EC50	170 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	EC50	0,00022 mg/l	48 h	Daphnia magna	other guideline:
methanol 67-56-1	EC50	18.260 mg/l	96 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)

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
4-methylpentan-2-one 108-10-1	EC50	400 mg/l	96 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	EC10	0,00016 mg/l	15 d	other:	other guideline:
methanol 67-56-1	EC50	22.000 mg/l	96 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)

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
4-methylpentan-2-one 108-10-1	EC0	275 mg/l	16 h		not specified
methanol 67-56-1	IC50	> 1.000 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

12.2. Persistence and degradability

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

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
4-methylpentan-2-one 108-10-1	readily biodegradable	aerobic	99 %	7 day	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
methanol 67-56-1	readily biodegradable	aerobic	82 - 92 %	30 d	EU Method C.4-E (Determination of the "Ready" BiodegradabilityClosed Bottle 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
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	70	42 d	20 °C	Cyprinus carpio	other guideline:
methanol 67-56-1	< 10	72 h		Leuciscus idus melanotus	not specified

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**
4-methylpentan-2-one 108-10-1	1,31	20 °C	not specified
methanol 67-56-1	-0,77		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**
4-methylpentan-2-one 108-10-1	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
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.
methanol 67-56-1	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

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	1263
RID	1263
ADN	1263
IMDG	1263
IATA	1263

14.2. UN proper shipping name

ADR	PAINT RELATED MATERIAL
RID	PAINT RELATED MATERIAL
ADN	PAINT RELATED MATERIAL
IMDG	PAINT RELATED MATERIAL (Silver)
IATA	Paint related material

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	Special provision 640D Tunnelcode: (D/E)
RID	Special provision 640D
ADN	Special provision 640D
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)	69,4 %

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

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:	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:

H225 Highly flammable liquid and vapour.
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H370 Causes damage to organs.
H400 Very toxic to aquatic life.
H410 Very toxic 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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