

Safety Data Sheet **SILVER NITRATE 10% Solution**

SDS no. PLS38X5K • Version 1.0 • Date of issue: 2025-06-08

SECTION 1: Identification

GHS Product identifier

Product name SILVER NITRATE 10% Solution

Product number ASN

Recommended use of the chemical and restrictions on use

Photographic film, catalyst for ethylene oxide, indelible inks, silver plating, silvering mirrors, silver salts, germicide (as a wall spray), hair dyeing, analytical chemistry, antiseptic, purification of drinking water, fused form to cauterize wounds and laboratory reagent.

Supplier's details

Name ChemSupply Australia Pty Ltd
Address 38-50 Bedford Street
5013 Gillman South Australia
Australia

Telephone 08 8440 2000
email www.chemsupply.com.au

National contact

Name Australian Biostain Pty Ltd
Address 16 Shipwright Road
5016 Largs North SA
Australia

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

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- Serious eye damage/eye irritation, Cat. 1
- Skin corrosion/irritation, Cat. 1B
- Hazardous to the aquatic environment, long-term (chronic), Cat. 1
- Hazardous to the aquatic environment, short-term (acute), Cat. 1

GHS label elements, including precautionary statements

Pictograms



Signal word

Danger

Hazard statement(s)

H314

Causes severe skin burns and eye damage

H410

Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

P260

Do not breathe dust/fume/gas/mist/vapors/spray.

P264

Wash hands thoroughly after handling.

P273

Avoid release to the environment.

P280

Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P331

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P304+P340

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338

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

P310

Immediately call a POISON CENTER/doctor/physician

P363

Wash contaminated clothing before reuse.

P391

Collect spillage.

P405

Store locked up.

P501

Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Components

Component	CAS no.	Concentration
Water (EC no.: 231-791-2)	7732-18-5	>= 90 % (weight)
CLASSIFICATIONS: No data available. HAZARDS: No data available.		
SILVER NITRATE (EC no.: 231-853-9; Index no.: 047-001-00-2)	7761-88-8	<= 10 % (weight)
CLASSIFICATIONS: Oxidizing solids, Cat. 2; Skin corrosion/irritation, Cat. 1B; Hazardous to the aquatic environment, short-term (acute), Cat. 1; Hazardous to the aquatic environment, long-term (chronic), Cat. 1. HAZARDS: H272 - May intensify fire; oxidizer; H314 - Causes severe skin burns and eye damage; H400 - Very toxic to aquatic life; H410 - Very toxic to aquatic life with long lasting effects.		

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	First Aid Facilities: Maintain eyewash fountain in work area.
If inhaled	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Immediately obtain medical aid if cough or other symptoms appear
In case of skin contact	Rinse with plenty of water. Get medical attention if irritation develops and persists.
In case of eye contact	If contact with the eye(s) occurs, wash with copious amounts of water for approximately 15 minutes holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. Obtain medical attention.
If swallowed	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.

Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary

For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Use fire extinguishing media appropriate for surrounding environment. Use water spray, dry chemical, carbon dioxide, or appropriate foam. This material is substantially water.

Specific hazards arising from the chemical

Hazards from Combustion Products: May liberate toxic fumes in fire such as oxygen, toxic fumes, nitrous gases, toxic oxides of nitrogen, silver/silver oxides.

Fire may produce irritating, poisonous, and/or corrosive gases.

Special protective actions for fire-fighters

Wear SCBA and chemical splash suit with full breathing apparatus. Structural firefighter's uniform will provide limited protection.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid inhalation, contact with skin, eyes and clothing.

Wear protective clothing specified for normal operations (see Section 8)

Methods and materials for containment and cleaning up

Avoid inhalation, contact with skin, eyes and clothing.

Wear protective clothing specified for normal operations (see Section 8)

Most organisations using silver compounds collect all silver residues for subsequent recovery.

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Solutions could be washed to drain with a large volume of water, or alternatively treated with a salt solution and the resulting silver chloride collected for subsequent recovery.

SECTION 7: Handling and storage

Precautions for safe handling

Use with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Discard contaminated shoes.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed when not in use, in a cool, dry, well-ventilated area away from incompatible substances. Keep well closed and protected from light and moisture. Sensitive to light.

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection

Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Body protection

Footwear: Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.

Body Protection: Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Respiratory protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/ mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to Australian Standards AS/ NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	Clear, colourless liquid.
Color	No data available.
Odor	Odourless.
Odor threshold	No data available.
Melting point/freezing point	No data available.

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Boiling point or initial boiling point and boiling range	No data available.
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Flash point	No data available.
Explosive properties	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	3.6 - 6
Kinematic viscosity	No data available.
Solubility	No data available.
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	No data available.
Evaporation rate	No data available.
Density and/or relative density	Specific Gravity: 1.4
Relative vapor density	No data available.
Particle characteristics	No data available.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

No data available.

SECTION 10: Stability and reactivity

Reactivity

Stable under normal conditions of storage and handling.

Chemical stability

Stable under recommended storage conditions.

Light sensitive.

Possibility of hazardous reactions

Avoid reducing agents and alkalis.

Conditions to avoid

Light, temperature extremes, contamination and incompatible materials.

Incompatible materials

Various Metals and alloys.

Hazardous decomposition products

Other decomposition products - No data available In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Acute Toxicity - Oral: LD50 Silver Nitrate:- 1173mg/kg oral rat.

Ingestion: Corrosive. Swallowing can cause severe burns of the mouth, throat, stomach and gastrointestinal tract. Can cause sore throat, vomiting, diarrhoea. Poison. Symptoms include pain and burning in the mouth, blackening of the skin and mucous membranes, throat, and abdomen, salivation, vomiting of black material, diarrhoea, collapse, shock, coma and death. Ingestion of soluble silver salts may cause argyria, characterized by permanent blue-gray pigmentation of the skin, mucous membranes, and eyes.

Inhalation: Destructive to tissues of the mucous membranes and upper respiratory tract. Symptoms may include severe irritation, burning sensation, coughing, wheezing, laryngitis, shortness of breath, breathing difficulty, headache, nausea, vomiting and possible coma. May be absorbed into the body following inhalation with symptoms paralleling those from ingestion exposure. Inhalation of silver metal dust and fume or of soluble silver compounds may eventually cause argyria, an unsightly blue-gray discoloration of the skin and mucous membranes, including gum tissue and conjunctiva of the eyes.

Skin corrosion/irritation

Corrosive. Symptoms of redness, pain, and severe burn can occur.

Serious eye damage/irritation

Corrosive. Can cause blurred vision, redness, pain, severe tissue burns and eye damage.

Respiratory or skin sensitization

Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

Specific target organ toxicity (STOT) - single exposure

Not classified based on available information.

Specific target organ toxicity (STOT) - repeated exposure

Not classified based on available information.

Aspiration hazard

Not classified based on available information.

Additional information

Chronic Effects: May cause methemoglobinemia, which is characterized by chocolate-brown colored blood, headache, weakness, dizziness, breath shortness, cyanosis (bluish skin due to deficient oxygenation of blood), rapid heart rate, unconsciousness and possible death. Repeated inhalation may cause lung disease. Chronic inhalation or ingestion of silver salts may cause argyria characterized by a permanent blue-gray discolouration of the eyes, skin, mucous membranes, and internal organs. This malady results from the accumulation of silver in the body.

SECTION 12: Ecological information

Toxicity

Highly toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment.
Forms corrosive mixtures with water even if diluted.

Bioaccumulative potential

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BCF: 200;
Highly bioaccumulative (Biological Concentration Factor 100-1000).

SECTION 13: Disposal considerations

Disposal methods

Product disposal

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Sewage disposal

BCF: 200;
Highly bioaccumulative (Biological Concentration Factor 100-1000).

Other disposal recommendations

Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)

UN Number: 3082
Class: 9
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains 10% Silver Nitrate)

Hazchem emergency action code (EAC)

2X

IMDG

UN Number: 3082
Class: 9
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains 10% Silver Nitrate)

IATA

UN Number: 3082
Class: 9
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains 10% Silver Nitrate)

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP

Poison Schedule: S6

SECTION 16: Other information

Further information/disclaimer

ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended.

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Preparation information

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'

Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.

Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.

Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants, December 2019

Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au

IATA, Dangerous Goods Regulations (DGR)

IMO, International Maritime Dangerous Goods Code (IMDG)