

Revision date 19/10/2023

Revision Number 1.91

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product Name	Silver Conductive Paint
Product Code(s)	SCP, ESCP03B, ESCP26G, ESCP50G, ESCP01K, ZE
Safety data sheet number	00952
Unique Formula Identifier (UFI)	8QM2-50SE-F000-TKEC
Pure substance/mixture	Mixture

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

Recommended use	Paint
Uses advised against	No specific uses advised against are identified

1.3. Details of the supplier of the safety data sheet

<u>Manufacturer</u>	<u>Supplier</u>
ELECTROLUBE MacDermid Alpha Electronics Solutions ASHBY PARK, COALFIELD WAY, ASHBY DE LA ZOUCH, LEICESTERSHIRE LE65 1JR UNITED KINGDOM	HK WENTWORTH LIMITED 32 RUE DE TOURNENFILS 91540 MENNECY FRANCE
+44 (0)1530 419600 +44 (0)1530 416640 info@electrolube.com	+33 (0) 1 82 88 47 94 info@electrolube.com

For further information, please contact

E-mail address	info@electrolube.com
----------------	----------------------

1.4. Emergency telephone number

Emergency Telephone	POISON INFORMATION CENTRE (Beaumont Hospital, Republic of Ireland only) +353 (0)1 809 2166 (08:00 - 22:00)
---------------------	--

Emergency Telephone - IN CASE OF EMERGENCY CALL: +44 1865 407333 (24hr, Provided by Carechem 24)**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture***Classification according to*

Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids	Category 2 - (H225)
Specific target organ toxicity — single exposure	Category 3 - (H336)
Category 3 Narcotic effects	
Acute aquatic toxicity	Category 1 - (H400)
Chronic aquatic toxicity	Category 1 - (H410)

2.2. Label elements

Contains 1-Ethoxypropan-2-ol, Acetone, Ethyl acetate



Signal word

Danger

Hazard statements

H225 - Highly flammable liquid and vapour

H336 - May cause drowsiness or dizziness

H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.

P273 - Avoid release to the environment.

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable.

2.3. Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Silver	30-60	01-2119555669-21-00	231-131-3	Aquatic Chronic 1	-	-	-

7440-22-4		32		(H410) Aquatic Acute 1 (H400)			
1-Ethoxypropan-2-ol 52125-53-8	10-30	No data available	610-784-1	Flam. Liq. 3 (H226) STOT SE 3 (H336)	-	-	-
Ethanol 64-17-5	10-30	01-2119457610-43-00 00	200-578-6	Flam. Liq. 2 (H225)	-	-	-
Acetone 67-64-1	5-10	01-2119471330-49-00 00	200-662-2	Eye Irrit. 2 (H319) STOT SE 3 (H336) Flam. Liq. 2 (H225)	-	-	-
Ethyl acetate 141-78-6	1-5	01-2119475103-46-00 00	205-500-4	Eye Irrit. 2 (H319) STOT SE 3 (H336) Flam. Liq. 2 (H225)	-	-	-

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapour - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Silver 7440-22-4	5000	2000	5.16	No data available	No data available
Ethanol 64-17-5	7060	No data available	116.9 133.8	No data available	No data available
Acetone 67-64-1	5800	15700	100.2	No data available	No data available
Ethyl acetate 141-78-6	5620	18000	No data available	14.4131	No data available

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air. IF exposed or concerned: Get medical advice/attention.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a doctor.
Self-protection of the first aider	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information.

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

Symptoms	Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
Effects of Exposure	No information available.

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

Note to doctors	Treat symptomatically.
-----------------	------------------------

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Dry chemical. Carbon dioxide (CO₂). Water spray. Alcohol resistant foam.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.

Other information Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapour suppressing foam may be used to reduce vapours. Dyke far ahead of spill to collect run-off water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up	Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labelled containers.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.
6.4. Reference to other sections	
Reference to other sections	See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling	Use personal protection equipment. Avoid contact with skin and eyes. Avoid breathing vapours or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. In case of insufficient ventilation, wear suitable respiratory equipment.
General hygiene considerations	Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labelled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations.
---------------------------	--

7.3. Specific end use(s)

Risk Management Methods (RMM)	The information required is contained in this Safety Data Sheet.
--------------------------------------	--

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
------------------------	---

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Silver 7440-22-4	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³ STEL 0.1 mg/m ³ Ceiling: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³
Ethanol 64-17-5	-	TWA: 1000 ppm TWA: 1900 mg/m ³ STEL 2000 ppm STEL 3800 mg/m ³	TWA: 1000 ppm TWA: 1907 mg/m ³	TWA: 1000 mg/m ³	TWA: 1000 ppm TWA: 1900 mg/m ³

Acetone 67-64-1	TWA: 500 ppm TWA: 1210 mg/m ³	TWA: 500 ppm TWA: 1200 mg/m ³ STEL 2000 ppm STEL 4800 mg/m ³	TWA: 246 ppm TWA: 594 mg/m ³ STEL: 492 ppm STEL: 1187 mg/m ³	STEL: 1400 mg/m ³ TWA: 600 mg/m ³	TWA: 500 ppm TWA: 1210 mg/m ³
Ethyl acetate 141-78-6	STEL: 1468 mg/m ³ STEL: 400 ppm TWA: 734 mg/m ³ TWA: 200 ppm	TWA: 200 ppm TWA: 734 mg/m ³ STEL 400 ppm STEL 1468 mg/m ³	TWA: 200 ppm TWA: 734 mg/m ³ STEL: 400 ppm STEL: 1468 mg/m ³	STEL: 1468 mg/m ³ STEL: 400 ppm TWA: 734 mg/m ³ TWA: 200 ppm	TWA: 200 ppm TWA: 734 mg/m ³ STEL: 400 ppm STEL: 1468 mg/m ³
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Silver 7440-22-4	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³ Ceiling: 0.3 mg/m ³	TWA: 0.01 mg/m ³ STEL: 0.02 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³
Ethanol 64-17-5	-	TWA: 1000 mg/m ³ Ceiling: 3000 mg/m ³	TWA: 1000 ppm TWA: 1900 mg/m ³ STEL: 2000 ppm STEL: 3800 mg/m ³	TWA: 500 ppm TWA: 1000 mg/m ³ STEL: 1000 ppm STEL: 1900 mg/m ³	TWA: 1000 ppm TWA: 1900 mg/m ³ STEL: 1300 ppm STEL: 2500 mg/m ³
Acetone 67-64-1	* TWA: 500 ppm TWA: 1210 mg/m ³	TWA: 800 mg/m ³ Ceiling: 1500 mg/m ³	TWA: 250 ppm TWA: 600 mg/m ³ STEL: 500 ppm STEL: 1200 mg/m ³	TWA: 500 ppm TWA: 1210 mg/m ³	TWA: 500 ppm TWA: 1200 mg/m ³ STEL: 630 ppm STEL: 1500 mg/m ³
Ethyl acetate 141-78-6	STEL: 1468 mg/m ³ STEL: 400 ppm TWA: 734 mg/m ³ TWA: 200 ppm	TWA: 700 mg/m ³ Ceiling: 900 mg/m ³	TWA: 150 ppm TWA: 540 mg/m ³ STEL: 1468 mg/m ³ STEL: 400 ppm	TWA: 150 ppm TWA: 500 mg/m ³ STEL: 300 ppm STEL: 1100 mg/m ³	TWA: 200 ppm TWA: 730 mg/m ³ STEL: 400 ppm STEL: 1470 mg/m ³
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Silver 7440-22-4	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³ Peak: 0.8 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³
Ethanol 64-17-5	TWA: 1000 ppm TWA: 1900 mg/m ³ STEL: 5000 ppm STEL: 9500 mg/m ³	TWA: 200 ppm TWA: 380 mg/m ³	TWA: 200 ppm TWA: 380 mg/m ³ Peak: 800 ppm Peak: 1520 mg/m ³	TWA: 1000 ppm TWA: 1900 mg/m ³	TWA: 1000 ppm TWA: 1900 mg/m ³ STEL: 2000 ppm STEL: 3800 mg/m ³
Acetone 67-64-1	TWA: 500 ppm TWA: 1210 mg/m ³ STEL: 1000 ppm STEL: 2420 mg/m ³	TWA: 500 ppm TWA: 1200 mg/m ³	TWA: 500 ppm TWA: 1200 mg/m ³ Peak: 1000 ppm Peak: 2400 mg/m ³	TWA: 1780 mg/m ³ STEL: 3560 mg/m ³	TWA: 500 ppm TWA: 1210 mg/m ³
Ethyl acetate 141-78-6	TWA: 200 ppm TWA: 734 mg/m ³ STEL: 400 ppm STEL: 1468 mg/m ³	TWA: 200 ppm TWA: 730 mg/m ³	TWA: 200 ppm TWA: 750 mg/m ³ Peak: 400 ppm Peak: 1500 mg/m ³	TWA: 200 ppm TWA: 734 mg/m ³ STEL: 400 ppm STEL: 1468 mg/m ³	Sz+ TWA: 200 ppm TWA: 734 mg/m ³ STEL: 400 ppm STEL: 1468 mg/m ³
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Silver 7440-22-4	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³
Ethanol 64-17-5	STEL: 1000 ppm	-	STEL: 1000 ppm STEL: 1884 mg/m ³	TWA: 1000 mg/m ³	STEL: 1000 ppm STEL: 1900 mg/m ³ TWA: 500 ppm TWA: 1000 mg/m ³
Acetone 67-64-1	TWA: 500 ppm TWA: 1210 mg/m ³ STEL: 1500 ppm STEL: 3630 mg/m ³	TWA: 500 ppm TWA: 1210 mg/m ³	TWA: 250 ppm TWA: 594 mg/m ³ STEL: 500 ppm STEL: 1187 mg/m ³	TWA: 500 ppm TWA: 1210 mg/m ³	STEL: 1000 ppm STEL: 2420 mg/m ³ TWA: 500 ppm TWA: 1210 mg/m ³
Ethyl acetate 141-78-6	TWA: 734 mg/m ³ TWA: 200 ppm STEL: 1468 mg/m ³ STEL: 400 ppm	TWA: 734 mg/m ³ TWA: 200 ppm STEL: 1468 mg/m ³ STEL: 400 ppm	TWA: 400 ppm TWA: 1441 mg/m ³	TWA: 200 mg/m ³ TWA: 54 ppm STEL: 1468 mg/m ³ STEL: 400 ppm	Ceiling: 300 ppm Ceiling: 1100 mg/m ³ TWA: 150 ppm TWA: 500 mg/m ³
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Silver 7440-22-4	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³	TWA: 0.05 mg/m ³
Ethanol	-	-	TWA: 137 ppm	TWA: 500 ppm	TWA: 1900 mg/m ³

64-17-5			TWA: 260 mg/m ³ STEL: 1000 ppm STEL: 1900 mg/m ³ H*	TWA: 950 mg/m ³ STEL: 625 ppm STEL: 1187.5 mg/m ³	
Acetone 67-64-1	TWA: 500 ppm TWA: 1210 mg/m ³	TWA: 500 ppm TWA: 1210 mg/m ³	TWA: 500 ppm TWA: 1210 mg/m ³ STEL: 1 ppm STEL: 2420 mg/m ³	TWA: 125 ppm TWA: 295 mg/m ³ STEL: 156.25 ppm STEL: 368.75 mg/m ³	STEL: 1800 mg/m ³ TWA: 600 mg/m ³
Ethyl acetate 141-78-6	STEL: 1468 mg/m ³ STEL: 400 ppm TWA: 734 mg/m ³ TWA: 200 ppm	STEL: 400 ppm STEL: 1468 mg/m ³ TWA: 200 ppm TWA: 734 mg/m ³	TWA: 200 ppm TWA: 734 mg/m ³ STEL: 400 ppm STEL: 1468 mg/m ³	TWA: 200 ppm TWA: 734 mg/m ³ STEL: 400 ppm STEL: 1468 mg/m ³	STEL: 1468 mg/m ³ TWA: 734 mg/m ³
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Silver 7440-22-4	TWA: 0.01 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.01 mg/m ³ STEL: 0.02 mg/m ³	TWA: 0.1 mg/m ³
Ethanol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m ³ STEL: 5000 ppm STEL: 9500 mg/m ³	TWA: 500 ppm TWA: 960 mg/m ³ Ceiling: 1920 mg/m ³	TWA: 960 mg/m ³ TWA: 500 ppm STEL: 1000 ppm STEL: 1920 mg/m ³	STEL: 1000 ppm STEL: 1910 mg/m ³
Acetone 67-64-1	TWA: 500 ppm TWA: 1210 mg/m ³ STEL: 750 ppm	TWA: 500 ppm TWA: 1210 mg/m ³	TWA: 500 ppm TWA: 1210 mg/m ³	TWA: 500 ppm TWA: 1210 mg/m ³ STEL: 2420 mg/m ³ STEL: 1000 ppm	TWA: 500 ppm TWA: 1210 mg/m ³
Ethyl acetate 141-78-6	TWA: 200 ppm TWA: 734 mg/m ³ STEL: 1468 mg/m ³ STEL: 400 ppm	TWA: 111 ppm TWA: 400 mg/m ³ STEL: 139 ppm STEL: 500 mg/m ³	TWA: 200 ppm TWA: 734 mg/m ³ Ceiling: 1100 mg/m ³	TWA: 200 ppm TWA: 734 mg/m ³ STEL: 400 ppm STEL: 1468 mg/m ³	TWA: 200 ppm TWA: 734 mg/m ³ STEL: 400 ppm STEL: 1468 mg/m ³
Chemical name	Sweden		Switzerland		United Kingdom
Silver 7440-22-4	NGV: 0.1 mg/m ³		TWA: 0.1 mg/m ³ STEL: 0.8 mg/m ³		TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³
Ethanol 64-17-5	Vägledande KGV: 1000 ppm Vägledande KGV: 1900 mg/m ³ NGV: 500 ppm NGV: 1000 mg/m ³		TWA: 500 ppm TWA: 960 mg/m ³ STEL: 1000 ppm STEL: 1920 mg/m ³		TWA: 1000 ppm TWA: 1920 mg/m ³ STEL: 3000 ppm STEL: 5760 mg/m ³
Acetone 67-64-1	Vägledande KGV: 500 ppm Vägledande KGV: 1200 mg/m ³ NGV: 250 ppm NGV: 600 mg/m ³		TWA: 500 ppm TWA: 1200 mg/m ³ STEL: 1000 ppm STEL: 2400 mg/m ³		TWA: 500 ppm TWA: 1210 mg/m ³ STEL: 1500 ppm STEL: 3620 mg/m ³
Ethyl acetate 141-78-6	Bindande KGV: 300 ppm Bindande KGV: 1100 mg/m ³ NGV: 150 ppm NGV: 550 mg/m ³		TWA: 200 ppm TWA: 730 mg/m ³ STEL: 400 ppm STEL: 1460 mg/m ³		TWA: 734 mg/m ³ TWA: 200 ppm STEL: 1468 mg/m ³ STEL: 400 ppm

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Chemical name	European Union	Austria	Bulgaria	Croatia	Czech Republic
Acetone 67-64-1	-	-	80 mg/L - urine (Acetone) - at the end of exposure or end of work shift	20.0 mg/L - blood (Acetone) - at the end of the work shift 20.0 mg/g Creatinine - urine (Acetone) - at the end of the work shift	-
Chemical name	Denmark	Finland	France	Germany DFG	Germany TRGS
Acetone 67-64-1	-	-	100 mg/L - urine (Acetone) - end of shift	80 mg/L (urine - Acetone end of shift) 50 mg/L - BAT (end	80 mg/L (urine - Acetone end of shift)

				of exposure or end of shift) urine 2.5 mg/L - BAR (end of exposure or end of shift) urine	
Chemical name	Hungary	Ireland	Italy MDLPS	Italy AIDII	
Acetone 67-64-1	-	50 mg/L (urine - Acetone end of shift)	-	25 mg/L - urine (Acetone) - end of shift	
Chemical name	Latvia	Luxembourg	Romania	Slovakia	
Acetone 67-64-1	-	-	50 mg/L - urine (Acetone) - end of shift	80 mg/L (urine - Acetone end of exposure or work shift)	
Chemical name	Slovenia	Spain	Switzerland	United Kingdom	
Acetone 67-64-1	80.0 mg/L - urine (Acetone) - at the end of the work shift	50 mg/L (urine - Acetone end of shift)	50 mg/L (urine - Acetone end of shift) 0.86 mmol/L (urine - Acetone end of shift)	-	

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
Silver 7440-22-4	-	-	0.1 mg/m ³ [4] [6]
Ethanol 64-17-5	-	343 mg/kg bw/day [4] [6]	950 mg/m ³ [4] [6] 1900 mg/m ³ [5] [7]
Acetone 67-64-1	-	186 mg/kg bw/day [4] [6]	1210 mg/m ³ [4] [6] 2420 mg/m ³ [5] [7]
Ethyl acetate 141-78-6	-	63 mg/kg bw/day [4] [6]	734 mg/m ³ [4] [6] 1468 mg/m ³ [4] [7] 734 mg/m ³ [5] [6] 1468 mg/m ³ [5] [7]

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
Silver 7440-22-4	1.2 mg/kg bw/day [4] [6]	-	0.04 mg/m ³ [4] [6]
Ethanol 64-17-5	87 mg/kg bw/day [4] [6]	-	114 mg/m ³ [4] [6] 950 mg/m ³ [5] [7]
Acetone 67-64-1	62 mg/kg bw/day [4] [6]	-	200 mg/m ³ [4] [6]
Ethyl acetate 141-78-6	4.5 mg/kg bw/day [4] [6]	-	367 mg/m ³ [4] [6] 734 mg/m ³ [4] [7] 367 mg/m ³ [5] [6] 734 mg/m ³ [5] [7]

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
Silver	0.04 µg/L	-	0.86 µg/L	-	-

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
7440-22-4					
Acetone 67-64-1	10.6 mg/L	21 mg/L	1.06 mg/L	-	-
Ethyl acetate 141-78-6	0.24 mg/L	1.65 mg/L	0.024 mg/L	-	-

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
Silver 7440-22-4	438.13 mg/kg sediment dw	438.13 mg/kg sediment dw	0.025 mg/L	1.41 mg/kg soil dw	-
Acetone 67-64-1	30.4 mg/kg sediment dw	3.04 mg/kg sediment dw	100 mg/L	29.5 mg/kg soil dw	-
Ethyl acetate 141-78-6	1.15 mg/kg sediment dw	0.115 mg/kg sediment dw	650 mg/L	0.148 mg/kg soil dw	0.2 g/kg food

8.2. Exposure controls

Engineering controls	Ensure adequate ventilation, especially in confined areas.
Personal protective equipment	
Eye/face protection	Tight sealing safety goggles.
Hand protection	Wear suitable gloves. Impervious gloves.
Skin and body protection	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
General hygiene considerations	Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.
Environmental exposure controls	No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Liquid
Colour	silver
Odour	Solvent.
Odour threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known

Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Flash point	12 °C	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	70 mPa s @ 25°C/77°F	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Vapour pressure	> 1.1 - 1.75 hPa @ 50°C/122°F	None known
Relative density	1.44 @ 20°C/68°F	None known
Bulk density	No data available	
Liquid Density	No data available	
Relative vapour density	No data available	None known
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

9.2. Other information

9.2.1. Information with regards to physical hazard classes

Explosive properties	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidizing.

9.2.2. Other safety characteristics

No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	No information available.
------------	---------------------------

10.2. Chemical stability

Stability	Stable under normal conditions.
-----------	---------------------------------

Explosion data

Sensitivity to mechanical impact	None.
Sensitivity to static discharge	Yes.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	None under normal processing.
------------------------------------	-------------------------------

10.4. Conditions to avoid

Conditions to avoid	Heat, flames and sparks.
---------------------	--------------------------

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

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

Information on likely routes of exposure

Product Information

Inhalation	May cause drowsiness or dizziness.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Acute toxicity

Numerical measures of toxicity

No information available

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	5,454.00 mg/kg
ATEmix (dermal)	2,386.50 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapour)	99,999.0000 mg/l
ATEmix (inhalation-dust/mist)	8.05 mg/l

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Silver	> 5000 mg/kg (Rat)	> 2000 mg/kg (rat)	> 5.16 mg/L (Rat) 4 h
Ethanol	= 7060 mg/kg (Rat)	-	= 116.9 mg/L (Rat) 4 h = 133.8 mg/L (Rat) 4 h
Acetone	= 5800 mg/kg (Rat)	> 15700 mg/kg (Rabbit)	= 50100 mg/m ³ (Rat) 8 h
Ethyl acetate	= 5620 mg/kg (Rat)	> 18000 mg/kg (Rabbit)	= 4000 ppm (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Based on available data, the classification criteria are not met.

STOT - single exposure May cause drowsiness or dizziness.

STOT - repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Silver	-	LC50: 0.00155 - 0.00293mg/L (96h, Pimephales promelas) LC50: =0.0062mg/L (96h, Oncorhynchus mykiss) LC50: =0.064mg/L (96h, Lepomis macrochirus)	-	EC50: =0.00024mg/L (48h, Daphnia magna)
Ethanol	-	LC50: 12.0 - 16.0mL/L (96h, Oncorhynchus mykiss) LC50: >100mg/L (96h, Pimephales promelas) LC50: 13400 - 15100mg/L (96h, Pimephales promelas)	-	LC50: 9268 - 14221mg/L (48h, Daphnia magna) EC50: =2mg/L (48h, Daphnia magna)
Acetone	-	LC50: 4.74 - 6.33mL/L	-	EC50: 10294 -

		(96h, Oncorhynchus mykiss) LC50: 6210 - 8120mg/L (96h, Pimephales promelas) LC50: =8300mg/L (96h, Lepomis macrochirus)		17704mg/L (48h, Daphnia magna) EC50: 12600 - 12700mg/L (48h, Daphnia magna)
Ethyl acetate	-	LC50: 220 - 250mg/L (96h, Pimephales promelas) LC50: =484mg/L (96h, Oncorhynchus mykiss) LC50: 352 - 500mg/L (96h, Oncorhynchus mykiss)	-	EC50: =560mg/L (48h, Daphnia magna)

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

Chemical name	Partition coefficient
Ethanol	-0.35
Acetone	-0.24
Ethyl acetate	0.73

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

Chemical name	PBT and vPvB assessment
Silver	PBT assessment does not apply
Ethanol	The substance is not PBT / vPvB
Acetone	The substance is not PBT / vPvB
Ethyl acetate	The substance is not PBT / vPvB PBT assessment does not apply

12.6. Endocrine disrupting properties

Endocrine disrupting properties The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products	Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

SECTION 14: Transport information

IATA

14.1 UN number or ID number	UN1263
14.2 UN proper shipping name	PAINT (CONTAINS Silver)
14.3 Transport hazard class(es)	3
14.4 Packing group	II
Description	UN1263, Paint, 3, II
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	A3, A72, A192
ERG Code	3L

IMDG

14.1 UN number or ID number	UN1263
14.2 UN proper shipping name	PAINT (CONTAINS Silver)
14.3 Transport hazard class(es)	3
14.4 Packing group	II
Description	UN1263, Paint, 3, II, (12°C c.c.), Marine pollutant
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	163, 367
EmS-No	F-E, S-E
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID number	UN1263
14.2 UN proper shipping name	PAINT (CONTAINS Silver)
14.3 Transport hazard class(es)	3
14.4 Packing group	II
Description	UN1263, Paint, 3, II, Environmentally Hazardous
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	163, 367, 640C, 650
Classification code	F1

ADR

14.1 UN number or ID number	UN1263
14.2 UN proper shipping name	PAINT (CONTAINS Silver)
14.3 Transport hazard class(es)	3
14.4 Packing group	II
Description	UN1263, Paint, 3, II, (D/E), Environmentally Hazardous
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	163, 640C, 650, 367
Classification code	F1
Tunnel restriction code	(D/E)

SECTION 15: Regulatory information

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

Chemical name	French RG number
1-Ethoxypropan-2-ol - 52125-53-8	RG 84
Ethanol - 64-17-5	RG 84
Acetone - 67-64-1	RG 84
Ethyl acetate - 141-78-6	RG 84

Water hazard class (WGK) strongly hazardous to water (WGK 3)

Chemical name	Netherlands - List of Carcinogens	Netherlands - List of Mutagens	Netherlands - List of Reproductive Toxins
Ethanol	Present	-	Fertility Category 1A Development Category 1A Can be harmful via breastfeeding

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorisations and/or restrictions on use:

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
Silver - 7440-22-4	Use restricted. See item 75.	-
Acetone - 67-64-1	Use restricted. See item 75.	-
Ethyl acetate - 141-78-6	Use restricted. See item 75.	-

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

Chemical name	Biocidal Products Regulation (EU) No 528/2012 (BPR)
Silver - 7440-22-4	Product-type 2: Disinfectants and algacides not intended for direct application to humans or animals Product-type 4: Food and feed area Product-type 5: Drinking water Product-type 9: Fibre, leather, rubber and polymerised materials preservatives Product-type 11: Preservatives for liquid-cooling and processing systems
Ethanol - 64-17-5	Product-type 1: Human hygiene Product-type 2: Disinfectants and algacides not intended for direct application to humans or animals Product-type 4: Food and feed area

International Inventories

TSCA	Contact supplier for inventory compliance status
DSL/NDL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECL	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AIIC	Contact supplier for inventory compliance status
NZIoC	Contact supplier for inventory compliance status

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AIIC - Australian Inventory of Industrial Chemicals
NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3

H225 - Highly flammable liquid and vapour
H226 - Flammable liquid and vapour
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Legend

SVHC: Substances of Very High Concern for Authorisation:

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitisers		

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method

Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method
Flammable liquids	On basis of test data

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision date 19/10/2023

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet