

Infosafe No™ 3CHCD	Issue Date : September 2021	RE-ISSUED by ACR
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 Product Name **SILVER NITRATE Solution 0.1-1.0% LR**

Not classified as hazardous

1. Identification

GHS Product Identifier SILVER NITRATE Solution 0.1-1.0% LR

Company Name AUSTRALIAN CHEMICAL REAGENTS (ACR) (ABN 19 008 264 211)

Address 38 - 50 Bedford Street Gillman
S.A. 5013 Australia

Telephone/Fax Number Tel: (08) 8440 2000
Fax: (08) 8440 2001

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

Recommended use of the chemical and restrictions on use Laboratory reagent.

Other Names	<u>Name</u>	<u>Product Code</u>
	SILVER NITRATE Solution 0.001N	2321
	SILVER NITRATE Solution 0.005N	4486
	SILVER NITRATE Solution 0.01N	0043
	SILVER NITRATE Solution 0.025N	1089
	SILVER NITRATE Solution 0.0282N	0046
	SILVER NITRATE Solution 0.02N	0045
	SILVER NITRATE Solution 0.05N	1356

Other Information EMERGENCY CONTACT NUMBER: +61 08 8440 2000
Business hours: 8:30am to 5:00pm, Monday to Friday.

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2. Hazard Identification

GHS classification of the substance/mixture Classified as non-Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.
Not classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

3. Composition/information on ingredients

Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Water	7732-18-5	99-99.9 %
	Silver nitrate	7761-88-8	0.1-1 %

4. First-aid measures

Inhalation Remove to fresh air.

Ingestion Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek medical advice if effects persist.

Skin Wash affected areas with copious quantities of water. Remove contaminated clothing and wash before re-use. If rapid recovery does not occur, obtain medical attention

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Eye contact Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. In all cases of eye contamination it is a sensible precaution to seek medical advice.

First Aid Facilities Maintain eyewash fountain and safety shower in work area.

Advice to Doctor Treat symptomatically based on judgement of doctor and individual reactions of the patient.

Other Information For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor.

5. Fire-fighting measures

Hazards from Combustion Products Oxygen, toxic fumes, toxic oxides of nitrogen, nitrous gases, metallic silver, silver oxides.

Specific Methods No limitations to the type of extinguishing media. Use extinguishing media most appropriate for the surrounding fire.

Specific hazards arising from the chemical Does not burn.

Precautions in connection with Fire Wear SCBA and structural firefighter's uniform.

6. Accidental release measures

Personal Precautions Avoid substance contact.

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

Clean-up Methods - Small Spillages Absorb or contain liquid with sand, earth or spill control material. Shovel up using non sparking tools and place in a labelled, sealable container for subsequent safe disposal. Put leaking containers in a labelled drum or overdrum.

Environmental Precautions Prevent from entering into drains, ditches, rivers or the sea.

Other Information Most organisations using silver compounds collect all silver residues for subsequent recovery. Solutions could be treated with a salt solution and the resulting silver chloride collected for subsequent recovery.

7. Handling and storage

Precautions for Safe Handling Avoid contact with eyes, skin, and clothing. Avoid ingestion. Avoid prolonged or repeated exposure. Wear suitable protective clothing. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep well closed and protected from direct sunlight and moisture. Light sensitive. Aqueous solutions are incompatible with alkali and alkaline earth metals and many reactive organic and inorganic chemicals.

Storage Regulations Refer Australian Standard AS 3780-1994 'The storage and handling of corrosive substances'.

Storage Temperatures Store at room temperature (15 to 25 °C recommended).

Unsuitable Materials Organic materials.

8. Exposure controls/personal protection

Occupational exposure limit values	Name	STEL		TWA		Footnote
		mg/m3	ppm	mg/m3	ppm	
	Silver nitrate			0.01		Silver, soluble compounds (as Ag)

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Other Exposure Information	The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. A time weighted average (TWA) has been established for Silver, soluble compounds (as Ag) (Safe Work Australia) of 0.01 mg/m ³ and for Silver, metal (Safe Work Australia) of 0.1 mg/m ³ . The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.
Appropriate engineering controls	Maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.
Respiratory Protection	Usually is not required. Where protection is required from nuisance levels of dust or mists select respiratory protection that complies with AS 1716 - Respiratory Protective Devices and select in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels.
Eye 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.
Hand Protection	Wear gloves of impervious material conforming to AS/NZS 2161: Occupational protective gloves - Selection, use and maintenance. Final choice of appropriate glove type will vary according to individual circumstances. This can include methods of handling, and engineering controls as determined by appropriate risk assessments.
Personal Protective Equipment	Personal protective equipment should not solely be relied upon to control risk and should only be used when all other reasonably practicable control measures do not eliminate or sufficiently minimise risk. Guidance in selecting personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.
Body Protection	Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.
Hygiene Measures	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

9. Physical and chemical properties

Form	Liquid
Appearance	Clear, colourless liquid.
Odour	Odourless.
Melting Point	>2 °C
Boiling Point	~ 100 °C
Solubility in Water	Miscible.
Specific Gravity	~ 1.04
pH	3.0 - 6.0 (25 °C)
Vapour Pressure	14 mm Hg @ 20 °C
Vapour Density (Air=1)	0.7
Evaporation Rate	>1 (ether=1)
Volatile Component	ca. 98 %vol @ 21 °C
Flammability	Non flammable.
Molecular Weight	169.87 + aq
Oxidising Properties	Dried product residue is a strong oxidizer.

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10. Stability and reactivity

Chemical Stability	Stable at room temperature in closed containers under normal storage and handling conditions. Light sensitive. Darkens on exposure to light.
Conditions to Avoid	Light, air, heat, high temperatures, evaporating to near dryness and incompatible materials.
Incompatible Materials	Due to low concentration of silver nitrate - none, exception being with substances reactive to water.
Hazardous Decomposition Products	Toxic fumes, toxic oxides of nitrogen, nitrous gases, metallic silver, oxygen, silver oxides.
Hazardous Polymerization	Will not occur.

11. Toxicological Information

Ingestion	May cause gastrointestinal irritation with nausea, vomiting and diarrhoea. Effects should be less severe than through exposure to higher concentrations of silver nitrate which may include symptoms of pain and burning in mouth, blackening of the skin and mucous membranes, throat and abdomen, diarrhoea and shock. A poison in higher concentrations.
Inhalation	May cause respiratory tract irritation. May be absorbed into the body following inhalation with symptoms paralleling those from ingestion exposure.
Skin	May cause skin discolouration. Effects are expected to be less severe than for exposure to higher concentrations where symptoms include redness, pain and severe burns.
Eye	Direct contact with eyes may cause temporary irritation.
Respiratory sensitisation	Not classified based on available information.
Skin Sensitisation	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.
STOT-single exposure	Not classified based on available information.
STOT-repeated exposure	Not classified based on available information.
Chronic Effects	Nitrites/nitrates may cause methaemoglobinaemia, which is characterized by chocolate-brown coloured blood, headache, weakness, dizziness, breath shortness, cyanosis (bluish skin due to deficient oxygenation of blood), rapid heart rate, unconsciousness and possible death. 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.
Serious eye damage/irritation	Not classified based on available information.
Skin corrosion/irritation	Not classified based on available information.

12. Ecological information

Ecotoxicity	Harmful effect on aquatic organisms. May cause long-term adverse effects in the aquatic environment. Silver ions toxic for aquatic organisms.
Persistence and degradability	Methods for the determination of biodegradability are not applicable to inorganic substances.

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Environmental Protection Do not allow to enter waters, waste water, or soil!

13. Disposal considerations

Disposal Considerations Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.

14. Transport information

15. Regulatory information

Regulatory Information All the constituents of this product are listed on the Australian Inventory of Chemical Substances (AICS), or exempted. Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.

16. Other Information

Literature References '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'.
Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand.
Safe Work Australia, 'Hazardous Chemical Information System'.
Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances'.
Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment'.

Contact Person/Point Paul McCarthy Ph. (08) 8440 2000 **DISCLAIMER STATEMENT:**
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Empirical Formula & Structural Formula AgNO3 + aq

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