

**Safety Data Sheet**

according to 29CFR1910/1200 and GHS Rev. 3

**Initial preparation date:** : 01.31.2015**Silver Nitrate Reagent****SECTION 1: Identification of the substance/mixture and of the supplier****Product name:** Silver Nitrate Reagent**Manufacturer/Supplier Article number:** AR-1021-4000**Recommended uses of the product and restrictions on use:** Laboratory Chemicals**Manufacturer Details:**

Aqua Analytics  
 245 Matheson Blvd East, Units 1 & 2 Mississauga, Ontario Canada L4Z 3C9  
 (888) 712-4000

**Emergency telephone number:**

Emergency Phone No. (613) 996-6666

**SECTION 2: Hazards identification****Classification of the substance or mixture:****Signal word:** None**Hazard statements:**

None

**Precautionary statements:**

None

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

<b>Ingredients:</b>		
CAS 7732-18-5	Water	99.53 %
CAS 7761-88-8	Silver Nitrate	0.4743 %
Percentages are by weight		

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

Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Loosen clothing and place exposed in a comfortable position. Seek medical assistance if cough or other symptoms appear.

**After skin contact:**

Wash hands and exposed skin with soap and plenty of water. Seek medical attention if irritation persists or if concerned. Seek immediate medical assistance.

**After eye contact:**

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Protect unexposed eye. Flush exposed eye gently using water for 15-20 minutes. Remove contact lenses, if present and easy to do, and continue rinsing. Seek immediate medical assistance.

**After swallowing:**

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention if irritation, discomfort, or vomiting persists.

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

Irritation. Shortness of breath. Headache. Nausea. Dizziness. Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hrs. or longer.

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

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically.

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

Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

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

Thermal decomposition can lead to release of irritating gases and vapors. nitrogen oxides (NO<sub>x</sub>), Silver/silver oxides.

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

Wear protective eyewear, gloves, and clothing. Refer to Section 8.

**Additional information (precautions):**

Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes and clothing.

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

Ensure adequate ventilation. Ensure that air-handling systems are operational. Avoid contact with eyes, skin, and clothing.

**Environmental precautions:**

Should not be released into environment. Prevent from reaching drains, sewer, or waterway.

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

Wear protective eyewear, gloves, and clothing. Always obey local regulations. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Containerize for disposal. Refer to Section 13. Keep in suitable closed containers for disposal. Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Refer to Section 8.

**Reference to other sections:** None**SECTION 7: Handling and storage****Precautions for safe handling:**

Avoid contact with skin, eyes and clothing. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Follow proper disposal methods. Do not eat, drink, smoke, or use personal products when handling chemical substances. Refer to Section 13.

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

Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Provide ventilation for containers. Keep container tightly sealed. Store away from incompatible materials. Protect from light. Recommended storage temperature: 2 - 8°C.

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**Silver Nitrate Reagent****SECTION 8: Exposure controls/personal protection****Control parameters:**

7761-88-8, Silver Nitrate, TLV (ACGIH): 0.01 mg/m<sup>3</sup>, as Ag.  
 7761-88-8, Silver Nitrate, PEL (OSHA): 0.01 mg/m<sup>3</sup>, as Ag.  
 7761-88-8, Silver Nitrate, IDLH (NIOSH): 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 or handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

**Respiratory protection:**

Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment.

**Protection of skin:**

Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing.

**Eye protection:**

Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses or goggles are appropriate eye protection.

**General hygienic measures:**

Perform routine housekeeping. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes and clothing. Before re-wearing, wash contaminated clothing.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, colorless liquid	<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>	14 mmHg at 20°C
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	0.7
<b>pH-value:</b>	Not determined	<b>Relative density:</b>	Approx. 1
<b>Melting/Freezing point:</b>	Approx. 0°C	<b>Solubilities:</b>	Soluble in water.
<b>Boiling point/Boiling range:</b>	Approx. 100°C	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	>1	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	Not determined		

**SECTION 10: Stability and reactivity**

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Does not react under normal conditions of use and storage.

**Chemical stability:**

Stable under normal conditions of use and storage.

**Possible hazardous reactions:**

None under normal conditions of use and storage.

**Conditions to avoid:**

None known.

**Incompatible materials:**

None known.

**Hazardous decomposition products:**

None known.

**SECTION 11: Toxicological information****Acute Toxicity:****Oral:**

LD50 - Rat - 1,173 mg/kg Silver Nitrate.

**Chronic Toxicity:** No additional information.**Skin corrosion/irritation:**

Irritating to the skin. Silver Nitrate.

**Serious eye damage/irritation:** No additional information.**Respiratory or skin sensitization:** No additional information.**Carcinogenicity:** No additional information.**Germ cell mutagenicity:** No additional information.**Reproductive Toxicity:** No additional information.**STOT-single and repeated exposure:** No additional information.**Additional toxicological information:**

No additional information.

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

Silver Nitrate, Aquatic Plants, IC 50 - Green algae - 26.5 ug/L.

Silver Nitrate, Aquatic Plants, EC 50 - Green algae - 8ug/L.

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

Toxicity of Silver to aquatic life depends on hardness: the higher the concentration of hardness, the higher the concentration of silver needed to be considered toxic. Has high chronic toxicity to aquatic life which can cause shorten life span, reproductive problems, lower fertility, and changes in appearances and behavior.

**SECTION 13: Disposal considerations**

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It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11).

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

ADR, ADN, DOT, IMDG, IATA

Not Regulated

**Limited Quantity Exception:**

None

**Bulk:****RQ (if applicable):** None**Proper shipping Name:** Not Regulated.**Hazard Class:** None**Packing Group:** Not Regulated.**Marine Pollutant (if applicable):** No**Comments:** None**Non Bulk:****RQ (if applicable):** None**Proper shipping Name:** Not Regulated.**Hazard Class:** None**Packing Group:** Not Regulated.**Marine Pollutant (if applicable):** No**Comments:** None**SECTION 15: Regulatory information****United States (USA)****SARA Section 311/312 (Specific toxic chemical listings):**

None of the ingredients are listed.

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

7761-88-8 Silver nitrate.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

7732-18-5 Water: listed.

7761-88-8 Silver Nitrate: listed.

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

7761-88-8 Silver Nitrate 1.

**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.

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**Initial preparation date:** : 01.31.2015**Silver Nitrate Reagent****Canada****Canadian Domestic Substances List (DSL) :**

7732-18-5 Water: listed.

7761-88-8 Silver Nitrate: 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:** 1-0-0**HMIS:** 1-0-0**GHS Full Text Phrases:** None**Abbreviations and Acronyms:** None