

Safety Data Sheet

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


Printing date: February 25, 2019

Revision: February 25, 2019

1 Identification

- **Product identifier**
- **Trade name:** Silver Nitrate Titrant
- **Product code:** AR-1020-60
- **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:**
Aqua Analytics
245 Matheson Blvd East, Units 1 & 2
Mississauga, Ontario Canada L4Z 3C9
(888) 712-4000
- **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 Corr. 1C 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:**

GHS05
- **Signal word:** Danger
- **Hazard statements:**
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
- **Precautionary statements:**
P234 Keep only in original container.
P260 Do not breathe mist/vapors/spray.
P264 Wash thoroughly after handling.

(Cont'd. on page 2)

Safety Data Sheet

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

Printing date: February 25, 2019

Revision: February 25, 2019

Trade name: Silver Nitrate Titrant

(Cont'd. of page 1)



- P280 Wear protective gloves and 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.
- 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.

· **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		96.63%
7761-88-8	silver nitrate	 Ox. Sol. 2, H272  Met. Corr.1, H290; Skin Corr. 1B, H314; Eye Dam. 1, H318	3.37%

· **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**

· **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.

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:**

Strong caustic effect on skin and mucous membranes.

Gastric or intestinal disorders when ingested.

Cramp

Coughing

(Cont'd. on page 3)

Safety Data Sheet

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

Printing date: February 25, 2019

Revision: February 25, 2019

Trade name: Silver Nitrate Titrant

(Cont'd. of page 2)

- **Danger:**
 Danger of gastric perforation.
 Causes severe skin burns and eye damage.
- **Indication of any immediate medical attention and special treatment needed:** Treat symptomatically.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
 The product is not flammable.
 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.
- **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.
- **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**
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
 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:**
 Avoid splashes or spray in enclosed areas.
 Use only in well ventilated areas.
 Avoid contact with the eyes and skin.
 Avoid breathing mist, vapors, or spray.
 Open and handle receptacle with care.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**

(Cont'd. on page 4)

Safety Data Sheet

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

Printing date: February 25, 2019



Revision: February 25, 2019

Trade name: Silver Nitrate Titrant

(Cont'd. of page 3)

- **Requirements to be met by storerooms and receptacles:**
 - Store only in the original receptacle.
 - Unsuitable material for receptacle: aluminium.
 - Unsuitable material for receptacle: steel.
 - Due to photo-sensitivity, store product in brown-glass receptacles.
- **Information about storage in one common storage facility:**
 - Store away from foodstuffs.
 - Store away from oxidizing agents.
 - Do not store together with alkalis (caustic solutions).
 - Store away from metals.
- **Further information about storage conditions:** Keep containers tightly sealed.
- **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:**
 - 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.
- **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 relevant information available.

(Cont'd. on page 5)

Safety Data Sheet

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

Printing date: February 25, 2019

Revision: February 25, 2019

Trade name: Silver Nitrate Titrant

(Cont'd. of page 4)

9 Physical and chemical properties

· Information on basic physical and chemical properties

· Appearance:

· Form:	Liquid
· Color:	Clear, colorless
· Odor:	Not determined.
· Odor threshold:	Not determined.

· pH-value:	Not determined.
· Melting point/Melting range:	Not determined.
· Boiling point/Boiling range:	105-110 °C (221-230 °F)

· Flash point:	The product is not flammable.
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· Flammability (solid, gaseous):	Not applicable.
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· Auto-ignition temperature:	Not determined.
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· Decomposition temperature:	Not determined.
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· Danger of explosion:	Product does not present an explosion hazard.
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· Explosion limits

· Lower:	Not determined.
· Upper:	Not determined.

· Oxidizing properties:	Not determined.
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· Vapor pressure:	Not determined.
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· Density:	
· Relative density at 20 °C (68 °F):	>1.13
· Vapor density:	Not determined.
· Evaporation rate:	Not determined.

· Solubility in / Miscibility with Water:	Fully miscible.
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· Partition coefficient (n-octanol/water):	Not determined.
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· Viscosity

· Dynamic:	Not determined.
· Kinematic:	Not determined.

· Other information	No relevant information available.
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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.
Avoid extreme heat.
Protect from sunlight.
- **Possibility of hazardous reactions**

(Cont'd. on page 6)

Safety Data Sheet

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

Printing date: February 25, 2019

Revision: February 25, 2019

Trade name: Silver Nitrate Titrant

(Cont'd. of page 5)

Reacts with strong alkali.
 Reacts with certain metals.
 Reacts with alkali (lyes).
 Corrosive action on metals.
 Toxic fumes may be released if heated above the decomposition point.
 Reacts with oxidizing agents.

• **Conditions to avoid**

Direct sunlight.
 Excessive heat.

• **Incompatible materials**

Strong acids
 Alkalis

• **Hazardous decomposition products**

Under fire conditions only:
 Nitrogen oxides (NO_x)
 Toxic metal oxide smoke
 Corrosive gases/vapors

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.

• **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

(Cont'd. on page 7)

Safety Data Sheet

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

Printing date: February 25, 2019

Revision: February 25, 2019

Trade name: Silver Nitrate Titrant


(Cont'd. of page 6)

- **Toxicity**
- **Aquatic toxicity** Toxic to aquatic life with long lasting effects.
- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Ecotoxicological effects:**
- **Remark:** 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.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **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.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|--|
| · UN-Number | |
| · DOT, ADR/RID/ADN, IMDG, IATA | UN1760 |
| · UN proper shipping name | |
| · DOT, IATA | Corrosive liquids, n.o.s. (Silver nitrate) |
| · ADR/RID/ADN, IMDG | CORROSIVE LIQUID, N.O.S. (SILVER NITRATE) |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 8 |

(Cont'd. on page 8)

Safety Data Sheet




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

Printing date: February 25, 2019

Revision: February 25, 2019

Trade name: Silver Nitrate Titrant

(Cont'd. of page 7)

· Label	8
· ADR/RID/ADN	
	
· Class	8 (C9)
· 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
· Marine pollutant:	
 Yes	
· Special precautions for user	Warning: Corrosive substances
· Danger code (Kemler):	80
· EMS Number:	F-A,S-B
· 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.

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 355 (extremely hazardous substances):**

None of the ingredients are listed.

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

(Cont'd. on page 9)

Safety Data Sheet

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Printing date: February 25, 2019

Revision: February 25, 2019

Trade name: Silver Nitrate Titrant

(Cont'd. of page 8)

7761-88-8 | silver nitrate

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

All ingredients are listed.

· **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) (Substances not listed.):**

All 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

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

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

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.

(Cont'd. on page 10)

Safety Data Sheet

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

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Trade name: Silver Nitrate Titrant

Safety Data Sheets, Individual Manufacturers

(Cont'd. of page 9)

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