



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

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LOCTITE EDAG SP 413 E&C known as ELECTRODAG SP-413 1.5 KG

SDS No. : 364280
V006.0

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

1.1. Product identifier

LOCTITE EDAG SP 413 E&C known as ELECTRODAG SP-413 1.5 KG

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

Intended use:
EMC product

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 8701 906777 - For further general health & safety, technical and practical advice on this product, please call +44 (0) 1606 593933 or write to: Technical Services; Henkel Limited; Road 5; Winsford Industrial Estate; Winsford; Cheshire; CW7 3QY- Email: technical.services@henkel.co.uk

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Serious eye irritation Category 2

H319 Causes serious eye irritation.

Carcinogenicity Category 2

H351 Suspected of causing cancer.

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.

Flammable liquids Category 2

H225 Highly flammable liquid and vapor.

Specific target organ toxicity - single exposure Category 3

H336 May cause drowsiness or dizziness.

2.2. Label elements

Label elements (CLP):

Hazard pictogram:		
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Contains 4-methylpentan-2-one

Signal word: Danger

Hazard statement:
 H225 Highly flammable liquid and vapor.
 H319 Causes serious eye irritation.
 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.
 P261 Avoid breathing mist/spray.
 P280 Wear eye protection/face protection.

Precautionary statement: Response
 P370+P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Precautionary statement: Storage
 P403+P235 Store in a well-ventilated place. Keep cool.

2.3. Other hazards

None if used properly.
 Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

Following substances are present in a concentration >= 0,1% and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in concentration ≥ the concentration limit that are assessed to be a PBT, vPvB or ED.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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

Hazardous components CAS-No. EC Number REACH-Reg No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4 231-131-3 01-2119555669-21	40- 60 %	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M acute = 10 M chronic = 10	EU OEL
4-methylpentan-2-one 108-10-1 203-550-1 01-2119473980-30	40- 50 %	STOT SE 3, H336 Flam. Liq. 2, H225 Carc. 2, H351 Acute Tox. 4, H332 Eye Irrit. 2, H319	inhalation:ATE = 11 mg/l;vapour	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

For full text of the H - statements and other abbreviations see section 16 "Other information".
Substances without classification may have community workplace exposure limits available.

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

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

Skin contact:

Immediately wash skin thoroughly with soap and water.

Eye contact:

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

In case of adverse health effects seek medical advice.

Ingestion:

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

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

Repeated exposure may cause skin dryness or cracking.

EYE: Irritation, conjunctivitis.

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

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

See section: Description of first aid measures

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

Carbon dioxide, foam, powder

Fine water spray

Extinguishing media which must not be used for safety reasons:

Water jet (solvent-containing product).

5.2. Special hazards arising from the substance or mixture

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

5.3. Advice for firefighters

Wear protective equipment.

Wear self-contained breathing apparatus.

Additional information:

Cool endangered containers with water spray jet.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes.

Danger of slipping on spilled product.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Dispose of contaminated material as waste according to Section 13.

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

6.4. Reference to other sections

See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid skin and eye contact.

Ensure that workrooms are adequately ventilated.

See advice in section 8

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

Avoid open flames and sources of ignition.

Ground/bond container and receiving equipment.

Use explosion proof electric equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Hygiene measures:

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

7.2. Conditions for safe storage, including any incompatibilities

Ensure good ventilation/extraction.

Temperatures between + 5 °C and + 30 °C

7.3. Specific end use(s)

EMC product

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
4-Methylpentan-2-one 108-10-1 [4-METHYLPENTAN-2-ONE]			Skin designation:	Can be absorbed through the skin.	EH40 WEL
4-Methylpentan-2-one 108-10-1 [4-METHYLPENTAN-2-ONE]	50	208	Time Weighted Average (TWA):		EH40 WEL
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 [4-METHYLPENTAN-2-ONE]	100	416	Short Term Exposure Limit (STEL):	15 minutes	EH40 WEL
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
Methanol 67-56-1 [METHANOL]			Skin designation:	Can be absorbed through the skin.	EH40 WEL
Methanol 67-56-1 [METHANOL]	200	266	Time Weighted Average (TWA):		EH40 WEL
Methanol 67-56-1 [METHANOL]	200	260	Time Weighted Average (TWA):	Indicative	ECTLV
Methanol 67-56-1 [METHANOL]	250	333	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
4-Methylpentan-2-one 108-10-1 [METHYL ISOBUTYL KETONE (MIBK)]	20	83	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
4-Methylpentan-2-one 108-10-1 [METHYL ISOBUTYL KETONE (MIBK)]			Skin designation:	Can be absorbed through the skin.	IR_OEL
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 [METHYL ISOBUTYL KETONE (MIBK)]	50	208	Short Term Exposure Limit (STEL):	15 minutes Indicative OELV	IR_OEL
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

Methanol 67-56-1 [METHANOL]	200	260	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
Methanol 67-56-1 [METHANOL]			Skin designation:	Can be absorbed through the skin.	IR_OEL
Methanol 67-56-1 [METHANOL]	200	260	Time Weighted Average (TWA):	Indicative	ECLTV

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		
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				
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
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
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	
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 effects		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]	4-methylpentan-2-one	Urine	Sampling time: End of shift.		UKEH40BMG V		

8.2. Exposure controls:

Engineering controls:
Ensure good ventilation/suction at the workplace.

Respiratory protection:
In case of aerosol formation, we recommend wearing of appropriate respiratory protection equipment with ABEK P2 filter (EN 14387).
This recommendation should be matched to local conditions.

Hand protection:
Chemical-resistant protective gloves (EN 374). Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374): Fluorinated rubber (FKM; \geq 0.7 mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Fluorinated rubber (FKM; \geq 0.7 mm thickness) This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:
Protective eye equipment should conform to EN166.
Protective goggles

Skin protection:
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.
Suitable protective clothing

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**

Physical state	liquid
Delivery form	liquid
Colour	silver
Odor	Solvent
Initial boiling point	116 °C (240.8 °F)
Explosive limits	
lower	1,2 %(V);
upper	8,0 %(V);

Flash point	14 °C (57.2 °F); no method
pH	Not applicable
Viscosity, dynamic (Brookfield; Instrument: RVT; 20 °C (68 °F); speed of rotation: 20 min ⁻¹)	600 - 1.200 mPa.s no method
Solubility (qualitative) (Solvent: Water)	Insoluble
Vapour pressure (20 °C (68 °F))	7 mbar
Density (20 °C (68 °F))	1,34 g/cm ³ no method

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity

10.1. Reactivity

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

No decomposition if used according to specifications.

10.5. Incompatible materials

See section reactivity.

10.6. Hazardous decomposition products

None if used for intended purpose.

In case of fire toxic gases can be released.

SECTION 11: Toxicological information

Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute oral toxicity:

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	LD50	> 2.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
4-methylpentan-2-one 108-10-1	LD50	2.080 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
methanol 67-56-1	Acute toxicity estimate (ATE)	300 mg/kg		Expert judgement

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
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
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)

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
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)
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)
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:

May cause respiratory irritation.

No substance 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.

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation (EC) No 1272/2008. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

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)
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)
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 (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:
4-methylpentan-2-one 108-10-1	EC50	170 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
methanol 67-56-1	EC50	18.260 mg/l	96 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)

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:
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)
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 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
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

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" Biodegradability Closed Bottle 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:
methanol 67-56-1	< 10	72 h		Leuciscus idus melanotus	not specified

12.4. Mobility in soil

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

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.
4-methylpentan-2-one 108-10-1	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

The product contains organic solvents which are insoluble in water. According to the requirements of the ATV regulations for the discharge of wastewater from commercial and industrial plant, organic solvents which are immiscible with water can only be discharged to an extent which corresponds to their solubility in water. The local discharge regulations take precedence.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:

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

Waste code

080111

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	1263
RID	1263
ADN	1263
IMDG	1263
IATA	1263

14.2. UN proper shipping name

ADR	PAINT
RID	PAINT
ADN	PAINT
IMDG	PAINT (Silver)
IATA	Paint

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/EU)	52,6 %

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

National regulations/information (Great Britain):

Remarks	Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, e.g COSHH Essentials. EH40 Occupational Exposure Limits Chemicals (Hazard Information & Packaging for Supply) Regulations. The Personnel Protective Equipment at Work Regulations. The Carriage of Dangerous Goods by Road Regulations. The Health & Safety at Work Act 1974. (Note: Use latest editions/amendments of above referenced documents.)
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SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

- H225 Highly flammable liquid and vapor.
- 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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