

# Safety Data Sheet

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


Printing date: March 19, 2019

Revision: March 19, 2019

## 1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** Silver Nitrate
- **Product code:** S25525A
- **CAS number:**  
7761-88-8
- **Recommended use and restriction on use**
- **Recommended use:** Laboratory chemicals
- **Restrictions on use:** No further 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 Hazards identification

- **Classification of the substance or mixture**  
Ox. Sol. 2 H272 May intensify fire; oxidiser.  
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 labelled according to the Globally Harmonized System within the United States.
- **Hazard pictograms**  

  
GHS03 GHS05
- **Signal word** Danger
- **Hazard statements**  
H272 May intensify fire; oxidiser.  
H290 May be corrosive to metals.

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H314 Causes severe skin burns and eye damage.

· **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): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position 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 /container with a corrosion resistant inner liner.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

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

## 3 Composition/information on ingredients

· **Chemical characterisation: 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 medical 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.

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Do not induce vomiting; call for medical help immediately.

- **Most important symptoms and effects, both acute and delayed**

Strong caustic effect on skin and mucous membranes.

Danger of severe eye injury.

Gastric or intestinal disorders when ingested.

Discoloration of skin.

- **Hazards:**

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 Firefighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.

- **For safety reasons unsuitable extinguishing agents:** No further relevant information available.

- **Special hazards arising from the substance or mixture**

May intensify fire; oxidiser.

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.

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See Section 13 for disposal information.

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## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Thorough dedusting.  
Any unavoidable deposit of dust 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 fire - and explosion protection:**  
May intensify fire; oxidiser.  
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.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Control parameters**
- **Ingredients 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

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- **Exposure controls**
- **General protective and hygienic measures:**  
The usual precautionary measures are to be adhered to when handling chemicals.  
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.
- **Respiratory protection:** Use suitable respiratory protective device when high concentrations are present.
- **Protection of hands:**



Protective gloves

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **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 further relevant information available.

## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · Appearance

**Form:** Crystalline powder

**Colour:** White

· **Odour:** Characteristic

· **Odour threshold:** Not determined.

· **pH-value:** Not applicable.

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

· **Initial boiling point and boiling range:** 444 °C (831.2 °F)

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

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

· **Auto/Self-ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

· **Explosive properties:** Product does not present an explosion hazard.

· **Explosion limits**

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<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Oxidising properties</b>	Oxidizer
· <b>Vapour pressure:</b>	Not determined.
· <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>Vapour 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 further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further 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 oxidising 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 further relevant information available.
- **Incompatible materials**  
Acids.  
Flammable substances or mixtures.  
Metals.  
Reducing agents.
- **Hazardous decomposition products**  
Under fire conditions only:  
Nitrogen oxides  
Toxic metal oxide smoke

## 11 Toxicological information

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· **Information on toxicological effects**

- **Acute toxicity:** Based on available data, the classification criteria are not met.
- **LD/LC50 values relevant for classification:** None.
- **Primary irritant effect**
- **Skin corrosion/irritation:** Strong caustic effect on skin and mucous membranes.
- **Serious eye damage/irritation:** Strong caustic effect.
- **Respiratory or skin sensitisation:** 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 routes 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 further 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 further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

· **Ecotoxicological effects:**

· **Remark:** Very toxic for fish

· **Additional ecological information:**

· **General notes:**

Must not reach sewage water or drainage ditch undiluted or unneutralised.  
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.

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

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## 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 packaging:**

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

- **Recommended cleansing agents:** Water, if necessary together 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: Oxidising substances.

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· <b>Danger code (Kemler):</b>	50
· <b>EMS Number:</b>	5.1-06
· <b>Segregation groups</b>	Heavy metals and their salts (including their organometallic compounds)
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR/RID/ADN</b>	
· <b>Transport category</b>	2
· <b>Tunnel restriction code</b>	E

## 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 355 (extremely hazardous substances):**

Substance is not listed.

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

Substance is listed.

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

Substance is listed.

· **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) (Substances not listed)**

Substance is listed.

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## 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)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bio-accumulable, Toxic  
vPvB: very Persistent and very Bioaccumulative  
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., Klaassen, Curtis D., ed., ISBN: 978-0-07-176923-5.  
Safety Data Sheets, Individual Manufacturers

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