

# 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
- **Product code:** S25525
- **CAS Number:**  
7761-88-8
- **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. Sol. 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.

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· **Precautionary statements:**

- P210 Keep away from heat.
- 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 dust.
- P264 Wash thoroughly after handling.
- P280 Wear protective gloves/protective clothing/eye 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: Substances**

· **CAS No. Description**

7761-88-8 silver nitrate

## 4 First-aid measures

· **Description of first aid measures**

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

· **After skin contact:**

Brush off loose particles from skin.

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.

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:**

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Strong caustic effect on skin and mucous membranes.

Danger of severe eye injury.

Gastric or intestinal disorders when ingested.

Discoloration of skin.

· **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.

As the product is supplied it is not capable of dust explosion; however enrichment with fine dust causes risk of dust explosion.

· **Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

· **Additional information:**

Take any precaution to avoid mixing with combustibles.

Cool endangered receptacles with water spray.

## 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**

Pick up mechanically.

Sweep up and place into an appropriate container.

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:**
  - Thorough dedusting.
  - Any deposit of dust which cannot be avoided must be regularly removed.
  - Do not dry clean dust covered objects and floors. Wash thoroughly with plenty of water.
  - Use only in well ventilated areas.
- **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:**
  - Keep away from heat.
  - 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.
  - Do not store together with acids.
  - Store away from flammable substances.
  - Store away from metals.
- **Further information about storage conditions:**
  - Protect from heat and direct sunlight.
  - Store in dry conditions.
  - This product is hygroscopic.
  - 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:**

**7761-88-8 silver nitrate**

PEL (USA)	Long-term value: 0.01 mg/m <sup>3</sup> as Ag
REL (USA)	Long-term value: 0.01 mg/m <sup>3</sup> as Ag
TLV (USA)	Long-term value: 0.01 mg/m <sup>3</sup> as Ag
EL (Canada)	Short-term value: 0.03 mg/m <sup>3</sup> Long-term value: 0.01 mg/m <sup>3</sup> as Ag
LMPE (Mexico)	Long-term value: 0.01 mg/m <sup>3</sup> como Ag

- **Exposure controls**

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· **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

· **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.

## 9 Physical and chemical properties

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

· **Appearance:**

Form: Crystalline powder

Color: White

· **Odor:** Characteristic

· **Odor threshold:** Not determined.

· **pH-value:** Not applicable.

· **Melting point/Melting range:** 210 °C (410 °F)

· **Boiling point/Boiling range:** 444 °C (831.2 °F)

· **Flash point:** The product is not flammable.

· **Flammability (solid, gaseous):** Contact with combustible material may cause fire.

· **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.

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· <b>Density at 20 °C (68 °F):</b>	4.35 g/cm <sup>3</sup> (36.3 lbs/gal)
· <b>Relative density:</b>	Not determined.
· <b>Vapor density:</b>	Not applicable.
· <b>Evaporation rate:</b>	Not applicable.
· <b>Solubility in / Miscibility with Water:</b>	Soluble.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity</b>	
<b>Dynamic:</b>	Not applicable.
<b>Kinematic:</b>	Not applicable.
· <b>Other information</b>	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.  
As the product is supplied it is not capable of dust explosion; however enrichment with fine dust causes risk of dust explosion.  
Reacts with strong acids.  
Corrosive action on metals.  
Reacts with reducing agents.  
Toxic fumes may be released if heated above the decomposition point.  
Contact with acids releases toxic gases.
- **Conditions to avoid** No relevant information available.
- **Incompatible materials**  
Acids.  
Flammable materials.  
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.

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- **On the eye:** Strong caustic effect.
- **Sensitization:** Based on available data, the classification criteria are not met.

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

Substance is not listed.

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

Substance is not listed.

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

Substance is not 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** Toxic for aquatic organisms
- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Ecotoxic effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information**
- **General notes:**  
Must not reach bodies of water or drainage ditch undiluted or unneutralized.  
Very toxic for aquatic organisms  
Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.
- **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.

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- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

· **UN-Number**  
 · DOT, ADR/RID/ADN, IMDG, IATA UN1493

· **UN proper shipping name**  
 · DOT, ADR/RID/ADN, IMDG, IATA SILVER NITRATE

· **Transport hazard class(es)**

· DOT



· **Class** 5.1  
 · **Label** 5.1

· **ADR/RID/ADN**



· **Class** 5.1 (O2)  
 · **Label** 5.1

· **IMDG, IATA**



· **Class** 5.1  
 · **Label** 5.1

· **Packing group**

· DOT, ADR/RID/ADN, IMDG, IATA II

· **Environmental hazards** Not applicable.

· **Special precautions for user** Warning: Oxidizing substances

· **Hazard identification number (Kemler code):** 50

· **EMS Number:** 5.1-06

· **Segregation groups** Heavy metals and their salts (including their organometallic compounds)

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

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· **Transport/Additional information:**

· DOT

· **Hazardous substance:** 1 lbs, 0.454 kg

## 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **United States (USA)**

· **SARA**

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

Substance is not listed.

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

Substance is listed.

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

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

Substance is not listed.

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

Substance is not listed.

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

Substance is not listed.

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

Substance is not listed.

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

Substance is not listed.

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

Substance is not listed.

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

Substance is not 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)

NFPA: National Fire Protection Association (USA)

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

**Sources**

Website, European Chemicals Agency ([echa.europa.eu](http://echa.europa.eu))  
Website, US EPA Substance Registry Services ([ofmpub.epa.gov/sor\\_internet/registry/substreg/home/overview/home.do](http://ofmpub.epa.gov/sor_internet/registry/substreg/home/overview/home.do))  
Website, Chemical Abstracts Registry, American Chemical Society ([www.cas.org](http://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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