GMS Silver Nitrate Stock Solution

1. Identification

<table>
<thead>
<tr>
<th>Product Name:</th>
<th>GMS Silver Nitrate Stock Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synonyms:</td>
<td>N/A</td>
</tr>
<tr>
<td>Recommended Use:</td>
<td>N/A</td>
</tr>
<tr>
<td>Manufacturer/Supplier:</td>
<td>Avantik Biogroup 32 Commerce Street Springfield, NJ 07081 1-888-392-8411</td>
</tr>
<tr>
<td>Item #:</td>
<td></td>
</tr>
<tr>
<td>Restrictions on Use:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

In Case of Emergency:
Chemtrec US 1-800-424-9300
Chemtrec International 703-527-3887

2. Hazards Identification

OSHA Hazard Classification(s):
- Skin Irritation - Category 2
- Eye Irritation - Category 2A

Signal Word: Warning

Hazard Statement(s): Causes skin irritation. Causes serious eye irritation.

Pictogram(s):

Precautionary Statement(s):
- Prevention: Wash body thoroughly after handling. Wear protective gloves. Wear eye protection, face protection.

Response: If on skin: Wash with plenty of water. Specific treatment (see first aid section on this label). If skin irritation or rash occurs: Get medical attention. Take off all contaminated clothing and wash it before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue Rinsing If eye irritation persists: Get medical attention.

Storage: N/A

Disposal: N/A

Descriptions of Hazards not otherwise classified: N/A
Percent of mixture with unknown acute toxicity: N/A

3. Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Common Name</th>
<th>CAS #</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver Nitrate</td>
<td></td>
<td>7761-88-8</td>
<td>Trade Secret</td>
</tr>
<tr>
<td>Water</td>
<td></td>
<td>7732-18-5</td>
<td>Trade Secret</td>
</tr>
</tbody>
</table>

4. First Aid Measures

Eye Contact: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin Contact: If on skin (or hair): Take off immediately all contaminated clothing and wash before reuse. Wash with plenty of water. If skin irritation occurs: Get medical advice/attention.

Inhalation: Remove to fresh air; give artificial respiration if breathing has stopped. Get medical advice/attention if you feel unwell.

Ingestion: Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Get medical attention.

Symptoms: Irritation eyes, nose, throat; headache, dizziness

Recommendations for immediate medical care/special treatment: Get medical advice/attention if you feel unwell.
5. Fire-Fighting Measures

**Extinguishing Media:** Dry chemical, carbon dioxide, alcohol foam, water.

**Fire Hazards (Chemical):** Not flammable.

**Special Protective Equipment:** Fire fighters should use self-contained breathing apparatus and protective clothing.

**Precautions for Firefighters:** Carbon monoxide and unidentified organic compounds may be formed during combustion.

6. Accidental Release Measures

**Emergency Procedures:** Evacuate the area of all unnecessary personnel. Wear suitable protective equipment. Eliminate all sources of ignition and provide ventilation.

**Protective Equipment:** See section 8

**Environmental Precautions:** Prevent release to the environment by using barriers.

**Containment and Clean-Up Procedures:** Use barriers to prevent spreading. Collect spill in container. Call waste authorities.

7. Handling and Storage

**Handling:** Do not breathe vapors. Do not eat, drink or smoke when using this product.

**Storage:** Store in a well-ventilated place. Keep cool. Keep lid tightly closed. Store in refrigerator.

8. Exposure Controls/Personal Protection

**OSHA Permissible Exposure Limits (PELs):**

<table>
<thead>
<tr>
<th>Reagent</th>
<th>CAS #</th>
<th>OSHA PEL TWA</th>
</tr>
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<tbody>
<tr>
<td>Silver Nitrate</td>
<td>7761-88-8</td>
<td>0.01 mg/m3 TWA (as Ag)</td>
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**ACGIH Threshold Limit Values (TLVs):**

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<tr>
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<th>CAS #</th>
<th>ACGIH PEL TLV</th>
<th>ACGIH STEL</th>
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**Engineering Controls:** Use in a well ventilated area to prevent exposure. Maintain eyewash fountain and quick-drench facilities in work areas.

**Personal Protective Measures:** Wear gloves, lab coat, eye protection and impervious footwear. Contact lenses should not be worn when working with this material.

**Special PPE Requirements:** If ventilation hood not available wear respirator.

9. Physical and Chemical Properties Section

**Appearance:** Colorless, Liquid

**Molecular Weight:** N/A

**Molecular Formula:** N/A

**pH:** N/A

**Boiling Point and Boiling Range:** N/A

**Melting Point/Freezing Point:** N/A

**Flash Point:** N/A

**Specific Gravity/Relative Density:** N/A

**Odor:** N/A

**Odor Threshold:** N/A

**Color:** Colorless

**Flammability (solid/gas):** N/A

**Vapor Density:** N/A

**Upper/Lower flammability or explosive limits:** N/A

**Vapor Pressure:** N/A
GMS Silver Nitrate Stock Solution

Evaporation Rate: N/A
Partition Coefficient: n-octanol/water: N/A
Viscosity: N/A
Auto-ignition temperature: N/A
Solubility: N/A
Decomposition Temperature: N/A

10. Stability and Reactivity
Reactivity: Not reactive
Chemical Stability: Stable
Conditions of Stability/Instability: Stable under normal conditions of temperature and pressure
Stabilizers needed: None
Safety issue indicated by appearance change: Exposure to light causes solution to yellow.
Other: N/A
Hazardous Reactions: N/A
Hazardous Polymerization: Does not occur
Conditions to avoid: Exposure to light.
Classes of Incompatible Materials: Oxidizers, Strong Acids, Strong Bases
Hazardous Decomposition Products: Thermal-oxidation degradation can produce oxides of carbon. Toxic gases and vapors (i.e. Carbon monoxide) may be released in a fire.

11. Toxicological Information
Likely Routes of Exposure
  Eyes: Irritation.
  Skin: Irritation.
  Inhalation: Dizziness, headache.
  Ingestion: Nausea.

Signs or Symptoms of Exposure: Nausea.
Effects from short term exposure (delayed, immediate, chronic): Irritation to the eyes, nose, throat; headache, dizziness, nausea.
Acute Toxicity (Numerical Measures): Silver Nitrate: Oral rat LD50: 1173 mg/kg; Oral guinea pig LD50 473 mg/kg; Oral rabbit LD50 800 mg/kg
Carcinogenicity (NTP, IARC, OSHA): N/A

12. Ecological Information
Ecotoxicity: N/A
Persistence and degradability: N/A
Bioaccumulation Potential (octanol-water partition coefficient, BCF): N/A
Mobility in the soil: N/A
Adverse Environmental Effects: May cause acute toxicity to aquatic life.

13. Disposal Considerations
Recommended Disposal Containers: Check with your local waste authorities*
Recommended Disposal Methods: Do not dispose of in drains, check with your local waste authorities.*
Physical/Chemical Properties affecting Disposal: See section 2 and section 9 applicable information.*
Special Precautions for Landfill and Incineration Activities: Check with your local waste authorities.*
Waste Stream: Consult your local or regional authorities.*

14. Transport Information
GMS Silver Nitrate Stock Solution

UN Number: Not regulated.
UN Proper Shipping Name:
Transport Hazard Class(es):
Packing Group Number:
Environmental Hazards (IMDG code):
  Marine Pollutant:
Transport in Bulk (IBC Code):
Special Transport Precautions:

15. Regulatory Information

OSHA:
DOT:
EPA:
CPSC:
16. Other Information

Revision Date: 06/25/2015

NFPA

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<thead>
<tr>
<th></th>
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<th>Fire Hazard</th>
<th>Reactivity</th>
<th>Specific Hazard</th>
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<tbody>
<tr>
<td>Health</td>
<td>2</td>
<td>0</td>
<td>0</td>
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National Fire Protection Association (USA) NFPA

- Fire Hazard
- Health
- Reactivity
- Specific Hazard

HMIS

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<th>Flammability</th>
<th>Physical Hazard</th>
<th>Personal Protection</th>
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Hazardous Material Information System HMIS

- Health
- Flammability
- Physical Hazard
- Personal Protection

Notice to Reader:
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