

# Safety data sheet

according to 1907/2006/EC, Article 31

Date Printed 05.01.2022

Version number 1

Revision Date 05.01.2022

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

- **1.1 Product identifier**
- **Trade name: Colloidal Silver**
- **Article number:** AG16034
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the preparation:** Colloidal solution
- **1.3 Details of the supplier of the safety data sheet**
- **Supplier.**  
Agar Scientific Ltd  
Parsonage Lane  
Stansted CM24 8GF  
United Kingdom  
sales@agarscientific.com  
Tel: +44 (0) 1279 813 519
- **Further information obtainable from:** Technical Support
- **1.4 Emergency telephone number:** 24 hours: +44 (0)1856 407333

## SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



health hazard

Repr. 2 H361d Suspected of damaging the unborn child.  
 STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.  
 Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



Skin Irrit. 2 H315 Causes skin irritation.  
 Eye Irrit. 2 H319 Causes serious eye irritation.  
 STOT SE 3 H336 May cause drowsiness or dizziness.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS02



GHS07



GHS08

- **Signal word** Danger
- **Hazard-determining components of labelling:**  
Toluene

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**Trade name: Colloidal Silver**

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**Hazard statements**

- H225 Highly flammable liquid and vapour.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H361d Suspected of damaging the unborn child.
- H336 May cause drowsiness or dizziness.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H304 May be fatal if swallowed and enters airways.

**Precautionary statements**

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P103 Read carefully and follow all instructions.
- P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
- P321 Specific treatment (see on this label).
- P331 Do NOT induce vomiting.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**2.3 Other hazards**
**Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

**3.2 Chemical characterisation: Mixtures**

- **Description:** Mixture of substances listed below with nonhazardous additions.

**Dangerous components:**

CAS: 7440-22-4 EINECS: 231-131-3	Silver (Powder <0.0001mm) ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	50-75%
CAS: 108-88-3 EINECS: 203-625-9	Toluene ⚠ Flam. Liq. 2, H225; ⚠ Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; STOT SE 3, H336	10-25%
CAS: 64-17-5 EINECS: 200-578-6	Ethanol ⚠ Flam. Liq. 2, H225	5-10%
CAS: 141-78-6 EINECS: 205-500-4	ethyl acetate ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	5-10%
CAS: 67-63-0 EINECS: 200-661-7	propan-2-ol ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	<2.5%
CAS: 76-22-2 EINECS: 200-945-0	1,7,7-Trimethylbicyclo[2.2.1]heptan-2-one ⚠ Flam. Sol. 2, H228; ⚠ STOT SE 2, H371; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332	<2.5%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

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## SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** No adverse effects are anticipated from inhalation.
- **After skin contact:** Wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Water fog - dried resin only.
- **5.2 Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.
- **5.3 Advice for firefighters**
- **Protective equipment:** Positive pressure self-contained breathing apparatus.

## SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear gloves.  
Wear protective gloves and glasses.
- **6.2 Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**  
The dried resin is combustible, similar to wood. Burning dry resin emits dense, black smoke. As latex, material is not combustible.  
Protect against electrostatic charges.  
Extinguishing media: Water fog - dried resin only.

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- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
 Keep container tightly sealed.  
 Store in cool, dry conditions in well sealed receptacles.
- **7.3 Specific end use(s)** No further relevant information available.

## SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Additional information about design of technical facilities:** No further data; see item 7.

- **Ingredients with limit values that require monitoring at the workplace:**

### 108-88-3 Toluene

WEL	Short-term value: 384 mg/m <sup>3</sup> , 100 ppm
	Long-term value: 191 mg/m <sup>3</sup> , 50 ppm
	Sk

### 64-17-5 Ethanol

WEL	Long-term value: 1920 mg/m <sup>3</sup> , 1000 ppm
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### 141-78-6 ethyl acetate

WEL	Short-term value: 1468 mg/m <sup>3</sup> , 400 ppm
	Long-term value: 734 mg/m <sup>3</sup> , 200 ppm

### 67-63-0 propan-2-ol

WEL	Short-term value: 1250 mg/m <sup>3</sup> , 500 ppm
	Long-term value: 999 mg/m <sup>3</sup> , 400 ppm

### 76-22-2 1,7,7-Trimethylbicyclo[2.2.1]heptan-2-one

WEL	Short-term value: 19 mg/m <sup>3</sup> , 3 ppm
	Long-term value: 13 mg/m <sup>3</sup> , 2 ppm

- **Additional information:** The lists valid during the making were used as basis.

### 8.2 Exposure controls

#### Personal protective equipment:

#### General protective and hygienic measures:

- Keep away from foodstuffs, beverages and feed.
- Remove all soiled and contaminated clothing
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Avoid contact with the eyes and skin.

#### Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

#### Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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**Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

**Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**Eye protection:**


Tightly sealed goggles

## SECTION 9: Physical and chemical properties

**9.1 Information on basic physical and chemical properties**
**General Information**
**Appearance:**

Form:	Pasty
Colour:	Grey
Odour:	Aromatic
Odour threshold:	Not determined.

pH-value: Not determined.

**Change in condition**

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	75 °C

Flash point: -1 °C

Flammability (solid, gas): Not applicable.

Decomposition temperature: Not determined.

Auto-ignition temperature: Product is not selfigniting.

Explosive properties: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

**Explosion limits:**

Lower:	1.2 Vol %
Upper:	15 Vol %

Vapour pressure at 20 °C: 97 hPa

Density: Not determined.

Relative density: Not determined.

Vapour density: Not determined.

Evaporation rate: Not determined.

**Solubility in / Miscibility with water:**

Fully miscible.

Partition coefficient: n-octanol/water: Not determined.

**Viscosity:**

Dynamic: Not determined.

Kinematic: Not determined.

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- |                                |  |
|--------------------------------|--|
| <b>· Solvent content:</b>      |  |
| <b>Organic solvents:</b>       | 22.5-<47.5 %                               |
| <b>VOC (EC)</b>                | 22.5-<47.5 %                               |
| <b>Solids content:</b> <2.5 %  |  |
| <b>· 9.2 Other information</b> | No further relevant information available. |

## SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

## SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

- **LD/LC50 values relevant for classification:**

### 108-88-3 Toluene

Oral	LD50	636 mg/kg (rat)
Dermal	LD50	14,100 mg/kg (rabbit)
Inhalative	LC50/4 h	5,320 mg/l (mouse)

- **Specific symptoms in biological assay:**
- **Skin corrosion/irritation**  
Causes skin irritation.
- **Serious eye damage/irritation**  
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **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**  
Suspected of damaging the unborn child.
- **STOT-single exposure**  
May cause drowsiness or dizziness.
- **STOT-repeated exposure**  
May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard**  
May be fatal if swallowed and enters airways.

## SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.

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- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
 Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water  
 Do not allow product to reach ground water, water course or sewage system.  
 Danger to drinking water if even small quantities leak into the ground.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

## SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**  
 Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

## SECTION 14: Transport information


- **14.1 UN-Number**
- **ADR, IMDG, IATA** UN1993

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- **14.2 UN proper shipping name**
- **ADR** 1993 FLAMMABLE LIQUID, N.O.S. (TOLUENE, ETHYL ACETATE)
- **IMDG** FLAMMABLE LIQUID, N.O.S. (TOLUENE, ETHYL ACETATE), MARINE POLLUTANT
- **IATA** FLAMMABLE LIQUID, N.O.S. (TOLUENE, ETHYL ACETATE)

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- **14.3 Transport hazard class(es)**
- **ADR, IATA**



- **Class** 3 Flammable liquids.
- **Label** 3

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- **IMDG**

- **Class** 3 Flammable liquids.
- **Label** 3

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- **14.4 Packing group**
- **ADR, IMDG, IATA** II

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- **14.5 Environmental hazards:**
- **Marine pollutant:** Symbol (fish and tree)

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- **14.6 Special precautions for user** Warning: Flammable liquids.

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<ul style="list-style-type: none"> <li>· <b>Hazard identification number (Kemler code):</b> 33</li> <li>· <b>EMS Number:</b> F-E, S-E</li> <li>· <b>Stowage Category</b> B</li> </ul>
<ul style="list-style-type: none"> <li>· <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b> Not applicable.</li> </ul>
<ul style="list-style-type: none"> <li>· <b>Transport/Additional information:</b></li> </ul>
<ul style="list-style-type: none"> <li>· <b>ADR</b></li> <li>· <b>Limited quantities (LQ)</b> 1L</li> <li>· <b>Excepted quantities (EQ)</b> Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</li> <li>· <b>Transport category</b> 2</li> <li>· <b>Tunnel restriction code</b> D/E</li> </ul>
<ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b> 1L</li> <li>· <b>Excepted quantities (EQ)</b> Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</li> </ul>
<ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b> UN 1993 FLAMMABLE LIQUID, N.O.S. (TOLUENE, ETHYL ACETATE), 3, II</li> </ul>

## SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category** P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

This information is based on our present knowledge and should assist the user with the safe handling of this material when properly applied. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
- H225 Highly flammable liquid and vapour.
- H228 Flammable solid.
- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H336 May cause drowsiness or dizziness.
- H361d Suspected of damaging the unborn child.
- H371 May cause damage to organs.
- 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.
- **Department issuing SDS:** Sales department

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· **Contact:**

sales@agarscientific.com

Tel: +44 (0) 1279 813 519

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Sol. 2: Flammable solids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Repr. 2: Reproductive toxicity – Category 2

STOT SE 2: Specific target organ toxicity (single exposure) – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Asp. Tox. 1: Aspiration hazard – Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

· **\* Data compared to the previous version altered.**