

**1. CHEMICAL IDENTIFICATION AND COMPANY INFORMATION**

PRODUCT NAME: Silver Nitrate, ACS Reagent

PRODUCT NUMBER: S169

COMPANY INFO: PhytoTech Labs Inc.  
14610 W 106<sup>th</sup> St. Lenexa, KS 66215  
Phone: 1-888-749-8682 or 1-913-341-5343  
www.phytotechlab.com

EMERGENCY PHONE NUMBER 1-800-535-5053 - US Only  
(INFOTRAC): 1-352-323-3500 - International

RECOMMENDED USE: For Laboratory-use or Further Manufacture only

RESTRICTIONS ON USE: Products sold by PhytoTech Labs Inc. are intended for research and laboratory use only. Products are not to be used as human or animal therapeutics, cosmetics, agricultural or pesticidal products, food additives, in vitro diagnostics, or as household chemicals.

**2. HAZARDS IDENTIFICATION**

Classification of the substance or mixture

GHS Classification:

H272 – Oxidizing solids (Category 2)  
H302 – Acute toxicity, Oral (Category 4)  
H314 – Skin corrosion (Category 1B)  
H318 – Serious eye damage (Category 1)  
H400 – Acute aquatic toxicity (Category 1)  
H410 – Chronic aquatic toxicity (Category 1)

GHS Label elements, including hazard and precautionary statements:

Pictogram:  Signal Word: **Danger**

Hazard Statements:

H272 – May intensify fire; oxidizer.  
H302 – Harmful if swallowed.  
H314 – Causes severe skin burn and eye damage.  
H318 – Cause serious eye damage.  
H410 – Very toxic to aquatic life with long lasting effects.

Precautionary Statements:

P210 – Keep away from heat.  
P221 – Take any precaution to avoid mixing with combustibles.  
P273 – Avoid release to the environment.  
P280 – Wear protective gloves/protective clothing/eye protection/face protection.  
P305 + P351 + P338 + P310 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 or doctor/ physician.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms: Not available

CAS No.: 7761-88-8

Formula: AgNO<sub>3</sub>

Molecular Weight: 169.89 g/mol

EC No.: 231-853-9

Ingredient	CAS Number	Percent	Hazardous
Silver Nitrate	7761-88-8	>99 %	ACGIH TLV: 0.01 mg (Ag)/m <sup>3</sup>

#### 4. FIRST AID MEASURES

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Route of Entry	Symptoms	First Aid Procedures
Ingestion	May cause irritation if swallowed	If swallowed, wash out mouth with water. Never give anything by mouth to an unconscious person. <b>Get medical attention.</b>
Inhalation	May cause irritation to respiratory tract	Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. <b>Get medical attention.</b>
Eye Contact	Direct contact may cause irritation. May cause redness, tearing, or blurred vision.	Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. <b>Get medical attention if irritation persists.</b>
Skin Contact	Irritating. May cause reddening, itching or inflammation.	Wash area thoroughly with soap and water. Remove and wash contaminated clothing. <b>Get medical attention if irritation persists.</b>

Most Important Symptoms or Effects, Both Acute and Delayed:

See section 2 and/or section 11

Recommendation for Immediate Medical Care and Special Treatment Needed:

No data available

#### 5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:	Water spray, carbon dioxide, dry chemical powder, or appropriate foam. Use extinguishing media suitable for surrounding fire.
Special Protective Equipment and Precaution for Firefighters:	In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus. Evacuate the area and fight fire from a safe distance.
Hazardous Combustion Products:	May emit toxic fumes under fire conditions. Material is a strong oxidizer.
Toxic Gases Produced:	Nitrogen oxides, silver oxides

#### 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protection recommended in Section 8. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation, especially in confined areas. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental Precautions:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Method of Containment and Cleanup:	Wear suitable protective clothing. Avoid dust formation. Carefully sweep up and remove. Place material in a dry container and cover. Remove from the area. Flush spill area with water. Do not let products enter drains.

#### 7. HANDLING AND STORAGE

Precaution for Safe Handling:	Avoid contact with skin and eyes. Avoid dust formation and aerosols. Avoid incompatible substances. Keep away from heat and sources of ignition. Wash thoroughly after use.
Conditions for Safe Storage:	Keep in a tightly closed container and store in a cool, dry, and well-ventilated area. Protect from moisture and light. Product is hygroscopic and light-sensitive.

Incompatibilities: Strong oxidizing agent

Recommended Storage Temperature: Room Temperature

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA's Permissible Exposure Limits (PELs): 0.01 mg/m<sup>3</sup>

ACGIH's Threshold Limit Values (TLVs): 0.01 mg/m<sup>3</sup>

Engineering Controls: Handle in accordance to general industrial hygiene and safety practice.

Personal Protective Equipment (PPE):

Eye/Face Protection: Chemical safety glasses or goggles. Have eye-washing facilities readily available where eye contact can occur.

Skin Protection: Protective gloves

Body Protection: Lab coat

Respiratory Protection: Wear appropriate dust mask.  
A NIOSH/MSHA approved air purifying respirator is recommended where airborne concentrations are expected to exceed exposure limits. Protection provided by purifying respirators is limited.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Off-white to beige crystals

pH (1.70 g/L): Under Development (5.0 – 6.5 suspected range)

Solubility: Soluble in Water

Melting Point: 212 °C; Decomposes around 440 °C

Vapor Density: No data available

Vapor Pressure: No data available

Odor: Odorless

Odor Threshold: No data available

Viscosity: No data available

Relative Density: 4.35 g/cm<sup>3</sup>

Evaporation Rate: No data available

Initial Boiling Point and Boiling Range: 440 °C (824 °F) - Decomposes on heating.

Flammability (solid, gas): No data available

Partition coefficient:  
n-octanol/water): log Pow: 5

Auto-ignition Temperature: No data available

Decomposition Temperature: No data available

Flash Point (Closed Cup): No data available

Flammable Limits: Upper (%) – No data available      Lower (%) – No data available

## 10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical Stability: Stable under normal conditions of use

Possibility of Hazard Reactions: Will not occur

Conditions to Avoid: Moisture, light

Incompatibles Materials: Strong reducing agents, Alcohols, Ammonia, Magnesium, Strong bases

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide

## 11. TOXICOLOGICAL INFORMATION

Toxicity:	LD <sub>50</sub> (Oral-Rat)(mg/Kg):	1173
	LD <sub>50</sub> (IP-Rat)(mg/Kg):	83
	LD <sub>50</sub> (Oral-Mouse)(mg/Kg):	50
Carcinogenicity:	NTP:	No
	IARC:	No
	OSHA Reg:	No
Reproductive Toxicity:	No data available	
Symptoms Associated with Overexposure:	Irritation, itching, gastrointestinal upset, nausea, vomiting, headache, cyanosis, depression, breathing difficulties, pulmonary edema, liver or kidney impairment, blood effects, cardiac changes, weight loss or gain, possible mutagenic or tumorigenic effects, reproductive effects, convulsions, burns	
Specific Target Organ Toxicity:	Single Exposure:	No data available
	Repeated Exposure:	No data available
Target Organs:	Liver	
Medical Conditions Aggravated By Exposure:	Pre-existing conditions	
Routes of Entry:	Ingestion, inhalation, skin and eye contact	
NIOSH/RTECS NO:	VW4725000	

***The toxicological properties of this product have not been thoroughly investigated***

## 12. ECOLOGICAL INFORMATION

Ecotoxicity:	Toxicity to fish mortality NOEC - Oncorhynchus mykiss (rainbow trout) - 0.108 mg/l - 96.0 h	
	mortality LOEC - Oncorhynchus mykiss (rainbow trout) - > 0.007 mg/l - 7.0 d	
	LC50 - Leuciscus idus (Golden orfe) - 0.029 mg/l - 96.0 h	
	LC50 - Oncorhynchus mykiss (rainbow trout) - 0.006 mg/l - 96.0 h	
	Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 0.0006 mg/l - 48 h	
Persistence and Degradability:	No data available	
Bioaccumulative Potential:	No data available	
Mobility in Soil:	No data available	
Other Adverse Effects:	Very toxic to aquatic life	

## 13. DISPOSAL CONSIDERATION

Disposal Procedure:	Dispose in accordance with all applicable federal, state, and local environmental regulations.
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## 14. TRANSPORT INFORMATION

Domestic (D.O.T.):	Proper Shipping Name:	Silver Nitrate		
	Hazard Class:	5.1	Packaging group: II	
	UN:	1493		
	Reportable Quantity (RQ):	1 lb		
	Poison inhalation hazard:	No		
International:				
IMDG:	Proper Shipping Name:	Silver Nitrate		
	Hazard Class:	5.1	Packaging group: II	EMS-No.: F-A, S-O

UN: 1493

Marine pollutant: Yes

IATA: Proper Shipping Name: Silver Nitrate

Hazard Class: 5.1 Packaging group: II

UN: 1493

## 15. REGULATORY INFORMATION

TSCA: Yes

### SARA TITLE III:

Section 302 (EHS) Ingredients: No

Section 313 Ingredients: No

Section 304 (EHS/CERCLA) Ingredients: No

Section 311/312 Hazard: Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right to Know Components: CAS No.: 7761-88-8 Silver Nitrate

Pennsylvania Right to Know Components: CAS No.: 7761-88-8 Silver Nitrate

New Jersey Right to Know Components: CAS No.: 7761-88-8 Silver Nitrate

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

## 16. OTHER INFORMATION

HMIS Rating:

Health Hazard	Chronic Health Hazard	Flammability	Physical Hazard
3	*	0	2
Health Hazard	Fire Hazard	Reactivity Hazard	Special Hazard
3	0	2	OX

NFPA Rating:

\*Chronic Hazard: Chronic (long-term) health effects may result from repeated overexposure.

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