



# HazTech Systems, Inc.

## SAFETY DATA SHEET

Revision number: 2  
Revision date: 07/13/2015

### 1. IDENTIFICATION

**Product name:** Silver nitrate, Distilled water  
**Product code:** RE2328/RE2026  
**Synonyms:** Not available  
**CAS:** 7761-88-8/7732-18-5  
**RTECS #** VW4725000/Not available  
**CI#:** Not available  
**Recommended use:** Laboratory chemicals, Manufacture of substances  
**Uses advised against:** No information available

**Company:**

HazTech Systems, Inc.  
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Mariposa, CA 95338 U.S.A.  
Telephone:  
1-800-543-5487 / 1-209-966-8088  
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**Chemical Emergencies:**

HazTech Systems, Inc. (8:00am - 5:00pm) PST  
1-800-543-5487  
**Transportation Emergencies:**  
Chemtrec 24-Hour  
1-800-424-9300 (U.S.A.)  
1-703-527-3887 (International)

### 2. HAZARD(S) IDENTIFICATION

**Classification of the substance or mixture**

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

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

For the full text of the H-Statements mentioned in this Section, see Section 16.

**GHS Label elements, including precautionary statements**

**Pictogram**



**Signal word**

Danger

**Hazard statement(s)**

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

**Precautionary statement(s)**

P210 Keep away from heat.  
P220 Keep/Store away from clothing/ combustible materials.  
P221 Take any precaution to avoid mixing with combustibles.  
P260 Do not breathe dust or mist.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**2. HAZARDS IDENTIFICATION**

P301 + P312 + P330	IF SWALLOWED: Cal l a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P310	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
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.
P363	Wash contaminated clothing before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol - resistant foam for extinction.
P391	Collect spillage.
P405	Store locked up.
P501	Dispose of contents/container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS - none

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Substances (mixture)**

Formula	:	AgNO <sub>3</sub>
Molecular weight	:	169.87 g/mol
CAS -No.	:	7761 -88 -8
EC-No.	:	231 -853 -9
Index -No.	:	047 -001 -00 -2

**Hazardous components**

Component	Classification	Concentration
<b>Silver nitrate</b>	Ox. Sol. 2; Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 1; H272, H302, H314, H318, H410	<= 2 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

**4. FIRST AID MEASURES**

**Description of first aid measures**

**General advice**

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

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

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

No data available

**5. FIREFIGHTING MEASURES**

**Extinguishing media**

**Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special hazards arising from the substance or mixture**

Nitrogen oxides (NO<sub>x</sub>), Silver/silver oxides

Container explosion may occur under fire conditions.

**5. FIREFIGHTING MEASURES**

**Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**Further information**

Use water spray to cool unopened containers.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Methods and materials for containment and cleaning up**

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

**Reference to other sections**

For disposal see section 13.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Keep away from heat and sources of ignition.

For precautions see section 2.

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

Keep container tightly closed in a dry and well-ventilated place.

Light sensitive.

Storage class (TRGS 510): Oxidizing hazardous materials

**Specific end use(s)**

Apart from the uses mentioned in section 1 no other specific uses are stipulated.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Components with workplace control parameters**

Component	CAS -No.	Value	Control parameters	Basis
Silver nitrate	7761 -88 -8	TWA	0.010000 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z -1 Limits for Air Contaminants
		TWA	0.010000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Argyria varies		
		TWA	0.010000 mg/m3	USA. NIOSH Recommended Exposure Limits

**Exposure controls**

**Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**Personal protective equipment**

**Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Full contact

Material : Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time : 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material : Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time : 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method:

EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

- |   |  |
|---|--|
| a) Appearance                                   | Form : liquid<br>Colour : clear  |
| b) Odour  | No data available  |
| c) Odour Threshold                              | No data available  |
| d) pH   | No data available  |
| e) Melting point/freezing point                 | Melting point/range : 212 °C (414 °F) - dec.                             |
| f) Initial boiling point and boiling range      | 440 °C (824 °F) - Decomposes on heating.                                 |
| g) Flash point                                  | No data available  |
| h) Evaporation rate                             | No data available  |
| i) Flammability (solid, gas)                    | No data available  |
| j) Upper/lower flammability or explosive limits | No data available  |
| k) Vapour pressure                              | No data available  |
| l) Vapour density                               | No data available  |
| m) Relative density                             | 4.350 g/cm <sup>3</sup>  |
| n) Water solubility                             | No data available  |
| o) Partition coefficient: n-octanol/water       | log Pow : 5  |
| p) Auto-ignition temperature                    | No data available  |
| q) Decomposition temperature                    | No data available  |
| r) Viscosity                                    | No data available  |
| s) Explosive properties                         | No data available  |
| t) Oxidizing properties                         | The substance or mixture is classified as oxidizing with the category 2. |

### Other safety information

No data available

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available

### Chemical stability

Decomposes on exposure to light.

Stable under recommended storage conditions.

### Possibility of hazardous reactions

No data available

### Conditions to avoid

Light.

### Incompatible materials

Strong reducing agents, Alcohols, Ammonia, Magnesium, Strong bases

### Hazardous decomposition products

Other decomposition products - No data available

In the event of fire: see section 5

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 1,173 mg/kg

Remarks : Behavioral:Tetany. Cyanosis Diarrhoea

Inhalation : No data available

Dermal : No data available

No data available

#### Skin corrosion/irritation

No data available

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result : Severe eye irritation

#### Respiratory or skin sensitisation

No data available

#### Germ cell mutagenicity

No data available

#### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

#### Reproductive toxicity

No data available

No data available

#### Specific target organ toxicity - single exposure

No data available

#### Specific target organ toxicity - repeated exposure

No data available

#### Aspiration hazard

No data available

#### Additional Information

RTECS : VW4725000

May cause argyria (a slate-gray or bluish discoloration of the skin and deep tissues due to the deposit of insoluble albuminate of silver)., Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer.

Liver - Irregularities - Based on Human Evidence

Liver - Irregularities - Based on Human Evidence

**12. ECOLOGICAL INFORMATION**

**Toxicity**

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 EC50 - Daphnia magna (Water flea) - 0.0006 mg/l - 48 h  
other aquatic invertebrates

**Persistence and degradability**

No data available

**Bioaccumulative potential**

Bioaccumulation Lepomis macrochirus - 60 d  
- 70 µg/l  
Bioconcentration factor (BCF) : 120

**Mobility in soil**

No data available

**Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life.

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

**14. TRANSPORT INFORMATION**

**DOT (US)**

UN number: 1493 Class : 5.1 Packing group : II  
Proper shipping name : Silver nitrate  
Reportable Quantity (RQ): 1 lbs  
Poison Inhalation Hazard : No

**IMDG**

UN number : 1493 Class : 5.1 Packing group : II EMS-No: F-A , S-Q  
Proper shipping name : SILVER NITRATE  
Marine pollutant:yes

**IATA**

UN number: 1493 Class : 5.1 Packing group : II  
Proper shipping name : Silver nitrate

**15. REGULATORY INFORMATION**

**SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

The following components are subject to reporting levels established by SARA Title III, Section 313:

Silver nitrate	CAS -No.	Revision Date
	7761 -88 -8	1993 -04 -24

**Massachusetts Right To Know Components**

Silver nitrate	CAS -No.	Revision Date
	7761 -88 -8	1993 -04 -24

**Pennsylvania Right To Know Components**

Silver nitrate	CAS -No.	Revision Date
	7761 -88 -8	1993 -04 -24

**New Jersey Right To Know Components**

Silver nitrate	CAS -No.	Revision Date
	7761 -88 -8	1993 -04 -24

**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**

**Full text of H-Statements referred to under sections 2 and 3.**

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Eye Dam.	Serious eye damage
H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
Ox. Sol.	Oxidizing solids

**HMIS Rating**

Health hazard :	3
Chronic Health Hazard :	*
Flammability :	0
Physical Hazard	2

**NFPA Rating**

Health hazard :	3
Fire Hazard :	0
Reactivity Hazard :	2
Special hazard. I:	OX

**Revision Date:** 07/13/2015

**Prepared by:** HazTech Systems, Inc.

*This information is based on HazTech Systems, Inc.'s, current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*