

Safety Data Sheet


according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: February 14, 2020

1 Identification

- **Product identifier**
- **Trade name:** Silver Nitrate Solution, 0.1N
- **Product code:** S25527
- **Recommended use and restriction on use**
- **Recommended use:** Laboratory chemicals
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
AquaPhoenix Scientific, Inc.
860 Gitts Run Road
Hanover, PA 17331
Phone: (717)632-1291
Toll-Free: (866)632-1291
info@aquaphoenixsci.com
- **Distributor:**
Fisher Science Education
6771 Silver Crest Road,
Nazareth, PA 18064
(800) 955-1177
- **Emergency telephone number:**
ChemTel Inc.
(800)255-3924 (North America)
+1 (813)248-0585 (International)

2 Hazard(s) identification

- **Classification of the substance or mixture**
Met. Corr.1 H290 May be corrosive to metals.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
- **Label elements**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**

GHS05
- **Signal word:** Warning
- **Hazard statements:**
H290 May be corrosive to metals.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
- **Precautionary statements:**
P234 Keep only in original container.
P264 Wash thoroughly after handling.

(Cont'd. on page 2)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: February 14, 2020

Trade name: Silver Nitrate Solution, 0.1N

(Cont'd. of page 1)



P280 Wear protective gloves/protective clothing/eye protection.
 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.
 P332+P313 If skin irritation occurs: Get medical advice/attention.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P337+P313 If eye irritation persists: Get medical advice/attention.
 P390 Absorb spillage to prevent material damage.
 P406 Store in corrosive resistant container with a resistant inner liner.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Components:**

| | | |
|-----------|---|-------|
| 7732-18-5 | Water | 98.3% |
| 7761-88-8 | silver nitrate | 1.7% |
| |  Ox. Sol. 2, H272  Met. Corr. 1, H290; Skin Corr. 1B, H314; Eye Dam. 1, H318 | |

· **Additional information:** For the wording of the listed Hazard Statements, refer to section 16.

4 First-aid measures

· **Description of first aid measures**

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

· **After eye contact:**

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; immediately call for medical help.

· **Most important symptoms and effects, both acute and delayed:**

May cause gastro-intestinal irritation if ingested.

Nausea in case of ingestion.

Irritating to eyes and skin.

· **Indication of any immediate medical attention and special treatment needed:**

If medical advice is needed, have product container or label at hand.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

The product is not flammable.

(Cont'd. on page 3)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: February 14, 2020

Trade name: Silver Nitrate Solution, 0.1N

(Cont'd. of page 2)

- Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** No relevant information available.
- **Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
Substance/product is oxidizing when dry.
- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.
Keep/Store away from clothing/combustible materials.
- **Environmental precautions** Avoid release to the environment.
- **Methods and material for containment and cleaning up**
Absorb with non-combustible liquid-binding material (sand, diatomite, acid binders, universal binders).
Send for recovery or disposal in suitable receptacles.
- **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.

7 Handling and storage

- **Handling**
- **Precautions for safe handling:**
Use only in well ventilated areas.
Avoid splashes or spray in enclosed areas.
- **Information about protection against explosions and fires:** Substance/product is oxidizing when dry.
- **Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:**
Due to photo-sensitivity, store product in brown-glass receptacles.
Unsuitable material for receptacle: aluminium.
Unsuitable material for receptacle: steel.
- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from oxidizing agents.
Store away from metals.
Do not store together with alkalis (caustic solutions).
- **Further information about storage conditions:**
Photoreactive.
Keep containers tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No relevant information available.

(Cont'd. on page 4)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: February 14, 2020

Trade name: Silver Nitrate Solution, 0.1N

(Cont'd. of page 3)

8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Exposure controls**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Engineering controls:** Provide adequate ventilation.
- **Breathing equipment:**
Not required under normal conditions of use.
For large spills, respiratory protection may be advisable.
- **Protection of hands:**



Protective gloves

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

- **Material of gloves**
Laminated film gloves.
Butyl rubber, BR
Neoprene gloves
Nitrile rubber, NBR
Natural rubber, NR
Sensibilization by the components in the glove materials is possible.
- **Eye protection:**



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment**
No relevant information available.
- **Risk management measures** No special requirements.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **Appearance:**

| | |
|---------------|------------------|
| Form: | Liquid |
| Color: | Clear, colorless |

(Cont'd. on page 5)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: February 14, 2020

Trade name: Silver Nitrate Solution, 0.1N

(Cont'd. of page 4)

| | |
|---|---|
| · Odor: | Not determined. |
| · Odor threshold: | Not determined. |
| · pH-value: | Not determined. |
| · Melting point/Melting range: | Not determined. |
| · Boiling point/Boiling range: | 100-105 °C (212-157 °F) |
| · Flash point: | The product is not flammable. |
| · Flammability (solid, gaseous): | Not applicable. |
| · Auto-ignition temperature: | Not determined. |
| · Decomposition temperature: | Not determined. |
| · Danger of explosion: | Product does not present an explosion hazard. |
| · Explosion limits | |
| · Lower: | Not determined. |
| · Upper: | Not determined. |
| · Oxidizing properties: | Not determined. |
| · Vapor pressure at 20 °C (68 °F): | 23 hPa (17.3 mm Hg) |
| · Density: | |
| · Relative density: | 1.34 |
| · Vapor 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. |
| · Other information | No relevant information available. |

10 Stability and reactivity

- **Reactivity:** The product is non-reactive under normal conditions of use, storage and transport.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**
Keep away from heat and direct sunlight.
Photoreactive.
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**
Substance/product is oxidizing when dry.
Reacts with strong alkali.
Reacts with certain metals.
Corrosive action on metals.
Toxic fumes may be released if heated above the decomposition point.
- **Conditions to avoid**

(Cont'd. on page 6)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: February 14, 2020

Trade name: Silver Nitrate Solution, 0.1N

(Cont'd. of page 5)

Direct sunlight.

Excessive heat.

· **Incompatible materials**

Strong acids

Alkalis.

· **Hazardous decomposition products**

Under fire conditions only:

Nitrogen oxides

Toxic metal oxide smoke

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:** Based on available data, the classification criteria are not met.

· **LD/LC50 values that are relevant for classification:** None.

· **Primary irritant effect:**

· **On the skin:** Irritant to skin and mucous membranes.

· **On the eye:** Causes serious eye irritation.

· **Sensitization:** Based on available data, the classification criteria are not met.

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **NTP (National Toxicology Program):**

None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

· **Probable route(s) of exposure:**

Ingestion.

Inhalation.

Eye contact.

Skin contact.

· **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:** Based on available data, the classification criteria are not met.

· **STOT-single exposure:** Based on available data, the classification criteria are not met.

· **STOT-repeated exposure:** Based on available data, the classification criteria are not met.

· **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity** No relevant information available.

· **Persistence and degradability** No relevant information available.

· **Bioaccumulative potential:** No relevant information available.

· **Mobility in soil:** No relevant information available.

· **Other adverse effects** No relevant information available.

(Cont'd. on page 7)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: February 14, 2020

Trade name: Silver Nitrate Solution, 0.1N

(Cont'd. of page 6)

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

- **Uncleaned packagings**

- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**

- DOT, ADR/RID/ADN, IMDG, IATA UN3264

- **UN proper shipping name**

- DOT, IATA Corrosive liquid, acidic, inorganic, n.o.s. (silver nitrate)
- ADR/RID/ADN, IMDG CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SILVER NITRATE)

- **Transport hazard class(es)**

- DOT



- Class 8

- Label 8

- ADR/RID/ADN



- Class 8 (C1)

- Label 8

- IMDG, IATA



- Class 8

- Label 8

- **Packing group**

- DOT, ADR/RID/ADN, IMDG, IATA III

- **Environmental hazards**

Product contains environmentally hazardous substances: silver nitrate

(Cont'd. on page 8)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: February 14, 2020

Trade name: Silver Nitrate Solution, 0.1N

(Cont'd. of page 7)

| | |
|--|--|
| · Marine pollutant: | Yes |
| · Special precautions for user | Warning: Corrosive substances |
| · Hazard identification number (Kemler code): | 80 |
| · EMS Number: | F-A,S-B |
| · Segregation groups | Acids |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · DOT | See 173.154(d) for corrosive exceptions. Labeling as a Marine Pollutant is only required for bulk single package shipments. Bulk packaging consists of a maximum capacity of greater than 450 L (119 gallons) for a liquid and a maximum net mass greater than 400 kg (882 pounds) for a solid. (See 171.4(c)) |
| · ADR/RID/ADN | Marine pollutants packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids are not subject to provisions relevant to marine pollutants. (See 5.2.1.8.1) |
| · IMDG | Marine pollutants packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids are not subject to provisions relevant to marine pollutants. (See 2.10.2.7) |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **United States (USA)**
- **SARA**

· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

7761-88-8 silver nitrate

· **TSCA (Toxic Substances Control Act)**

7761-88-8 silver nitrate

7732-18-5 Water

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

(Cont'd. on page 9)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: February 14, 2020

Trade name: Silver Nitrate Solution, 0.1N

(Cont'd. of page 8)

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **Canadian Domestic Substances List (DSL):**

None of the ingredients are listed.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

OSHA: Occupational Safety & Health Administration

Ox. Sol. 2: Oxidizing solids – Category 2

Met. Corr. 1: Corrosive to metals – Category 1

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

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

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

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

· **Sources**

Website, European Chemicals Agency (echa.europa.eu)

Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)

Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaassen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

SDS Prepared by:

ChemTel Inc.

1305 North Florida Avenue

Tampa, Florida USA 33602-2902

Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573

Website: www.chemtelinc.com