

**Safety Data Sheet**

according to 29CFR1910/1200 and GHS Rev. 3

**Initial preparation date:** : 10.24.2014**Silver Nitrate, ACS****SECTION 1: Identification of the substance/mixture and of the supplier****Product name:** Silver Nitrate, ACS**Manufacturer/Supplier Article number:** SN1005**Recommended uses of the product and restrictions on use:****Manufacturer Details:**

AquaPhoenix Scientific, Inc.  
 860 Gitts Run Road  
 Hanover, PA 17331  
 1-717-632-1291

**Emergency telephone number:****ChemTel: (24-hour)**

+1(800)255-3924  
 +1(813)248-0585 (International)

**SECTION 2: Hazards identification****Classification of the substance or mixture:****Oxidizing**

Oxidizing solids, category 2

**Corrosive**

Skin corrosion, category 1B  
 Corrosive to metals, category 1  
 Serious eye damage, category 1

**Environmentally Damaging**

Chronic hazards to the aquatic environment, category 1  
 Acute hazards to the aquatic environment, category 1

Skin Corrosion 1B.

Aquatic Chronic Toxicity 1.

Corrosive to Metals 1.

Eye Irritation 2.

Aquatic Acute Toxicity 1.

Oxidizing solid 2.

**Signal word:** Danger**Hazard statements:**

May intensify fire; oxidizer.

May be corrosive to metals.

Causes severe skin burns and eye damage.

Very toxic to aquatic life with long lasting effects.

**Precautionary statements:**

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

Keep out of reach of children.

Read label before use.

Do not eat, drink or smoke when using this product.

Keep away from heat/sparks/open flames/hot surfaces - No smoking.

Take any precaution to avoid mixing with combustibles.

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Keep only in original container.  
 Do not breathe dust/fume/gas/mist/vapors/spray.  
 Wash skin thoroughly after handling.  
 Keep/Store away from clothing/combustible materials.  
 Wear protective gloves/protective clothing/eye protection/face protection.  
 Keep away from heat/sparks/open flames/hot surfaces - No smoking.  
 Keep/Store away from clothing, combustible materials.  
 Take any precaution to avoid mixing with combustibles.  
 Avoid release to the environment.  
 Immediately call a POISON CENTER or doctor/physician.  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 Collect spillage.  
 Rinse skin with water/shower.  
 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 Specific treatment (see supplemental first aid instructions on this label).  
 In case of fire, use agents recommended in section 5 for extinction.  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.  
 Store locked up.  
 Store in corrosive resistant stainless steel container with a resistant inner liner.  
 Dispose of contents and container to an approved waste disposal plant.

**Other Non-GHS Classification:** None**SECTION 3: Composition/information on ingredients****Ingredients:**

<b>Ingredients:</b>		
CAS 7761-88-8	Silver Nitrate, ACS	>99 %
Percentages are by weight		

**SECTION 4: First aid measures****Description of first aid measures****After inhalation:**

Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

**After skin contact:**

Seek medical advice if discomfort or irritation persists. Rinse/flush exposed area gently using water for 15-20 minutes.

**After eye contact:**

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention immediately.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Seek medical attention if irritation, discomfort or vomiting

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persists. Have exposed individual drink sips of water or milk.

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

Skin Irritation. Respiratory Irritation. Causes burns by all exposure routes. Targets eyes, skin, mucous membranes. Nausea. Headache. Shortness of breath. Burning of eyes. Redness, tearing. Eye Irritation. Chronic inhalation or ingestion of silver salts may cause argyria characterized by a permanent blue-gray discoloration of the eyes, skin, mucous membranes, and internal organs.

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

If seeking medical attention, provide SDS document to physician. Note to physician: Treat symptomatically.

**SECTION 5: Firefighting measures****Extinguishing media****Suitable extinguishing agents:**

If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition. Use water spray, dry chemical, carbon dioxide, or chemical foam.

**Unsuitable extinguishing agents:** None**Special hazards arising from the substance or mixture:**

Combustion products may include carbon oxides or other toxic vapors. Other toxic vapors include zinc and sulfur oxides. Strong oxidizer. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors may be heavier than air. Containers may explode when heated. This material is an oxidizer; it greatly increases the burning rate of combustible materials. They can spread along the ground and collect in low or confined areas. Contact with other material may cause fire.

**Advice for firefighters:****Protective equipment:**

Use NIOSH-approved respiratory protection/breathing apparatus. Wear protective clothing and equipment.

**Additional information (precautions):**

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible. Do not allow fire protection water to enter sewer or discharge to open water. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. This material is very toxic to aquatic life with long lasting effects.

**SECTION 6: Accidental release measures****Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Keep away from combustibles. Use spark-proof tools and explosion-proof equipment. Avoid contact with eyes, skin, and clothing. Avoid dust generation. Avoid contact with skin and eyes, and clothing. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13. Collect liquids using vacuum or by use of non-combustible absorbents.

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

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor. Collect solids in powder form using vacuum with HEPA filter.

**Reference to other sections:** None

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Prevent formation of aerosols. Protect from freezing and physical damage. Do not reuse container. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Avoid splashes or spray in enclosed areas. Use spark-proof tools. Remove all sources of ignition. Empty containers may contain product residue and can be hazardous. Wash hands after handling.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool location. Protect from light. Store locked up. The product has a corrosive effect on steel and aluminum. Protect from freezing and physical damage. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store in cool, dry conditions in well sealed containers. Keep container tightly closed. Do not store near combustible materials or strong bases.

**SECTION 8: Exposure controls/personal protection****Control parameters:**

7761-88-8, Silver nitrate, ACGIH TLV: (metal): 0.1 mg/m<sup>3</sup>.  
 7761-88-8, Silver nitrate, OSHA PEL: TWA (as Ag) 0.01 mg/m<sup>3</sup>.  
 7761-88-8, Silver nitrate, NIOSH REL: TWA (as Ag) 0.01 mg/m<sup>3</sup>.  
 7761-88-8, Silver nitrate, NIOSH IDLH: 10 mg/m<sup>3</sup> (as Ag).

**Appropriate engineering controls:**

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

**Respiratory protection:**

Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.

**Protection of skin:**

The glove material has to be impermeable and resistant to the product/the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation. Wear protective equipment to prevent contact with skin, eyes, or hair.

**Eye protection:**

Safety glasses with side shields or goggles.

**General hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin. Launder clothing that has come in contact with the substance before reuse.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>		<b>Explosion limit lower:</b> <b>Explosion limit upper:</b>	Not determined Not determined
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	Not determined

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<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined
<b>pH-value:</b>	~6 (1% soln/water)	<b>Relative density:</b>	Not determined
<b>Melting/Freezing point:</b>	212 C	<b>Solubilities:</b>	Soluble in water.; Molecular Weight: 169.87
<b>Boiling point/Boiling range:</b>	433 C	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not applicable	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not applicable	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	Not determined		
<b>Specific Gravity</b>	4.35		

**SECTION 10: Stability and reactivity****Reactivity:**

Nonreactive under normal conditions.

**Chemical stability:**

No decomposition if used and stored according to specifications. Becomes gray or grayish-black on exposure to light in the presence of organic matter.

**Possible hazardous reactions:**

Material can react violently with combustible materials, reducing agents, aqueous ammonia. Hazardous reactions or instability may occur under certain conditions of storage or use, such as contact with combustible materials resulting in causing or intensifying fire. Reacts with alcohol to form explosive fulminate.

**Conditions to avoid:**

Dust. Excess heat. Incompatible materials. Combustible materials. Ignition sources. Excess light. Contamination. Heating to decomposition.

**Incompatible materials:**

Ammonia. Organic matter. Alcohols. Charcoal. Acetylene. Hydrogen peroxide. Strong bases. Reducing agents.

**Hazardous decomposition products:**

Nitrogen oxides (NOx). Silver oxides. Oxygen.

**SECTION 11: Toxicological information****Acute Toxicity:** No additional information.**Chronic Toxicity:** No additional information.**Skin corrosion/irritation:**

Classified as a skin irritant. Section 2.

**Serious eye damage/irritation:**

Classified as eye damage. Section 2.

Classified as an eye irritant. Section 2.

**Respiratory or skin sensitization:** No additional information.**Carcinogenicity:**

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No additional information.

**SECTION 12: Ecological information****Ecotoxicity:**

Fish: LC50 (96h) P. promelas (aged 1-4 days) (7761-88-8), 1.2 µg dissolved Ag/L.

Fish: LC50 (96h) P. promelas (aged 41 days) (7761-88-8), 10.4 µg dissolved Ag/L.

Fish: EC10 (mortality) 196 day O. mykiss (7761-88-8), 0.17 ug dissolved Ag/L.

**Persistence and degradability:** No additional information.**Bioaccumulative potential:** No additional information.**Mobility in soil:** No additional information.**Other adverse effects:**

Very toxic to aquatic life with long lasting effects.

**SECTION 13: Disposal considerations****Waste disposal recommendations:**

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

**SECTION 14: Transport information****US DOT****UN Number:**

ADR, ADN, DOT, IMDG, IATA 1493

**Limited Quantity Exception:**

None

**Bulk:****RQ (if applicable):** None**Proper shipping Name:** Silver Nitrate.**Hazard Class:** 5**Packing Group:** II.**Marine Pollutant (if applicable):** No additional information.**Comments:** None**Non Bulk:****RQ (if applicable):** None**Proper shipping Name:** Silver Nitrate.**Hazard Class:** 5**Packing Group:** II.**Marine Pollutant (if applicable):** No additional information.**Comments:** None

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Acute,Fire,Reactive

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

7761-88-8 Silver compounds (Silver nitrate) [313c].

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

**CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):**

7761-88-8 Silver Nitrate 1 lb.

**Proposition 65 (California):****Chemicals known to cause cancer:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

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

All ingredients are listed.

**SECTION 16: Other information**

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

**NFPA:** 3-0-0**HMIS:** 3-0-0**GHS Full Text Phrases:** None**Abbreviations and Acronyms:**

IMDG International Maritime Code for Dangerous Goods.

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IATA	International Air Transport Association.
GHS	Globally Harmonized System of Classification and Labelling of Chemicals.
ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service (division of the American Chemical Society).
NFPA	National Fire Protection Association (USA).
HMIS	Hazardous Materials Identification System (USA).
WHMIS	Workplace Hazardous Materials Information System (Canada).
DNEL	Derived No-Effect Level (REACH).
PNEC.	Predicted No-Effect Concentration (REACH).
CFR	Code of Federal Regulations (USA)
SARA	Superfund Amendments and Reauthorization Act (USA).
RCRA.	Resource Conservation and Recovery Act (USA).
TSCA.	Toxic Substances Control Act (USA).
NPRI	National Pollutant Release Inventory (Canada).
DOT	US Department of Transportation.