

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, 1.0N
- **Product code:** S25526
- **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**
Ox. Liq. 2 H272 May intensify fire; oxidizer.
Met. Corr.1 H290 May be corrosive to metals.
Skin Corr. 1B H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.
- **Label elements**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**

GHS03 GHS05
- **Signal word:** Danger
- **Hazard statements:**
H272 May intensify fire; oxidizer.
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
- **Precautionary statements:**
P210 Keep away from heat.

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- P220 Keep/Store away from clothing/combustible materials.
 P221 Take any precaution to avoid mixing with combustibles.
 P234 Keep only in original container.
 P260 Do not breathe mist/vapors/spray.
 P264 Wash thoroughly after handling.
 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/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.
 P363 Wash contaminated clothing before reuse.
 P370+P378 In case of fire: Use for extinction: Water spray.
 P390 Absorb spillage to prevent material damage.
 P405 Store locked up.
 P406 Store in corrosive resistant container with a resistant inner liner.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.



· **NFPA ratings (scale 0 - 4)** The substance possesses oxidizing properties.

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

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Components:**

7761-88-8	silver nitrate  Ox. Sol. 2, H272  Met. Corr. 1, H290; Skin Corr. 1B, H314; Eye Dam. 1, H318	17.0%
7732-18-5	Water	83.0%

· **Additional information:**

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.
 For the wording of the listed Hazard Statements, refer to section 16.

4 First-aid measures

· **Description of first aid measures**

· **General information:** Immediately remove any clothing soiled by the product.

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

· **After skin contact:**

Immediately rinse with water.

If skin irritation continues, consult a doctor.

Seek immediate help for blistering or open wounds.

· **After eye contact:**

Protect unharmed eye.

Remove contact lenses if worn.

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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:**

Strong caustic effect on skin and mucous membranes.

Discoloration of skin.

Gastric or intestinal disorders when ingested.

· **Danger:**

Danger of gastric perforation.

Causes serious eye damage.

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

Medical supervision for at least 48 hours.

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

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:** 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**

May intensify fire; oxidizer.

During heating or in case of fire poisonous gases are produced.

· **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**

Ensure adequate ventilation.

Take any precaution to avoid mixing with combustibles.

Wear protective equipment. Keep unprotected persons away.

For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.

· **Environmental precautions**

Do not allow to enter sewers/ surface or ground water.

Inform respective authorities in case of seepage into water course or sewage system.

· **Methods and material for containment and cleaning up**

Use limestone to neutralize and/or absorb spill.

Substance/product is oxidizing when dry.

Clean the affected area carefully; suitable cleaners are:

Warm water

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.

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7 Handling and storage

- **Handling**
- **Precautions for safe handling:**
 - Avoid splashes or spray in enclosed areas.
 - Prevent formation of aerosols.
 - Use only in well ventilated areas.
 - Take any precaution to avoid mixing with combustibles.
- **Information about protection against explosions and fires:**
 - May intensify fire; oxidizer.
 - Substance/product can reduce the ignition temperature of flammable substances.
- **Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:**
 - Store only in the original receptacle.
 - 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 flammable substances.
 - Do not store together with acids.
 - Store away from metals.
- **Further information about storage conditions:**
 - Keep containers tightly sealed.
 - Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No relevant information available.

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:** Use suitable respiratory protective device when high concentrations are present.
- **Protection of hands:**



Protective gloves

- **Material of gloves**

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Nitrile rubber, NBR

Neoprene gloves

Laminated film gloves.

Natural rubber, NR

Sensibilization by the components in the glove materials is possible.

· **Not suitable are gloves made of the following materials:** PVA gloves

· **Eye protection:**

Contact lenses should not be worn.



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.

9 Physical and chemical properties

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

· **Appearance:**

· **Form:**

Liquid

· **Color:**

According to product specification

· **Odor:**

Characteristic

· **Odor threshold:**

Not determined.

· **pH-value:**

Not determined.

· **Melting point/Melting range:**

Not determined.

· **Boiling point/Boiling range:**

>100 °C (>212 °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:**

Oxidizer

· **Vapor pressure:**

Not determined.

· **Density at 20 °C (68 °F):**

2.0-2.1 g/cm³ (16.69-17.52 lbs/gal)

· **Relative density:**

Not determined.

· **Vapor density:**

Not determined.

· **Evaporation rate:**

Not determined.

· **Solubility in / Miscibility with**

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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:** No relevant information available.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**
Acts as an oxidizing agent on organic materials such as wood, paper and fats.
Reacts with strong acids.
Contact with acids releases toxic gases.
Toxic fumes may be released if heated above the decomposition point.
Reacts with certain metals.
Corrosive action on metals.
Reacts with reducing agents.
- **Conditions to avoid** No relevant information available.
- **Incompatible materials**
Flammable materials.
Acids.
Metals.
Reducing agents.
- **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:** Strong caustic effect on skin and mucous membranes.
- **On the eye:** Strong caustic effect.
- **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.

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

None of the ingredients are listed.

· **Probable route(s) of exposure:**

Ingestion.
Inhalation.
Eye contact.
Skin contact.

· **Acute effects (acute toxicity, irritation and corrosivity):** Causes severe skin burns and eye damage.

· **Repeated dose toxicity:** No relevant information available.

· **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.

· **Ecotoxicological effects:**

· **Remark:** Very toxic for fish

· **Additional ecological information**

· **General notes:**

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Very toxic for aquatic organisms

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

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. Residual materials should be treated as hazardous.

· **Uncleaned packagings**

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

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

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· UN-Number	
· DOT, ADR/RID/ADN, IMDG, IATA	UN3264
· UN proper shipping name	
· DOT	Corrosive liquid, acidic, inorganic, n.o.s. (silver nitrate)
· ADR/RID/ADN	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SILVER NITRATE), ENVIRONMENTALLY HAZARDOUS
· IMDG	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SILVER NITRATE), MARINE POLLUTANT
· IATA	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SILVER NITRATE)
· Transport hazard class(es)	
· DOT	
	
· Class	8
· Label	8
· ADR/RID/ADN	
	 
· Class	8 (C9)
· Label	8
· IMDG	
	 
· Class	8
· Label	8
· IATA	
	
· Class	8
· Label	8
· Packing group	
· DOT, ADR/RID/ADN, IMDG, IATA	II
· Environmental hazards	Product contains environmentally hazardous substances: silver nitrate
· Marine pollutant:	Symbol (fish and tree)

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|--|-------------------------------|
| · 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. |
|--|-----------------|

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
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· TSCA (Toxic Substances Control Act)

7761-88-8	silver nitrate
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7732-18-5	Water
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· Proposition 65 (California)

· Chemicals known to cause cancer:

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.

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· 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)
NFPA: National Fire Protection Association (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
OSHA: Occupational Safety & Health Administration
Ox. Liq. 2: Oxidizing liquids – Category 2
Ox. Sol. 2: Oxidizing solids – Category 2
Met. Corr. 1: Corrosive to metals – Category 1
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Eye Dam. 1: Serious eye damage/eye irritation – Category 1

· Sources

Website, European Chemicals Agency (echa.europa.eu)
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sorinternet/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., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.
Safety Data Sheets, Individual Manufacturers

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