SAFETY DATA SHEET

according to Regulation UK SI 2019/758 and UK SI 2020/1577 as amended

Creation Date 22-Jan-2018 **Revision Date** 15-Feb-2024 **Revision Number** 5

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Description: Silver conductive adhesive paste
Cat No. : 44075

Unique Formula Identifier (UFI) S8A1-H5SA-4X0F-5MUR

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

Recommended Use Laboratory chemicals.
Uses advised against No Information available

1.3. Details of the supplier of the safety data sheet

Company

Avocado Research Chemicals Ltd.
(Part of Thermo Fisher Scientific)
Shore Road, Heysham
Lancashire, LA3 2XY,
United Kingdom
Office Tel: +44 (0) 1524 850506
Office Fax: +44 (0) 1524 850608

E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11
Emergency Number **US:**001-201-796-7100 / **Europe:** +32 14 57 52 99
CHEMTREC Tel. No. **US:**001-800-424-9300 / **Europe:**001-703-527-3887

Poison Centre - Emergency information services

Ireland : National Poisons Information Centre (NPIC) -
01 809 2166 (8am-10pm, 7 days a week)
Malta : +356 2395 2000
Cyprus : +357 2240 5611

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

Physical hazards

Based on available data, the classification criteria are not met

Health hazards

Skin Corrosion/Irritation	Category 2 (H315)
Serious Eye Damage/Eye Irritation	Category 2 (H319)
Specific target organ toxicity - (single exposure)	Category 3 (H335)

Environmental hazards
Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

2.2. Label elements

Signal Word **Warning**

Hazard Statements
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
EUH066 - Repeated exposure may cause skin dryness or cracking

Precautionary Statements
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P312 - Call a POISON CENTER or doctor if you feel unwell
P280 - Wear protective gloves/protective clothing/eye protection/face protection

2.3. Other hazards

This product does not contain any known or suspected endocrine disruptors
Toxic to terrestrial vertebrates

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Component	CAS No	EC No	Weight %	CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
Silver	7440-22-4	EEC No. 231-131-3	66.5	-
Epoxy cresol novolac	29690-82-2		20	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335)
Ethylene glycol, monobutyl ether acetate	112-07-2	EEC No. 203-933-3	7.5	Acute Tox. 4 (H312) Acute Tox. 4 (H332)
Proprietary fatty acid derivative	N/A		2.5	-
Acetone	67-64-1	200-662-2	2.5	Flam. Liq. 2 (H225) Eye Irrit. 2 (H319)

				STOT SE 3 (H336) EUH066
Propylene glycol monomethyl ether acetate	108-65-6	EEC No. 203-603-9	0.5	Flam. Liq. 3 (H226)
Proprietary acrylic resin	N/A		0.5	-

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice If symptoms persist, call a physician.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Ingestion Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Self-Protection of the First Aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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

None reasonably foreseeable. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

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

Notes to Physician Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media
Water mist may be used to cool closed containers.

Extinguishing media which must not be used for safety reasons
No information available.

5.2. Special hazards arising from the substance or mixture

Combustible material. Containers may explode when heated.

Hazardous Combustion Products
Metal fumes and oxides, Carbon monoxide (CO), Carbon dioxide (CO_2).

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation. Remove all sources of ignition. Take precautionary measures against static discharges.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable containers for disposal. Remove all sources of ignition.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation. Keep away from open flames, hot surfaces and sources of ignition.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and flame. Keep refrigerated. Keep containers tightly closed in a dry, cool and well-ventilated place.

Technical Rules for Hazardous Substances (TRGS) 510 Storage Class (LGK) (Germany) Class 11

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits
List source(s): **EU** - Commission Directive (EU) 2019/1831 of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC **UK** - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020. **IRE -** 2021 Code of Practice for the Chemical Agents Regulations, Schedule 1. Published by the Health and Safety Authority

Component	The United Kingdom	European Union	Ireland
Silver	STEL: 0.3 mg/m³ 15 min TWA: 0.1 mg/m³ 8 hr	TWA: 0.1 mg/m³ (8h)	TWA: 0.1 mg/m³ 8 hr. Ag metallic

			STEL: 0.3 mg/m³ 15 min
Ethylene glycol, monobutyl ether acetate	STEL: 50 ppm 15 min STEL: 332 mg/m³ 15 min TWA: 20 ppm 8 hr TWA: 133 mg/m³ 8 hr Skin	TWA: 20 ppm (8h) TWA: 133 mg/m³ (8h) STEL: 50 ppm (15min) STEL: 333 mg/m³ (15min) Skin	TWA: 20 ppm 8 hr. TWA: 133 mg/m³ 8 hr. STEL: 50 ppm 15 min STEL: 333 mg/m³ 15 min Skin
Acetone	TWA: 500 ppm TWA: 1210 mg/m³ STEL: 1500 ppm STEL: 3620 mg/m³	TWA: 500 ppm (8h) TWA: 1210 mg/m³ (8h)	TWA: 500 ppm 8 hr. TWA: 1210 mg/m³ 8 hr. STEL: 1500 ppm 15 min STEL: 3630 mg/m³ 15 min
Propylene glycol monomethyl ether acetate	STEL: 100 ppm 15 min STEL: 548 mg/m³ 15 min TWA: 50 ppm 8 hr TWA: 274 mg/m³ 8 hr Skin	TWA: 50 ppm (8h) TWA: 275 mg/m³ (8h) STEL: 100 ppm (15min) STEL: 550 mg/m³ (15min) Skin	TWA: 50 ppm 8 hr. TWA: 275 mg/m³ 8 hr. STEL: 100 ppm 15 min STEL: 550 mg/m³ 15 min Skin

Biological limit values
List source(s):

Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)
See table for values

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
Ethylene glycol, monobutyl ether acetate 112-07-2 (7.5)		DNEL = 120mg/kg bw/day		DNEL = 169mg/kg bw/day
Acetone 67-64-1 (2.5)				DNEL = 186mg/kg bw/day
Propylene glycol monomethyl ether acetate 108-65-6 (0.5)				DNEL = 796mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Silver 7440-22-4 (66.5)				DNEL = 0.1mg/m³
Ethylene glycol, monobutyl ether acetate 112-07-2 (7.5)	DNEL = 333mg/m³			DNEL = 133mg/m³
Acetone 67-64-1 (2.5)	DNEL = 2420mg/m³			DNEL = 1210mg/m³
Propylene glycol monomethyl ether acetate 108-65-6 (0.5)	DNEL = 550mg/m³			DNEL = 275mg/m³

Predicted No Effect Concentration (PNEC)
See values below.

Component	Fresh water	Fresh water sediment	Water Intermittent	Microorganisms in sewage treatment	Soil (Agriculture)
Silver 7440-22-4 (66.5)	PNEC = 0.04µg/L	PNEC = 438.13mg/kg sediment dw		PNEC = 0.025mg/L	PNEC = 1.41mg/kg soil dw
Ethylene glycol, monobutyl ether acetate 112-07-2 (7.5)	PNEC = 0.304mg/L	PNEC = 2.03mg/kg sediment dw	PNEC = 0.56mg/L	PNEC = 90mg/L	PNEC = 0.415mg/kg soil dw
Acetone 67-64-1 (2.5)	PNEC = 10.6mg/L	PNEC = 30.4mg/kg sediment dw	PNEC = 21mg/L	PNEC = 100mg/L	PNEC = 29.5mg/kg soil dw
Propylene glycol monomethyl ether acetate 108-65-6 (0.5)	PNEC = 0.635mg/L	PNEC = 3.29mg/kg sediment dw	PNEC = 6.35mg/L	PNEC = 100mg/L	PNEC = 0.29mg/kg soil dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Silver 7440-22-4 (66.5)	PNEC = 0.86µg/L	PNEC = 438.13mg/kg sediment dw			
Ethylene glycol, monobutyl ether acetate 112-07-2 (7.5)	PNEC = 0.0304mg/L	PNEC = 0.203mg/kg sediment dw		PNEC = 60mg/kg food	
Acetone 67-64-1 (2.5)	PNEC = 1.06mg/L	PNEC = 3.04mg/kg sediment dw			
Propylene glycol monomethyl ether acetate 108-65-6 (0.5)	PNEC = 0.0635mg/L	PNEC = 0.329mg/kg sediment dw			

8.2. Exposure controls

Engineering Measures
Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.
Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection Goggles (European standard - EN 166)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Natural rubber Nitrile rubber Neoprene PVC	See manufacturers recommendations	-	EN 374	(minimum requirement)

Skin and body protection Long sleeved clothing.

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Remove gloves with care avoiding skin contamination.

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Large scale/emergency use Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced
Recommended Filter type: Particulates filter conforming to EN 143 or Inorganic gases and vapours filter Type B Grey conforming to EN14387

Small scale/Laboratory use Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Recommended half mask:- Particle filtering: EN149:2001
When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Solid paste	
Appearance	Silver	
Odor	No information available	
Odor Threshold	No data available	
Melting Point/Range	No data available	
Softening Point	No data available	
Boiling Point/Range	No information available	
Flammability (liquid)	Not applicable	Solid
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	No data available	
Flash Point	71 °C / 159.8 °F	**Method -** No information available
Autoignition Temperature	280 °C / 536 °F	
Decomposition Temperature	No data available	
pH	Not applicable	
Viscosity	Not applicable	Solid
Water Solubility	Insoluble	
Solubility in other solvents	No information available	

Partition Coefficient (n-octanol/water)

Component	**log Pow**
Ethylene glycol, monobutyl ether acetate	1.51
Acetone	-0.24
Propylene glycol monomethyl ether acetate	1.2

Vapor Pressure	No data available	
Density / Specific Gravity	1.21 g/cm3	
Bulk Density	Not applicable	Liquid
Vapor Density	Not applicable	Solid
Particle characteristics	No data available	

9.2. Other information

Explosive Properties	explosive air/vapour mixtures possible
Evaporation Rate	Not applicable - Solid

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous Polymerization	No information available.
Hazardous Reactions	None under normal processing.

10.4. Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

10.5. Incompatible materials

Acids. Bases. Strong oxidizing agents.

10.6. Hazardous decomposition products

Metal fumes and oxides. Carbon monoxide (CO). Carbon dioxide (CO_2).

SECTION 11: TOXICOLOGICAL INFORMATION

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

Product Information

(a) acute toxicity;

Oral Based on available data, the classification criteria are not met
Dermal Based on available data, the classification criteria are not met
Inhalation Based on available data, the classification criteria are not met

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Silver	> 2000 mg/kg (Rat)	LD50 > 2000 mg/kg (rat)	LC50 > 5.16 mg/L (Rat) 4 h
Ethylene glycol, monobutyl ether acetate	LD50 = 2400 mg/kg (Rat)	LD50 = 1500 mg/kg (Rabbit)	LC50 > 400 ppm (Rat) 4 h
Acetone	5800 mg/kg (Rat)	> 15800 mg/kg (rabbit) > 7400 mg/kg (rat)	76 mg/l, 4 h, (rat)
Propylene glycol monomethyl ether acetate	LD50 = 8532 mg/kg (Rat)	LD50 > 5 g/kg (Rabbit)	LC50 = 16000 mg/m³ (Rat) 6 h

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;

Respiratory No data available
Skin No data available

Component	Test method	Test species	Study result
Acetone 67-64-1 (2.5)	Guinea Pig Maximisation Test (GPMT)	guinea pig	non-sensitising

(e) germ cell mutagenicity; No data available

Component	Test method	Test species	Study result
Acetone 67-64-1 (2.5)	OECD Test Guideline 471 AMES test	in vivo	negative
	OECD Test Guideline 476 Mammalian Gene cell mutation	in vitro	negative

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; Category 3

Results / Target organs Respiratory system, Central nervous system (CNS).

(i) STOT-repeated exposure; No data available

Target Organs None known.

(j) aspiration hazard; Not applicable
Solid

Symptoms / effects,both acute and delayed Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

11.2. Information on other hazards

Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects Contains a substance which is:. Very toxic to aquatic organisms. The product contains following substances which are hazardous for the environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae
Silver	LC50: = 0.064 mg/L, 96h static (Lepomis macrochirus) LC50: = 0.0062 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: 0.00155 - 0.00293 mg/L, 96h static (Pimephales promelas)	EC50: = 0.00024 mg/L, 48h Static (Daphnia magna)	
Ethylene glycol, monobutyl ether acetate	LC50: 20 - 40 mg/L, 96h (Oncorhynchus mykiss)	EC50 = 37 mg/L, 48h (Daphnia magna)	EC50 > 500 mg/L, 72h (Desmodesmus subspicatus)
Acetone	Oncorhynchus mykiss: LC50 = 5540 mg/l 96h Alburnus alburnus: LC50 = 11000 mg/l 96h Leuciscus idus: LC50 = 11300 mg/L/48h Salmo gairdneri: LC50 = 6100 mg/L/24h	EC50 = 8800 mg/L/48h EC50 = 12700 mg/L/48h EC50 = 12600 mg/L/48h	NOEC = 430 mg/l (algae; 96 h)
Propylene glycol monomethyl ether acetate	LC50: = 161 mg/L, 96h static (Pimephales promelas)	EC50: > 500 mg/L, 48h (Daphnia magna)	

Component	Microtox	M-Factor
Acetone	EC50 = 14500 mg/L/15 min	

12.2. Persistence and degradability

Persistence Insoluble in water.

Degradability Not relevant for inorganic substances.

Component	Degradability
Acetone 67-64-1 (2.5)	91 % (28 d) (OECD 301 B)

Degradation in sewage treatment plant Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

12.3. Bioaccumulative potential

May have some potential to bioaccumulate

Component	log Pow	Bioconcentration factor (BCF)
Ethylene glycol, monobutyl ether acetate	1.51	No data available
Acetone	-0.24	0.69 dimensionless
Propylene glycol monomethyl ether acetate	1.2	No data available

12.4. Mobility in soil Spillage unlikely to penetrate soil Is not likely mobile in the environment due its low water solubility.

12.5. Results of PBT and vPvB assessment No data available for assessment.

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

12.7. Other adverse effects
Persistent Organic Pollutant This product does not contain any known or suspected substance
Ozone Depletion Potential This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues/Unused Products Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of this container to hazardous or special waste collection point.

European Waste Catalogue (EWC) According to the European Waste Catalog, Waste Codes are not product specific, but application specific.

Other Information Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO Not regulated

14.1. UN number
14.2. UN proper shipping name
14.3. Transport hazard class(es)
14.4. Packing group

ADR Not regulated

14.1. UN number
14.2. UN proper shipping name
14.3. Transport hazard class(es)
14.4. Packing group

IATA Not regulated

14.1. UN number
14.2. UN proper shipping name
14.3. Transport hazard class(es)
14.4. Packing group

14.5. Environmental hazards No hazards identified

14.6. Special precautions for user No special precautions required.

14.7. Maritime transport in bulk according to IMO instruments Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

International Inventories

X = listed, U.S.A. (TSCA), Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Australia (AICS), Korea (KECL), China (IECSC), Japan (ENCS), Philippines (PICCS), Taiwan (TCSI), Japan (ISHL), New Zealand (NZIoC), Japan (ISHL). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
Silver	7440-22-4	231-131-3	-	-	X	X	KE-31261	X	-
Epoxy cresol novolac	29690-82-2	-	-	-	X	X	KE-17105	X	X
Ethylene glycol, monobutyl ether acetate	112-07-2	203-933-3	-	-	X	X	KE-04135	X	X
Proprietary fatty acid derivative	N/A	-	-	-	-	-	-	-	-
Acetone	67-64-1	200-662-2	-	-	X	X	KE-29367	X	X
Propylene glycol monomethyl ether acetate	108-65-6	203-603-9	-	-	X	X	KE-23315	X	X
Proprietary acrylic resin	N/A	-	-	-	-	-	-	-	-

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Silver	7440-22-4	X	ACTIVE	X	-	X	X	X
Epoxy cresol novolac	29690-82-2	X	ACTIVE	X	-	X	X	X
Ethylene glycol, monobutyl ether acetate	112-07-2	X	ACTIVE	X	-	X	X	X
Proprietary fatty acid derivative	N/A	-	-	-	-	-	-	-
Acetone	67-64-1	X	ACTIVE	X	-	X	X	X
Propylene glycol monomethyl ether acetate	108-65-6	X	ACTIVE	X	-	X	X	X
Proprietary acrylic resin	N/A	-	-	-	-	-	-	-

Legend: X - Listed '-' - Not Listed **KECL** - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Silver	7440-22-4	-	Use restricted. See item 75. (see link for restriction details)	-
Epoxy cresol novolac	29690-82-2	-	-	-
Ethylene glycol, monobutyl ether acetate	112-07-2	-	-	-
Proprietary fatty acid derivative	N/A	-	-	-
Acetone	67-64-1	-	Use restricted. See item 75. (see link for restriction details)	-
Propylene glycol monomethyl ether acetate	108-65-6	-	-	-
Proprietary acrylic resin	N/A	-	-	-

REACH links

https://echa.europa.eu/substances-restricted-under-reach

Seveso III Directive (2012/18/EC)

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Silver	7440-22-4	Not applicable	Not applicable
Epoxy cresol novolac	29690-82-2	Not applicable	Not applicable
Ethylene glycol, monobutyl ether acetate	112-07-2	Not applicable	Not applicable
Proprietary fatty acid derivative	N/A	Not applicable	Not applicable
Acetone	67-64-1	Not applicable	Not applicable
Propylene glycol monomethyl ether acetate	108-65-6	Not applicable	Not applicable
Proprietary acrylic resin	N/A	Not applicable	Not applicable

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals
Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?
Not applicable

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 .
Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values

National Regulations

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

WGK Classification Water endangering class = 1 (self classification)

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Silver	nwg	
Ethylene glycol, monobutyl ether acetate	WGK1	
Acetone	WGK1	
Propylene glycol monomethyl ether acetate	WGK1	

Component	France - INRS (Tables of occupational diseases)
Ethylene glycol, monobutyl ether acetate	Tableaux des maladies professionnelles (TMP) - RG 84
Acetone	Tableaux des maladies professionnelles (TMP) - RG 84
Propylene glycol monomethyl ether acetate	Tableaux des maladies professionnelles (TMP) - RG 84

Component	Switzerland - Ordinance on the Reduction of Risk from handling of hazardous substances preparation (SR 814.81)	Switzerland - Ordinance on Incentive Taxes on Volatile Organic Compounds (OVOC)	Switzerland - Ordinance of the Rotterdam Convention on the Prior Informed Consent Procedure
Ethylene glycol, monobutyl ether acetate 112-07-2 (7.5)		Group I	
Acetone 67-64-1 (2.5)		Group I	
Propylene glycol monomethyl ether acetate		Group I	

108-65-6 (0.5)			

15.2. Chemical safety assessment

Chemical Safety Assessment/Reports (CSA/CSR) are not required for mixtures

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
EUH066 - Repeated exposure may cause skin dryness or cracking
H225 - Highly flammable liquid and vapor
H226 - Flammable liquid and vapor
H312 - Harmful in contact with skin
H332 - Harmful if inhaled
H336 - May cause drowsiness or dizziness

Legend

CAS - Chemical Abstracts Service
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japanese Existing and New Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit
ACGIH - American Conference of Governmental Industrial Hygienists
DNEL - Derived No Effect Level
RPE - Respiratory Protective Equipment
LC50 - Lethal Concentration 50%
NOEC - No Observed Effect Concentration
PBT - Persistent, Bioaccumulative, Toxic
TWA - Time Weighted Average
IARC - International Agency for Research on Cancer
Predicted No Effect Concentration (PNEC)
LD50 - Lethal Dose 50%
EC50 - Effective Concentration 50%
POW - Partition coefficient Octanol:Water
vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
OECD - Organisation for Economic Co-operation and Development
BCF - Bioconcentration factor
ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
MARPOL - International Convention for the Prevention of Pollution from Ships
ATE - Acute Toxicity Estimate
VOC - (Volatile Organic Compound)

Key literature references and sources for data
https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards	On basis of test data
Health Hazards	Calculation method
Environmental hazards	Calculation method

Training Advice
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.
Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.
First aid for chemical exposure, including the use of eye wash and safety showers.

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This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.

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Disclaimer

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End of Safety Data Sheet