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**HI 70448**  
**0.02M Silver Nitrate Solution**  
**Safety Data Sheet**

According to Regulation (EC) No. 1907/2006  
OSHA Regulation 29 CFR 1910.1200  
Canadian Regulation SOR/88-66

**Revision Date:** 2009-06-10  
**Reason for Revision:** 29 CFR 1910.1200 and SOR/88-66 Compliance

**SECTION 1: IDENTIFICATION OF THE PRODUCT AND COMPANY**

**Product Name:** HI 70448 0.02M Silver Nitrate Solution

**Application:** Titration Reagent

**Company Information (USA):**

Hanna Instruments, Inc.  
584 Park East Dr, Woonsocket, Rhode Island, USA 02895

**Technical Service Contact Information:**

1-800-426-6287 (8:30AM - 5:00PM ET)  
+1-401-766-4260 (8:30AM - 5:00PM ET)

**USA Emergency Contact Information:**

1-800-424-9300 (Chemtrec 24Hr. Emergency)

**International Emergency Contact Information:**

+1-703-527-3887 (Chemtrec 24Hr. Emergency)

**E-mail Address:**

tech@hannainst.com

**SECTION 2: HAZARD IDENTIFICATION**

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**SECTION 3: COMPOSITION AND COMPONENT INFORMATION**

**Component:** Silver Nitrate

**EC-No.:** 231-853-9

**CAS-No.:** 7761-88-8

**Hazard:** C, N

**Phrases:** R: 34-50/53

**Content:** > 0.1% - < 2.5%

**SECTION 4: FIRST AID MEASURES**

**After Inhalation:** Remove to fresh air.

**After Skin Contact:** Wash affected area with plenty of water. Remove contaminated clothing.

**After Eye Contact:** Rinse out immediately with plenty of water and seek medical advice if necessary.

**After Swallowing:** Drink plenty of water. Seek medical advice.

**General Information:** Remove contaminated, soaked clothing immediately and dispose of safely.

**SECTION 5: FIRE-FIGHTING MEASURES**

**Suitable Extinguishing Media:**

Water spray, Carbon Dioxide, Dry Chemical Powder, Appropriate Foam.

**Special Risks:**

Ambient fire may liberate hazardous vapors. The following may develop in event of fire: Silver/Silver Oxides, Nitrogen Oxides, Oxygen

**Special Protective Equipment:**

Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.

**Additional Information:**

Non-combustible.

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**Personal Precautions:**

Do not inhale vapors. Avoid substance contact. Ensure supply of fresh air in enclosed rooms.

**Environmental Precautions:**

Take up with liquid-absorbent material.

**Additional Notes:**

Clean up affected area and dispose according to local regulation.

**SECTION 7: HANDLING AND STORAGE**

**Handling:**

Cannot be stored indefinitely. Stable in the recommended storage conditions.

**Storage:**

Tightly closed. Store at room temperature (+15 to +25 °C recommended). Protect from light. Accessible only for authorized persons.

**SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION**

Type	Value	Source	Type	Value	Source
<b>Silver Nitrate</b>					
TWA (8hr)	0.01 mg (Ag)/m <sup>3</sup>	Belgium	TWA (8hr)	0.01 mg (Ag)/m <sup>3</sup>	Canada (Ontario)
TWA (8hr)	0.01 mg (Ag)/m <sup>3</sup>	Canada (Quebec)	TWA (8hr)	0.01 mg (Ag)/m <sup>3</sup>	France
TWA (8hr)	0.01 mg (Ag)/m <sup>3</sup>	Germany	TWA (8hr)	0.01 mg (Ag)/m <sup>3</sup>	Greece
TWA (8hr)	0.01 mg (Ag)/m <sup>3</sup>	Hungary	TWA (8hr)	0.01 mg (Ag)/m <sup>3</sup>	Italy
TWA (8hr)	0.01 mg (Ag)/m <sup>3</sup>	Netherlands	TWA (8hr)	0.01 mg (Ag)/m <sup>3</sup>	Poland
TWA (8hr)	0.01 mg (Ag)/m <sup>3</sup>	Portugal	TWA (8hr)	0.01 mg (Ag)/m <sup>3</sup>	Romania
TWA (8hr)	0.01 mg (Ag)/m <sup>3</sup>	Spain	TWA (8hr)	0.01 mg (Ag)/m <sup>3</sup>	UK
TWA (8hr)	0.01 mg (Ag)/m <sup>3</sup>	USA (ACGIH)	TWA (8hr)	0.01 mg (Ag)/m <sup>3</sup>	USA (OSHA)

**Engineering:**

Safety shower and eye wash.

**Personal Protective Equipment:**

As appropriate to quantity handled.

**Respiratory Protection:**

Required when vapors/aerosols are generated. Work under hood.

**Protective Gloves:**

Rubber or plastic

**Eye Protection:**

Goggles or face mask

**Industrial Hygiene:**

Wash thoroughly after handling. Remove and wash contaminated clothing promptly. Discard contaminated shoes.

**SECTION 9: PHYSICAL/CHEMICAL PROPERTIES**

<b>Appearance:</b>	Colorless liquid	<b>Odor:</b>	Odorless	<b>Density at 20° C:</b>	1.00 g/cm <sup>3</sup>
<b>Melting Point:</b>	NA	<b>Boiling Point:</b>	~ 100 °C	<b>Solubility:</b>	Soluble
<b>pH at 20° C:</b>	~ 6	<b>Explosion Limit:</b>	NA	<b>Flash Point:</b>	NA
<b>Thermal Decomp.:</b>	NA				

**SECTION 10: STABILITY AND REACTIVITY**

**Conditions to be Avoided:**

Strong Heating

**Hazardous Polymerization:**

Will not occur.

**Further Information:**

Not available

**Hazardous Decomposition Products:**

In the event of fire: See section 5.

**Substances to be Avoided:**

The generally known reaction partners of water

**SECTION 11: TOXICOLOGICAL INFORMATION**

**Product Toxicity**

Quantitative data on the toxicity of this product is not available.

**Potential Health Effects:**

**Skin Contact:** Slight irritations.

**Eye Contact:** Slight irritations.

**Ingestion:** Symptoms in gastrointestinal tract.

**Further Data:** Further hazardous properties cannot be excluded. The product should be handled with the usual care when dealing with chemicals.

**Component Toxicity**

**Acute Toxicity:**

**Silver Nitrate**

**LD50:** Oral - Rat - 1173 mg/kg

**Chronic Toxicity:**

Not Available

**Additional Data:**

APPLICABLE TO PARTIAL COMPONENT:

The following applies to Silver Nitrate – as the pure substance:

Remarks: behavioural: Tetany. Lungs, Thorax, or Respiration: cyanosis. Gastrointestinal: hyper motility, diarrhea.

**SECTION 12: ECOLOGICAL INFORMATION**

Quantitative data on the toxicity of this product is not available.

APPLICABLE TO PARTIAL COMPONENT:

The following applies to Silver Nitrate – as the pure substance:

Ecotoxicological effects

Test Type: LC50 Fish, Species: Pimephales promelas (Fathead minnow), time: 96 h: value: 40 mg/L

Test Type: EC50 Daphnia, Species: Daphnia magna, time: 48 h: value: 15 mg/L

**Further Data:** Biological effects: Harmful effects on aquatic organisms. May cause long-term adverse effects in the aquatic environment. Do not allow to enter waters, waste waters, or soil!

**SECTION 13: DISPOSAL CONSIDERATIONS**

**Waste Disposal:** Chemical residues are generally classified as special waste and thus covered by local regulations. Contact local authorities or disposal companies for advice. Handle contaminated packaging in the same way as the substance itself.

**SECTION 14: TRANSPORTATION INFORMATION**

**Land:**

Not subject to transport regulations

**Sea:**

Not subject to transport regulations

**Air:**

Not subject to transport regulations

**Safety Data Sheet**According to Regulation (EC) No. 1907/2006  
OSHA Regulation 29 CFR 1910.1200  
Canadian Regulation SOR/88-66**SECTION 15: REGULATORY INFORMATION****Labeling according to EC Directives:****Symbol:** Not applicable**R-phrases:** 52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.**S-phrases:** 61: Avoid release to the environment. Refer to special instructions/Safety data sheets.**SECTION 16: OTHER INFORMATION****Text of R-phrases under Section 3**

34: Causes burns.

50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Revision Information****Revision Date:** 2009-06-10**Supersedes edition of:** 2008-12-01**Reason for revision:** 29 CFR 1910.1200 and SOR/88-66  
Compliance**Legend**

NA: Not Applicable

ND: Not Determined

**THE INFORMATION CONTAINED HEREIN IS BASED ON THE PRESENT STATE OF OUR KNOWLEDGE. IT CHARACTERIZES THE PRODUCT WITH REGARD TO THE APPROPRIATE SAFETY PRECAUTIONS. IT DOES NOT REPRESENT A GUARANTEE OF THE PROPERTIES OF THE PRODUCT.**