

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/26/2015

Reviewed on 02/07/2014

## 1 Identification

- **Product identifier**
- **Trade name:** *Sliver Nitrate, Reagent ACS Grade*
- **Article number:** *KM00254*
- **CAS Number:**  
*7761-88-8*
- **EC number:**  
*231-853-9*
- **Index number:**  
*047-001-00-2*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
*Aqua Solutions, Inc.*  
*6913 Highway 225*  
*DEER PARK, TX 77536*  
*USA*  
*800-256-2586*
- **Information department:**  
*Product safety department*  
*Technical Coordinator*  
*Sherman Nelson sherman@aquasolutions.org*
- **Emergency telephone number:**  
*Chemtrec: 800-424-9300*  
*Canutec: 613-996-6666*



## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS03 Flame over circle

*Ox. Sol. 2 H272 May intensify fire; oxidizer.*



GHS05 Corrosion

*Skin Corr. 1B H314 Causes severe skin burns and eye damage.*

- **Label elements**
- **GHS label elements** *The substance is classified and labeled according to the Globally Harmonized System (GHS).*
- **Hazard pictograms**



GHS03



GHS05

- **Signal word** *Danger*
- **Hazard statements**  
*May intensify fire; oxidizer.*  
*Causes severe skin burns and eye damage.*
- **Precautionary statements**  
*Take any precaution to avoid mixing with combustibles.*

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Keep away from heat.

Do not breathe dusts or mists.

Keep/Store away from clothing/combustible materials.

Wear protective gloves / eye protection / face protection.

Wash thoroughly after handling.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Immediately call a poison center/doctor.

Specific treatment (see on this label).

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Wash contaminated clothing before reuse.

If swallowed: Rinse mouth. Do NOT induce vomiting.

In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 3

Fire = 3

Reactivity = 0

The substance possesses oxidizing properties.

· **HMIS-ratings (scale 0 - 4)**



Health = 3

Fire = 3

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Description**

7761-88-8 Silver Nitrate

Reagent ACS

· **Identification number(s)**

· **EC number:** 231-853-9

· **Index number:** 047-001-00-2

### 4 First-aid measures

· **Description of first aid measures**

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

· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

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- **After swallowing:** Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **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** Thorough dedusting.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

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· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**7761-88-8 Silver Nitrate  
Reagent ACS**

PEL Long-term value: 0.01 mg/m<sup>3</sup>  
as Ag

REL Long-term value: 0.01 mg/m<sup>3</sup>  
as Ag

TLV Long-term value: 0.01 mg/m<sup>3</sup>  
as Ag

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

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.

· **Breathing equipment:** Not required.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **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.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form: Crystalline

Color: White

· **Odor:** Odorless

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· <b>Odour threshold:</b>	Not determined.
· <b>pH-value:</b>	Not applicable.
· <b>Change in condition</b>	
<b>Melting point/Melting range:</b>	210 °C (410 °F)
<b>Boiling point/Boiling range:</b>	444 °C (831 °F)
· <b>Flash point:</b>	Not applicable.
· <b>Flammability (solid, gaseous):</b>	Contact with combustible material may cause fire.
· <b>Ignition temperature:</b>	
<b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Not determined.
· <b>Danger of explosion:</b>	Not determined.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapor pressure:</b>	Not applicable.
· <b>Density at 20 °C (68 °F):</b>	4.35 g/cm <sup>3</sup> (36.301 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</b>	
<b>Water at 20 °C (68 °F):</b>	2.192 g/l
· <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**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

Oral	LD50	50 mg/kg (mouse)
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- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **Carcinogenic categories**
- **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.

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxic effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**  
Water hazard class 3 (Assessment by list): extremely hazardous for water  
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.  
Very toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **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, IMDG, IATA** UN1493

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· **UN proper shipping name**· **DOT**· **IMDG, IATA**

Silver nitrate (Silver nitrate)

SILVER NITRATE (SILVER NITRATE)

· **Transport hazard class(es)**· **DOT**· **Class**

5.1 Oxidizing substances

· **Label**

5.1

· **IMDG, IATA**· **Class**

5.1 Oxidizing substances

· **Label**

5.1

· **Packing group**· **DOT, IMDG, IATA**

II

· **Environmental hazards:**

Environmentally hazardous substance, solid

· **Marine pollutant:**

No

· **Special precautions for user**

Warning: Oxidizing substances

· **Danger code (Kemler):**

50

· **EMS Number:**

F-A,S-Q

· **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.

· **Transport/Additional information:**· **DOT**· **Quantity limitations**

On passenger aircraft/rail: 5 kg

On cargo aircraft only: 25 kg

· **Hazardous substance:**

1 lbs, 0.454 kg

· **IMDG**· **Limited quantities (LQ)**

1 kg

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 500 g

· **UN "Model Regulation":**

UN1493, Silver nitrate (Silver nitrate), 5.1, II

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## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**
- **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**
- **Chemicals known to cause cancer:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is not listed.
- **Carcinogenic categories**
- **EPA (Environmental Protection Agency)** Substance is not listed.
- **TLV (Threshold Limit Value established by ACGIH)** Substance is not listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS03    GHS05

- **Signal word** *Danger*
- **Hazard statements**  
*May intensify fire; oxidizer.*  
*Causes severe skin burns and eye damage.*
- **Precautionary statements**  
*Take any precaution to avoid mixing with combustibles.*  
*Keep away from heat.*  
*Do not breathe dusts or mists.*  
*Keep/Store away from clothing/combustible materials.*  
*Wear protective gloves / eye protection / face protection.*  
*Wash thoroughly after handling.*  
*IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.*  
*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*  
*Continue rinsing.*  
*Immediately call a poison center/doctor.*  
*Specific treatment (see on this label).*  
*IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.*  
*Wash contaminated clothing before reuse.*  
*If swallowed: Rinse mouth. Do NOT induce vomiting.*  
*In case of fire: Use for extinction: CO2, powder or water spray.*  
*Store locked up.*  
*Dispose of contents/container in accordance with local/regional/national/international regulations.*
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 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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- **Department issuing SDS:** Environment protection department.
- **Contact:** Mr. Nelson
- **Date of preparation / last revision**  
Revision 0.0, 06-26-2015: creation date for SDS. STN

Creation date for SDS 05-08-14 LS  
06/26/2015 / -

**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (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

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Ox. Sol. 2: Oxidising Solids, Hazard Category 2

Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B

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