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

SDS No. : 373700
V005.0

LOCTITE ABLESTIK CA 3556HF known as CA 3556HF 12.5G

Revision: 14.02.2025
printing date: 02.05.2025
Replaces version from: 10.06.2024

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

1.1. Product identifier

LOCTITE ABLESTIK CA 3556HF known as CA 3556HF 12.5G
UFI: D66D-QXHJ-J20H-UPM5

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

Intended use:
Adhesive

1.3. Details of the supplier of the safety data sheet

Henkel Ireland
Operations and Research Limited
Tallaght Business Park, Whitestown
24 Dublin

Ireland

Phone: +353 (0353) 1 404 6444

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

1.4. Emergency telephone number

00353 14046280

National Poisons Information Centre: Members of Public: +353 (1) 809 2166. (8.00 a.m. to 10.00 p.m. 7 days a week)
Healthcare Professionals: +353 (1) 809 2566 (24-hour service)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Toxic to reproduction	Category 2
H361f Suspected of damaging fertility.	
Specific target organ toxicity - repeated exposure	Category 2
H373 May cause damage to organs through prolonged or repeated exposure.	
Acute hazards to the aquatic environment	Category 1
H400 Very toxic to aquatic life.	
Chronic hazards to the aquatic environment	Category 1
H410 Very toxic to aquatic life with long lasting effects.	

2.2. Label elements

Label elements (CLP):

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Hazard pictogram:	
Contains	Isobornyl acrylate 2-(2-Ethoxyethoxy)ethyl acrylate Methacrylate ester tert-butyl peroxyneodecanoate Silver >= 99,9 % Ag in powder (>100nm<1mm)
Signal word:	Warning
Hazard statement:	H317 May cause an allergic skin reaction. H410 Very toxic to aquatic life with long lasting effects. H361f Suspected of damaging fertility. H373 May cause damage to organs through prolonged or repeated exposure.
Precautionary statement: Prevention	P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing.
Precautionary statement: Response	P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

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

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

Hazardous components CAS-No. EC Number REACH-Reg No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4 231-131-3 01-2119555669-21	50- < 100 %	Repr. 2, H361f STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M acute = 10 M chronic = 10	EU OEL
Isobornyl acrylate 5888-33-5 227-561-6 01-2119957862-25	5- < 10 %	Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M acute = 1 M chronic = 1	
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8 230-811-7 01-2120752384-53	1- < 3 %	Acute Tox. 4, Oral, H302 Acute Tox. 4, Dermal, H312 Skin Irrit. 2, H315 Skin Sens. 1A, H317 Eye Irrit. 2, H319 Aquatic Chronic 3, H412	dermal:ATE = 1.001 mg/kg	
Methacrylate ester 1187441-10-6 01-2120140608-57	0,1- < 1 %	Eye Dam. 1, H318 Skin Sens. 1B, H317 Met. Corr. 1, H290	oral:ATE = 2.500 mg/kg	
tert-butyl peroxyneodecanoate 26748-41-4 247-955-1 01-2119948628-22	0,1- < 1 %	Org. Perox. D, H242 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M acute = 1 M chronic = 1	

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

SKIN: Rash, Urticaria.

Prolonged or repeated skin contact with silver and its salts may cause a blue-gray discoloration of the skin and mucous membranes that is irreversible (Argyria).

Prolonged or repeated contact may cause eye irritation.

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

See section: Description of first aid measures

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SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
water, carbon dioxide, foam, powder

Extinguishing media which must not be used for safety reasons:
High pressure waterjet

5.2. Special hazards arising from the substance or mixture
In the event of a fire, carbon monoxide (CO), carbon dioxide (CO2) and nitrogen oxides (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.
Avoid dust formation.

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.
Scrape up as much material as possible.
Sweep up spilled material. Avoid creating dust.
Store in a partly filled, closed container until 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
Ensure good ventilation/extraction.
Keep container tightly sealed.
Store in a cool, well-ventilated place.
Refer to Technical Data Sheet.

7.3. Specific end use(s)
Adhesive

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Ireland

Ingredient [Regulated substance]	ppm	mg/m^3	Value type	Short term exposure limit category / Remarks	Regulatory list
Silver 7440-22-4 [Silver, metallic]		0,1	Time Weighted Average (TWA):	Indicative	ECTLV
Silver 7440-22-4 [Silver (metallic)]		0,1	Time Weighted Average (TWA):	Indicative OELV	IR_OEL

Occupational Exposure Limits

Valid for
Great Britain

Ingredient [Regulated substance]	ppm	mg/m^3	Value type	Short term exposure limit category / Remarks	Regulatory list
Silver >= 99,9 % Ag as powder (>100nm<1mm) classified for environment 7440-22-4 [SILVER (METALLIC)]		0,1	Time Weighted Average (TWA):		EH40 WEL

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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		
Isobornyl acrylate 5888-33-5	aqua (freshwater)		0,001 mg/l				
Isobornyl acrylate 5888-33-5	aqua (intermittent releases)		0,007 mg/l				
Isobornyl acrylate 5888-33-5	aqua (marine water)		0,0001 mg/l				
Isobornyl acrylate 5888-33-5	sewage treatment plant (STP)		2 mg/l				
Isobornyl acrylate 5888-33-5	sediment (freshwater)				0,145 mg/kg		
Isobornyl acrylate 5888-33-5	sediment (marine water)				0,0145 mg/kg		
Isobornyl acrylate 5888-33-5	Soil				0,0285 mg/kg		
Isobornyl acrylate 5888-33-5	Predator						no potential for bioaccumulation
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	aqua (freshwater)		0,0032 mg/l				
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	aqua (marine water)		0,00032 mg/l				
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	sediment (freshwater)				0,004 mg/kg		
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	sediment (marine water)				0 mg/kg		
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	sewage treatment plant (STP)		7,7 mg/l				
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	Freshwater - intermittent		0,032 mg/l				
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	Marine water - intermittent		0,01 mg/l				
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	Soil				0,002 mg/kg		
Reaction products of 2-hydroxyethylmethacrylate and diphosphorus pentaoxide 1187441-10-6	aqua (freshwater)		0,165 mg/l				
Reaction products of 2-hydroxyethylmethacrylate and diphosphorus pentaoxide 1187441-10-6	aqua (marine water)		0,0165 mg/l				
Reaction products of 2-hydroxyethylmethacrylate and diphosphorus pentaoxide	sediment (freshwater)				2,8 mg/kg		

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1187441-10-6							
Reaction products of 2-hydroxyethylmethacrylate and diphosphorus pentaoxide 1187441-10-6	sediment (marine water)				0,28 mg/kg		
Reaction products of 2-hydroxyethylmethacrylate and diphosphorus pentaoxide 1187441-10-6	sewage treatment plant (STP)		0,4 mg/l				
Reaction products of 2-hydroxyethylmethacrylate and diphosphorus pentaoxide 1187441-10-6	Soil				0,46 mg/kg		
Reaction products of 2-hydroxyethylmethacrylate and diphosphorus pentaoxide 1187441-10-6	Freshwater - intermittent		1,65 mg/l				
Reaction products of 2-hydroxyethylmethacrylate and diphosphorus pentaoxide 1187441-10-6	Marine water - intermittent		1,65 mg/l				
tert-butyl peroxyneodecanoate 26748-41-4	aqua (freshwater)		0,001 mg/l				
tert-butyl peroxyneodecanoate 26748-41-4	aqua (marine water)		0 mg/l				
tert-butyl peroxyneodecanoate 26748-41-4	sediment (freshwater)				0,437 mg/kg		
tert-butyl peroxyneodecanoate 26748-41-4	sediment (marine water)				0,044 mg/kg		
tert-butyl peroxyneodecanoate 26748-41-4	Soil				0,087 mg/kg		
tert-butyl peroxyneodecanoate 26748-41-4	sewage treatment plant (STP)		96,69 mg/l				
tert-butyl peroxyneodecanoate 26748-41-4	Freshwater - intermittent		0,003 mg/l				
tert-butyl peroxyneodecanoate 26748-41-4	Marine water - intermittent		0,003 mg/l				

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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
Isobornyl acrylate 5888-33-5	Workers	dermal	Long term exposure - systemic effects		1,39 mg/kg	no potential for bioaccumulation
Isobornyl acrylate 5888-33-5	General population	oral	Long term exposure - systemic effects		0,83 mg/kg	no potential for bioaccumulation
Isobornyl acrylate 5888-33-5	General population	dermal	Long term exposure - systemic effects		0,83 mg/kg	no potential for bioaccumulation
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	Workers	inhalation	Long term exposure - systemic effects		2,6 mg/m3	
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	Workers	inhalation	Long term exposure - local effects		77 mg/m3	
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	Workers	dermal	Long term exposure - systemic effects		0,083 mg/kg	
Reaction products of 2-hydroxyethylmethacrylate and diphosphorus pentaoxide 1187441-10-6	Workers	inhalation	Long term exposure - systemic effects		7,05 mg/m3	
Reaction products of 2-hydroxyethylmethacrylate and diphosphorus pentaoxide 1187441-10-6	Workers	dermal	Long term exposure - systemic effects		1 mg/kg	
Reaction products of 2-hydroxyethylmethacrylate and diphosphorus pentaoxide 1187441-10-6	General population	inhalation	Long term exposure - systemic effects		3,53 mg/m3	
Reaction products of 2-hydroxyethylmethacrylate and diphosphorus pentaoxide 1187441-10-6	General population	oral	Long term exposure - systemic effects		0,5 mg/kg	
Reaction products of 2-hydroxyethylmethacrylate and diphosphorus pentaoxide 1187441-10-6	General population	dermal	Long term exposure - systemic effects		0,5 mg/kg	
tert-butyl peroxyneodecanoate 26748-41-4	Workers	dermal	Long term exposure - systemic effects		8 mg/kg	
tert-butyl peroxyneodecanoate 26748-41-4	Workers	inhalation	Long term exposure - systemic effects		2,8 mg/m3	

Biological Exposure Indices:

None

8.2. Exposure controls:

Engineering controls:
Ensure good ventilation/extraction.

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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	paste
Colour	Silver
Odor	mild
Physical state	solid
Melting point	> 200 °C (> 392 °F)
Solidification temperature	Not applicable, Product is a solid
Initial boiling point	> 300 °C (> 572 °F)
Flammability	The product is not flammable.
Explosive limits	Not applicable, Product is a solid
Flash point	Not applicable, Product is a solid
Auto-ignition temperature	Not applicable, Product is a solid
Decomposition temperature	> 150 °C (> 302 °F);
pH	Not applicable, Product is non-soluble (in water).
Viscosity (kinematic)	Not applicable, Product is a solid
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Insoluble
Partition coefficient: n-octanol/water	Not applicable Mixture
Vapour pressure (20 °C (68 °F))	< 0,1 hPa
Density (20 °C (68 °F))	4,5 g/cm3 no method / method unknown
Relative vapour density: (20 °C)	> 1
Particle characteristics	Not applicable, mixture is a paste.

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9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity

10.1. Reactivity
Reacts with strong oxidants.
Acids.
Reducing agents.
Strong bases.

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.

10.6. Hazardous decomposition products
carbon oxides.
Hydrocarbons
nitrogen oxides
Rapid polymerisation may generate excessive heat and pressure.

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
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	LD50	> 2.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Isobornyl acrylate 5888-33-5	LD50	4.350 mg/kg	rat	not specified
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	LD50	1.106 mg/kg	rat	BASF Test
Methacrylate ester 1187441-10-6	LD50	> 2.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
Methacrylate ester 1187441-10-6	Acute toxicity estimate (ATE)	2.500 mg/kg		Expert judgement
tert-butyl peroxyneodecanoate 26748-41-4	LD50	8.080 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)

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Acute dermal toxicity:

Prolonged or repeated skin contact with silver and its salts may cause a blue-gray discoloration of the skin and mucous membranes that is irreversible (Argyria).

Hazardous substances CAS-No.	Value type	Value	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Isobornyl acrylate 5888-33-5	LD50	> 3.000 mg/kg	rabbit	not specified
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	LD50	> 1.000 - < 2.000 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	Acute toxicity estimate (ATE)	1.001 mg/kg		Expert judgement
tert-butyl peroxyneodecanoate 26748-41-4	LD50	6.000 mg/kg	rabbit	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
tert-butyl peroxyneodecanoate 26748-41-4	LC50	50 mg/l	not specified	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
Isobornyl acrylate 5888-33-5	not irritating	24 h	rabbit	other guideline:
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	irritating	4 h	rabbit	equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Methacrylate ester 1187441-10-6	mildly irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

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

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Isobornyl acrylate 5888-33-5	not irritating		rabbit	other guideline:
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	Category 2B (mildly irritating to eyes)		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Methacrylate ester 1187441-10-6	corrosive	1 h	rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

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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
Isobornyl acrylate 5888-33-5	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	Sub-Category 1A (sensitising)	Guinea pig maximisation test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)
Methacrylate ester 1187441-10-6	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

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)
Isobornyl acrylate 5888-33-5	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Isobornyl acrylate 5888-33-5	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Isobornyl acrylate 5888-33-5	negative	in vitro mammalian cell micronucleus test	with and without		OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)

Carcinogenicity

No data available.

Reproductive toxicity:

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

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
Isobornyl acrylate 5888-33-5	NOAEL P 100 mg/kg NOAEL F1 100 mg/kg	screening	oral: gavage	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

STOT-single exposure:

No data available.

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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
Isobornyl acrylate 5888-33-5	NOAEL 100 mg/kg	oral: gavage	once daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Aspiration hazard:

No data available.

11.2 Information on other hazards

not applicable

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SECTION 12: Ecological information

General ecological information:
Do not empty into drains / surface water / ground water.

12.1. Toxicity

Toxicity (Fish):

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

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	LC50	0,0012 mg/l	96 h	Pimephales promelas	other guideline:
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	EC10	0,00019 mg/l	217 d	Salmo trutta	OECD Guideline 210 (fish early lite stage toxicity test)
Isobornyl acrylate 5888-33-5	LC50	0,704 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	LC50	> 10 - 22 mg/l	96 h	Leuciscus idus	OECD Guideline 203 (Fish, Acute Toxicity Test)
Methacrylate ester 1187441-10-6	LC50	> 100 mg/l	96 h	Cyprinus carpio	OECD Guideline 203 (Fish, Acute Toxicity Test)
tert-butyl peroxyneodecanoate 26748-41-4	LC50	0,33 mg/l	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)

Toxicity (aquatic invertebrates):

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

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	EC50	0,00022 mg/l	48 h	Daphnia magna	other guideline:
Isobornyl acrylate 5888-33-5	EC50	1 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	EC50	90 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Methacrylate ester 1187441-10-6	EC50	> 100 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
tert-butyl peroxyneodecanoate 26748-41-4	EC50	0,79 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Chronic toxicity (aquatic invertebrates):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	NOEC	0,00032 mg/l	21 d	Daphnia magna	EPA OPPTS 850.1300 (Daphnid Chronic Toxicity Test)
Isobornyl acrylate 5888-33-5	NOEC	0,092 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

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tert-butyl peroxyneodecanoate 26748-41-4	NOEC	0,049 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

Toxicity (Algae):

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

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	EC10	0,00016 mg/l	15 d	other:	other guideline:
Isobornyl acrylate 5888-33-5	NOEC	0,405 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Isobornyl acrylate 5888-33-5	EC50	1,98 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	EC50	> 3,2 - < 10 mg/l	72 h	Pseudokirchneriella subcapitata (reported as Raphidocelis subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	NOEC	> 0,1 - 1 mg/l	72 h	Pseudokirchneriella subcapitata (reported as Raphidocelis subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Methacrylate ester 1187441-10-6	EC50	165 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Methacrylate ester 1187441-10-6	NOEC	39 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
tert-butyl peroxyneodecanoate 26748-41-4	EC50	0,48 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
tert-butyl peroxyneodecanoate 26748-41-4	NOEC	0,03 mg/l	72 h	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
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	EC10	1.800 mg/l	17 h		DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	EC50	770 mg/l	3 h	activated sludge, domestic	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

12.2. Persistence and degradability

The product is not biodegradable.

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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
Isobornyl acrylate 5888-33-5	inherently biodegradable	aerobic	73,9 %	60 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Isobornyl acrylate 5888-33-5	not readily biodegradable.	aerobic	57 %	28 d	OECD Guideline 310 (Ready BiodegradabilityCO2 in Sealed Vessels (Headspace Test)
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8		no data	> 70 %		OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	readily biodegradable	aerobic	98 %	28 day	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Methacrylate ester 1187441-10-6	readily biodegradable	aerobic	71 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed 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:
Isobornyl acrylate 5888-33-5	37	56 h	24 °C	Danio rerio	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)

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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
Isobornyl acrylate 5888-33-5	4,52		OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	1,2	23 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
tert-butyl peroxyneodecanoate 26748-41-4	5	25 °C	OECD Guideline 123 (Partition Coefficient (1-Octanol / Water), Slow-Stirring Method)

12.5. Results of PBT and vPvB assessment

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

Hazardous substances CAS-No.	PBT / vPvB
Silver >= 99,9 % Ag in powder (>100nm<1mm) 7440-22-4	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Isobornyl acrylate 5888-33-5	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Methacrylate ester 1187441-10-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
tert-butyl peroxyneodecanoate 26748-41-4	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.

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SECTION 14: Transport information

14.1. UN number or ID number

ADR	3077
RID	3077
IMDG	3077
IATA	3077

14.2. UN proper shipping name

ADR	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Silver,Isobornyl acrylate)
RID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Silver,Isobornyl acrylate)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Silver,Isobornyl acrylate)
IATA	Environmentally hazardous substance, solid, n.o.s. (Silver,Isobornyl acrylate)

14.3. Transport hazard class(es)

ADR	9
RID	9
IMDG	9
IATA	9

14.4. Packing group

ADR	III
RID	III
IMDG	III
IATA	III

14.5. Environmental hazards

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

14.6. Special precautions for user

ADR	not applicable Tunnelcode:
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

The transport classifications in this section apply generally to packed and bulk goods alike. For containers with a net volume of no more than 5 L for liquid substances or a net mass of no more than 5 kg for solid substances per individual or inner package, the exemptions SP 375 (ADR), A197 (IATA), 2.10.2.7 (IMDG), NZ 4.3(10) may be applied, which can result in a deviation from the transport classification for packed goods.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

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SECTION 15: Regulatory information

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

Ozone Depleting Substance (ODS) (Regulation (EC) No 2024/590):	Not applicable
Prior Informed Consent (PIC) (Regulation (EU) No 649/2012):	Not applicable
Persistent organic pollutants (Regulation (EU) 2019/1021):	Not applicable
VOC content (2010/75/EC)	< 3 %

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

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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:

H242 Heating may cause a fire.
H290 May be corrosive to metals.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H361f Suspected of damaging fertility.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

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

Further information:

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