

ALADDIN SCIENTIFIC CORPORATION
14078 Meridian Parkway, Riverside, CA. 92518

SAFETY DATA SHEET

Version: v1
Revision Date: 2023-10-12
Print Date: 2023-12-05

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

1.1 Product identifiers

Product name : Silver nitrate
Product Number : S116266
Brand : aladdin
CAS-No. : 7761-88-8

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

Identified uses : Laboratory chemicals, Manufacture of substances.

1.3 Company

Company : ALADDIN SCIENTIFIC CORPORATION
Address : 14078 Meridian Parkway,
Riverside, CA. 92518
Telephone : +1 (833) 552-7181
Fax : no data available

1.4 Emergency telephone number

CHEMTREC®, Inside the USA : 800-424-9300
CHEMTREC®, Outside the USA : 001-703-527-3887

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Oxidizing solid (category 2), H272

Metal Corrosion (Category 1), H290

Acute toxicity, oral (category 5), H303

Skin corrosion/irritation (category 1B), H314

Serious eye damage/eye irritation (category 1), H318

Acute (short-term) aquatic hazard (category 1), H400

Long-term aquatic hazard (category 1), H410

2.2 GHS Label elements, including precautionary statements

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Pictogram



Signal word

Danger

Hazard statement(s)

H272

May intensify fire; oxidizer

H290

May be corrosive to metals

H303

May be harmful if swallowed

H314

Causes severe skin burns and eye damage

H410

Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

P210

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

P220

Keep away from clothing and other combustible materials.

P221

Take any precaution to avoid mixing with combustibles/...

P234

Keep only in original container.

P260

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

P264

Wash hands [and ...] thoroughly after handling.

P273

Avoid release to the environment.

P280

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

P310

Immediately call a POISON CENTER or doctor/physician.

P312

Call a POISON CENTER or doctor/... if you feel unwell.

P363

Wash contaminated clothing before reuse.

P390

Absorb spillage to prevent material damage.

P391

Collect spillage.

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.

P370+P378

In case of fire: Use ... to extinguish.

P405

Store locked up.

P406

Store in corrosive resistant/... container with a resistant inner liner.

P410

Protect from sunlight.

P501

Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

SECTION 3: Composition/information on ingredients

3.1 Substances

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| | |
|------------------|---------------------------|
| Synonyms | : Silver nitrate solution |
| Formula | : AgNO ₃ |
| Molecular weight | : 169.87 |
| CAS No. | : 7761-88-8 |
| EC-NO. | : 231-853-9 |

| Component | Classification | Concentration |
|----------------|--|---------------|
| Silver nitrate | Ox. Sol. 2; Met. Corr. 1; Skin Corr. 1B; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 1; H272, H290, H314, H318, H400, H410 Concentration limits: >= 1 %: Met. Corr. 1, H290; M-Factor - Aquatic Acute: 1.000 - Aquatic Chronic: 100 | ACS, ≥99.0% |

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed

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

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

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5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NO_x) Silver/silver oxides Container explosion may occur under fire conditions. Not combustible. Has a fire-promoting effect due to release of oxygen. Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Keep away from open flames, hot surfaces and sources of ignition. Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Do not store near combustible materials. Light sensitive.

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

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8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Body Protection

Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

If safety requires, prevent further leakage or spillage. Do not let the product enter the sewer.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|--|--|
| a) Appearance | form: Powder or Crystals color: Colorless or White |
| b) Odour | no data available |
| c) Odour Threshold | no data available |
| d) pH | no data available |
| e) Melting point/freezing point | 212°C |
| f) Initial boiling point and boiling range | 444°C |
| g) Flash point | no data available |
| h) Evaporation rate | no data available |
| i) Flammability (solid, gas) | no data available |

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| | |
|---|-------------------|
| j) Upper/lower flammability or explosive limits | no data available |
| k) Vapour pressure | no data available |
| l) Vapour density | no data available |
| m) Relative density | 4.35 |
| n) Water solubility | no data available |
| o) Partition coefficient: n-octanol/water | no data available |
| p) Auto-ignition temperature | no data available |
| q) Decomposition temperature | no data available |
| r) Viscosity | no data available |
| s) Explosive properties N | no data available |
| t) Oxidizing properties N | no data available |

9.2 Other safety information

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) . Decomposes on exposure to light.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Light.

10.5 Incompatible materials

Aluminum, Mild steel, Metals

10.6 Hazardous decomposition products

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute toxicity estimate Oral-1,173 mg/kg

(Calculation method)

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LD50 Oral-Rat-Male and Female-3,804 mg/kg

(OECD Test Guideline 401)

LC50 inhalation-rat-male and female-4 h-> 0.075 mg/l

(OECD Test Guideline 403)

LD50 transdermal-rat-male and female-> 2,000 mg/kg

(OECD Test Guideline 402)

Skin corrosion/irritation

Skin - reconstructed human epidermis (RhE) Result: Corrosive - 3 - 60 min (OECD Test Guideline 431) (Regulation (EC) No 1272/2008, Annex VI)

Serious eye damage/eye irritation

Causes serious eye damage. Risk of permanent damage due to staining of the cornea.

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

Test Type: Micronucleus test Test system: Human lymphocytes Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 487 Result: negative Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells Metabolic activation: with and without metabolic activation Method: OECD

Test Guideline 476 Result: Positive results were obtained in some in vitro tests.

Carcinogenicity

no data available

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

Repeated exposure toxicity-rat-male and female-oral-52 days-no harmful effect observed->= 250 mg/kg

Registration of Toxic Effects of Chemical Substances: VW4725000

May cause silver poisoning (the skin and deep tissues are blue or blue-gray due to the deposition of insoluble leikin caused by silver).

From the formation of methemoglobin, a certain concentration causes paleness. Usually onset after 2 to 4 hours or more

As far as we know, the chemical, physical and toxic properties have not been fully studied.

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SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish semi-static test LC50 - Pimephales promelas (fathead minnow) - 0.0012 mg/l - 96 h (US-EPA)

Toxicity to daphnia and other aquatic invertebrates semi-static test LC50 - Daphnia magna (Water flea) - 0.00022 mg/l - 48 h Remarks: (ECHA)

Toxicity to fish(Chronic toxicity) flow-through test NOEC - Pimephales promelas (fathead minnow) - 0.351 mg/l - 32 d Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity) semi-static test EC10 - Ceriodaphnia dubia (water flea) - 0.00248 mg/l - 7 d (US-EPA)

12.2 Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Bioaccumulation Cyprinus carpio (Carp) - 41 d at 20 °C(Silver nitrate) Bioconcentration factor (BCF): 70

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

no data available

SECTION 13:

13.1 Disposal considerations

Product

recycle to process, if possible. Consult your local regional authorities and an expert of disposal. You may be able to dissolve or mix material with a combustible solvent and little by little burn in a chemical incinerator equipped with an afterburner and scrubber system. If a large amount of the substance is burned at a time, an explosion may occur. Observe all federal, state and local regulations when disposing of the substance.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

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| | | |
|--------------------------------------|--|---|
| UN number: 1493 | Packing group: II | Class: 5.1 |
| Proper shipping name: Silver nitrate | Reportable Quantity(RQ): no data available | Poison Inhalation Hazard: no data available |
| Environmental Hazards: yes | | |
| IMDG | | |
| UN number: 1493 | Packing group: II | EMS-No: no data available |
| Proper shipping name: Silver nitrate | | |
| IATA | | |
| UN number: 1493 | Packing group: II | Class: 5.1 |
| Proper shipping name: Silver nitrate | | |

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

SECTION 16: Other information

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| Prepared By | Regulatory Affairs ALADDIN SCIENTIFIC CORPORATION Email: QualityAssurance@aladdinsci.com |
| Creation Date | 12-Oct-2023 |
| Revision Date | 12-Oct-2023 |
| Print Date | 05-Dec-2023 |
| Revision Summary | SDS sections updated v1 |

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