

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** SILVER NITRATE, VOLUMETRIC SOLUTIONS (0.24 - 4.8%)

**Other means of identification**

**Product No.:** 6142, H391, H383, 5630, H394

**Recommended use and restriction on use**

**Recommended use:** Not available.

**Restrictions on use:** Not known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company Name:** Avantor Performance Materials, Inc.  
**Address:** 3477 Corporate Parkway, Suite 200  
Center Valley, PA 18034

**Telephone:** Customer Service: 855-282-6867

**Fax:**  
**Contact Person:** Environmental Health & Safety  
**e-mail:** info@avantormaterials.com

**Emergency telephone number:**

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

## 2. Hazard(s) identification

**Hazard classification**

**Health hazards**

Acute toxicity (Oral)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Toxic to reproduction	Category 2
Acute toxicity (Oral)	Category 4
Toxic to reproduction	Category 2

**Environmental hazards**

Acute hazards to the aquatic environment	Category 1
Acute hazards to the aquatic environment	Category 1

**Label elements**

**Hazard symbol:**



**Signal word:** Warning

**Hazard statement:** Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye irritation.  
Suspected of damaging fertility or the unborn child.  
Very toxic to aquatic life.

**Precautionary statement**

**Prevention:** Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Avoid release to the environment.

**Response:** 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. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. IF SWALLOWED: Call a POISON CENTER/doctor/ if you feel unwell. Rinse mouth. If exposed or concerned: Get medical advice/attention. Specific treatment (see this label). Take off contaminated clothing and wash before reuse. Collect spillage.

**Storage:** Store locked up.

**Disposal:** Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Other hazards which do not result in GHS classification:** None.

**3. Composition/information on ingredients**

**Mixtures**

Chemical identity	Common name and synonyms	CAS number	Content in percent (%)*
SILVER NITRATE		7761-88-8	0.2 - 5%

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**4. First-aid measures**

**General information:** Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

**Ingestion:** Rinse mouth. Call a physician or poison control center immediately. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

**Inhalation:** Move to fresh air. Get medical attention if symptoms persist. If breathing stops, provide artificial respiration.

**Skin contact:** Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation persists after washing. Wash contaminated clothing before reuse.

**Eye contact:** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation persists after washing.

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

**Symptoms:** Harmful if swallowed. Irritating to eyes, respiratory system and skin.

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

**Treatment:** Treat symptomatically. Symptoms may be delayed.

**5. Fire-fighting measures**

**General fire hazards:** In case of fire and/or explosion do not breathe fumes.

**Suitable (and unsuitable) extinguishing media**

**Suitable extinguishing media:** Use fire-extinguishing media appropriate for surrounding materials.

**Unsuitable extinguishing media:** None known.

**Specific hazards arising from the chemical:** If water is removed, dried product may react with other substances causing a fire or explosion. Fire may produce irritating, corrosive and/or toxic gases.

**Special protective equipment and precautions for firefighters**

**Special fire fighting procedures:** Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

**Special protective equipment for fire-fighters:** Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

**6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:** Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

**Methods and material for containment and cleaning up:** Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

**Notification Procedures:** Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

**Environmental precautions:** Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

**Precautions for safe handling:** Use personal protective equipment as required. Do not breathe mist or vapor. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only with adequate ventilation. Wash hands thoroughly after handling. Avoid contact with eyes. Avoid contact with skin. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. See Section 8 of the MSDS for Personal Protective Equipment.

**Conditions for safe storage, including any incompatibilities:** Keep containers tightly closed. Store in a well-ventilated place. Store in a dry place. Protect from sunlight. Store locked up.

## 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
SILVER NITRATE - as Ag	TWA	0.01 mg/m <sup>3</sup>	US. ACGIH Threshold Limit Values (2011)
SILVER NITRATE - Dust. - as Ag	REL	0.01 mg/m <sup>3</sup>	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
SILVER NITRATE - as Ag	PEL	0.01 mg/m <sup>3</sup>	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	0.01 mg/m <sup>3</sup>	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

**Appropriate engineering controls** No data available.

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

**General information:** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

**Eye/face protection:** Wear safety glasses with side shields (or goggles). Wear face shield if there is risk of splashes.

#### Skin protection

**Hand protection:** Chemical resistant gloves

**Other:** Wear suitable protective clothing.

**Respiratory protection:** In case of inadequate ventilation use suitable respirator.

**Hygiene measures:** Do not get in eyes. Observe good industrial hygiene practices. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse. Do not get this material in contact with skin. Wash hands before breaks and immediately after handling the product. Do not eat, drink or smoke when using the product.

## 9. Physical and chemical properties

## Appearance

<b>Physical state:</b>	Liquid
<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	No data available.
<b>pH:</b>	No data available.
<b>Melting point/freezing point:</b>	No data available.
<b>Initial boiling point and boiling range:</b>	No data available.
<b>Flash Point:</b>	Not applicable
<b>Evaporation rate:</b>	As water
<b>Flammability (solid, gas):</b>	No data available.
<b>Upper/lower limit on flammability or explosive limits</b>	
<b>Flammability limit - upper (%):</b>	No data available.
<b>Flammability limit - lower (%):</b>	No data available.
<b>Explosive limit - upper (%):</b>	No data available.
<b>Explosive limit - lower (%):</b>	No data available.
<b>Vapor pressure:</b>	No data available.
<b>Vapor density:</b>	No data available.
<b>Relative density:</b>	1.00 (20 °C)
<b>Solubility(ies)</b>	
<b>Solubility in water:</b>	Soluble
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	No data available.
<b>Auto-ignition temperature:</b>	No data available.
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b>	No data available.

## 10. Stability and reactivity

<b>Reactivity:</b>	No dangerous reaction known under conditions of normal use.
<b>Chemical stability:</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions:</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid:</b>	Heat, sparks, flames. Light. Contact with incompatible materials.
<b>Incompatible materials:</b>	Reducing agents. Ammonia. Alkalies. Antimony salts. Arsenites. Bromides. Carbonates. Chlorides. Iodides. Thiocyanates. Ferrous salts. Phosphates. Tannic acid. Tartrates.
<b>Hazardous decomposition products:</b>	Thermal decomposition may produce oxides of nitrogen. May decompose upon heating to produce corrosive and/or toxic fumes.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Ingestion:</b>	Harmful if swallowed.
<b>Inhalation:</b>	May be harmful if inhaled.
<b>Skin contact:</b>	Causes skin irritation.
<b>Eye contact:</b>	Causes serious eye irritation.

## Information on toxicological effects

### Acute toxicity (list all possible routes of exposure)

#### Oral

**Product:** ATEmix (Rat): 1,000 mg/kg

#### Dermal

**Product:** No data available.

#### Inhalation

**Product:** No data available.

### Repeated dose toxicity

**Product:** No data available.

### Skin corrosion/irritation

**Product:** Causes skin irritation.

### Serious eye damage/eye irritation

**Product:** Causes serious eye irritation.

### Respiratory or skin sensitization

**Product:** Not a skin sensitizer.

### Carcinogenicity

**Product:** This substance has no evidence of carcinogenic properties.

#### IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

#### US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

#### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

### Germ cell mutagenicity

#### In vitro

**Product:** No mutagenic components identified

#### In vivo

**Product:** No mutagenic components identified

### Reproductive toxicity

**Product:** Suspected of damaging fertility or the unborn child.

### Specific target organ toxicity - single exposure

**Product:** None known.

### Specific target organ toxicity - repeated exposure

**Product:** None known.

### Aspiration hazard

**Product:** Not classified

**Other effects:** None known.

## 12. Ecological information

### Ecotoxicity:

#### Acute hazards to the aquatic environment:

##### Fish

**Product:** No data available.

##### Specified substance(s):

SILVER NITRATE LC 50 (Bluegill (*Lepomis macrochirus*), 96 h): 0.009 - 0.02 mg/l Mortality

##### Aquatic invertebrates

**Product:** No data available.

##### Specified substance(s):

SILVER NITRATE LC 50 (Water flea (*Daphnia magna*), 48 h): 0.000987 - 0.001752 mg/l Mortality

#### Chronic hazards to the aquatic environment:

##### Fish

**Product:** No data available.

##### Aquatic invertebrates

**Product:** No data available.

##### Toxicity to Aquatic Plants

**Product:** No data available.

##### Specified substance(s):

SILVER NITRATE EC 50 (Green algae (*Scenedesmus dimorphus*), 48 h): 0.003 - 0.015 mg/l Intoxication

### Persistence and degradability

#### Biodegradation

**Product:** There are no data on the degradability of this product.

#### BOD/COD ratio

**Product:** No data available.

### Bioaccumulative potential

#### Bioconcentration factor (BCF)

**Product:** No data available on bioaccumulation.

#### Partition coefficient n-octanol / water (log Kow)

**Product:** No data available.

**Mobility in soil:** The product is water soluble and may spread in water systems.

**Other adverse effects:** Very toxic to aquatic life.

## 13. Disposal considerations

**Disposal instructions:** Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Contaminated packaging:** Since emptied containers retain product residue, follow label warnings even after container is emptied.

**14. Transport information**

**DOT**

Not regulated.

**IMDG**

Not regulated.

**IATA**

Not regulated.

**15. Regulatory information**

**US federal regulations**

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

None present or none present in regulated quantities.

**CERCLA Hazardous Substance List (40 CFR 302.4):**

SILVER NITRATE Reportable quantity: 1 lbs.

**Superfund amendments and reauthorization act of 1986 (SARA)**

**Hazard categories**

Acute (Immediate)  Chronic (Delayed)  Fire  Reactive  Pressure Generating

**SARA 302 Extremely hazardous substance**

None present or none present in regulated quantities.

**SARA 304 Emergency release notification**

Chemical identity	RQ
SILVER NITRATE	1 lbs.

**SARA 311/312 Hazardous chemical**

Chemical identity	Threshold Planning Quantity
SILVER NITRATE	500 lbs

**SARA 313 (TRI reporting)**

Chemical identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
SILVER NITRATE	10000 lbs	25000 lbs.

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)**

SILVER NITRATE Reportable quantity: 1 lbs.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**

None present or none present in regulated quantities.

**US state regulations**

**US. California Proposition 65**

No ingredient regulated by CA Prop 65 present.

**US. New Jersey Worker and Community Right-to-Know Act**

SILVER NITRATE Listed



**US. Massachusetts RTK - Substance List**

SILVER NITRATE Listed

**US. Pennsylvania RTK - Hazardous Substances**

SILVER NITRATE Listed

**US. Rhode Island RTK**

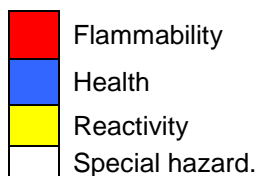
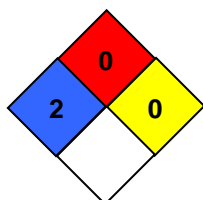
SILVER NITRATE Listed

**Inventory Status:**

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

**16. Other information, including date of preparation or last revision**

**NFPA Hazard ID**



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

<b>Issue date:</b>	07-31-2014
<b>Revision date:</b>	No data available.
<b>Version #:</b>	2.0
<b>Further information:</b>	No data available.

**Disclaimer:**

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