

## 1. PRODUCT AND COMPANY IDENTIFICATION

### Product Identifier

**Product Name** Silver Nitrate

### Other means of identification

**Product Code(s)** A3904

**UN/ID no.** 1493

**Synonyms** Nitric acid, silver salt ;

**Product Use** For Laboratory Research Use Only.

### Supplier/Manufacturer

Biomatik Corporation  
9-140 McGovern Dr.  
Cambridge, Ontario N3H 4R7  
Canada

**Telephone Number** 1-519-489-7195

**E-mail Address** info@biomatik.com

**Emergency Telephone Number** Chemtrec 1-800-424-9300

## 2. HAZARDS IDENTIFICATION

### Classification

#### OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute Toxicity - Oral	Category 4
Skin Corrosion/Irritation	Category 1 Sub-category B
Serious Eye Damage/Eye Irritation	Category 1
Oxidizing solids	Category 2

### Label elements

#### Emergency Overview

#### Danger

#### Hazard statements

H302 - Harmful if swallowed

H314 - Causes severe skin burns and eye damage

H272 - May intensify fire; oxidizer





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

**Most Important Symptoms/Effects** No information available.

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

**Notes to Physician** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** No information available.

**Specific Hazards Arising from the Chemical**

No information available.

**Hazardous Combustion Products**

Nitrogen oxides (NOx). Silver/Silver oxide. Container explosion may occur under fire conditions.

**Explosion Data****Sensitivity to Mechanical Impact**

None.

**Sensitivity to Static Discharge**

None.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

**Personal protection** Ensure adequate ventilation, especially in confined areas.

**Environmental Precautions**

**Environmental Precautions** See Section 12 for additional Ecological information.

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

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Cleaning Up** Avoid dust formation. Pick up and transfer to properly labeled containers. Ventilate area and wash spill site after material pickup is complete.

**7. HANDLING AND STORAGE****Precautions for Safe Handling**

**Handling** Light Sensitive. Handle in accordance with good industrial hygiene and safety practice.

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

**Storage** Keep container tightly closed in a dry and well-ventilated place. Protect from light.

**Incompatible Products** Strong reducing agents. Strong bases. Alcohols. Ammonia. Magnesium.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters**

**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Silver nitrate	-	-	-

**Appropriate engineering controls**

**Engineering Measures**                      Showers  
 Eyewash stations  
 Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection**                      Avoid contact with eyes. Safety glasses with side-shields.

**Skin and Body Protection**                      Wear protective gloves/clothing.

**Respiratory Protection**                      If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene Measures**                              Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties**

<b>Physical State</b>	Crystalline Powder	<b>Odor</b>	No information available
<b>Appearance</b>	Fine White	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No information available	
Melting point/freezing point	212 °C / 414 °F	
Boiling Point/Range	440 °C / 824 °F	
Flash Point (High in °C)	No information available	
Evaporation Rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor Density	No information available	
Specific Gravity	No information available	
Water Solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition Temperature	No information available	
Decomposition Temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive Properties	No information available	
Oxidizing Properties	Oxidizer	

**Other Information**

<b>Softening Point</b>	No information available
<b>Molecular Weight</b>	No information available
<b>VOC Content</b>	No information available
<b>Density</b>	4.35
<b>Bulk Density</b>	No information available

## 10. STABILITY AND REACTIVITY

**Reactivity**

No data available

**Chemical Stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to Avoid**

May decompose on exposure to light. Protect from light.

**Incompatible Materials**

Strong reducing agents. Strong bases. Alcohols. Ammonia. Magnesium.

**Hazardous Decomposition Products**

In the event of fire: see section 5.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	Contact with moist mucous membranes of the respiratory system can cause caustic condition resulting in burns.
<b>Eye Contact</b>	Corrosive to the eyes and may cause severe damage including blindness.
<b>Skin Contact</b>	Contact causes severe skin irritation and possible burns.
<b>Ingestion</b>	Harmful if swallowed.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Silver nitrate	= 1173 mg/kg ( Rat )	-	-

**Information on toxicological effects****Symptoms** No information available.**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Sensitization** No information available.**Mutagenic Effects** No information available.**Carcinogenicity** No information available.

Chemical Name	ACGIH	IARC	NTP	OSHA
Silver nitrate	-	Group 2A	-	-

**Reproductive Toxicity** No information available.**STOT - single exposure** No information available.**STOT - repeated exposure** No information available.**Target Organ Effects** Liver.**Aspiration hazard** No information available.**Numerical measures of toxicity - Product Information****Unknown Acute Toxicity** 0 % of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

0% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Toxicity to Fish	Crustacea
Silver nitrate	-	0.00512 - 0.00787: 96 h Poecilia reticulata mg/L LC50 semi-static 0.009 - 0.02: 96 h Lepomis macrochirus mg/L LC50 flow-through 0.0242 - 0.0484: 96 h Lepomis macrochirus mg/L LC50 semi-static 0.0064 - 0.0106: 96 h Pimephales promelas mg/L LC50 semi-static 0.0027: 96 h Cyprinus carpio mg/L LC50 semi-static 0.0075: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 0.00452 - 0.00638: 96 h Pimephales promelas mg/L LC50 flow-through 0.00181 - 0.00214: 96 h Pimephales promelas mg/L LC50 static 0.00839 - 0.1802: 96 h Oncorhynchus mykiss mg/L LC50 static 0.05 - 0.07: 96 h Lepomis macrochirus mg/L LC50 static 0.001339 - 0.001637: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.009: 96 h Pimephales promelas mg/L LC50	0.0006: 48 h Daphnia magna mg/L EC50 0.0008 - 0.0011: 48 h Daphnia magna mg/L EC50 Static 0.0008 - 0.001: 48 h Daphnia magna mg/L EC50 Flow through

**Persistence and Degradability**

No information available.

**Bioaccumulation/Accumulation**

No information available.

Chemical Name	Partition coefficient
Silver nitrate	-

**Other Adverse Effects**

No information available

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Waste Disposal Method**

Dispose of material in accordance with all federal, state, and local regulations.

**Contaminated Packaging**

Do not re-use empty containers.

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Silver nitrate	-	-	-	-

Chemical Name	California Hazardous Waste Status
Silver nitrate	Toxic

**14. TRANSPORT INFORMATION**

**DOT**

UN/ID no. 1493  
 Proper shipping name SILVER NITRATE  
 Hazard Class 5.1  
 Packing Group II

Reportable Quantity (RQ) 1 LB / 0.454 KG  
 Emergency Response Guide Number 140

**IATA**

UN/ID no. 1493  
 Proper shipping name SILVER NITRATE  
 Hazard Class 5.1  
 Packing Group II  
 ERG Code 140

<b>15. REGULATORY INFORMATION</b>
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**International Inventories**

TSCA Complies  
 DSL/NDSL Complies  
 EINECS/ELINCS Complies  
 ENCS Complies  
 IECSC Complies  
 KECL Complies  
 PICCS Complies  
 AICS Complies

**Legend**

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List  
 EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances  
 ENCS - Japan Existing and New Chemical Substances  
 IECSC - China Inventory of Existing Chemical Substances  
 KECL - Korean Existing and Evaluated Chemical Substances  
 PICCS - Philippines Inventory of Chemicals and Chemical Substances  
 AICS - Australian Inventory of Chemical Substances

**U.S. Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Component	SARA 313 - Threshold Values %
Silver nitrate	-

**SARA 311/312 Hazard Categories**

Acute Health Hazard Yes  
 Chronic Health Hazard No  
 Fire Hazard Yes  
 Sudden Release of Pressure Hazard No  
 Reactive Hazard No

**Clean Water Act**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Silver nitrate	1 lb	X	-	X

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level

pertaining to releases of this material

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Silver nitrate	1 lb	-	RQ 1 lb final RQ RQ 0.454 kg final RQ

### U.S. State Regulations

#### California Proposition 65

This product does not contain any Proposition 65 chemicals.

Chemical Name	California Prop. 65
Silver nitrate	-

### U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Silver nitrate	X	X	X

### U.S. EPA Label Information

EPA Pesticide Registration Number Not regulated

## 16. OTHER INFORMATION

### Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of Safety Data Sheet**