

**SAFETY DATA SHEET**

Creation Date 30-Apr-2015

Revision Date 17-Oct-2022

Revision Number 6

**1. Identification**

**Product Name** Silver Nitrate Solution, 0.0141N

**Cat No. :** SS82-1

**Synonyms** No information available

**Recommended Use** Laboratory chemicals.

**Uses advised against** Food, drug, pesticide or biocidal product use.

**Details of the supplier of the safety data sheet****Company**

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

**Emergency Telephone Number**

CHEMTREC®, Inside the USA: 800-424-9300  
CHEMTREC®, Outside the USA: 001-703-527-3887

**2. Hazard(s) identification****Classification**

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

**Label Elements**

None required

**Hazards not otherwise classified (HNOC)**

Harmful to aquatic life with long lasting effects

**3. Composition/Information on Ingredients**

| Component | CAS No | Weight % |
|-----------|--------|----------|
|-----------|--------|----------|

|                |           |     |
|----------------|-----------|-----|
| Water          | 7732-18-5 | >99 |
| Silver nitrate | 7761-88-8 | < 1 |

#### 4. First-aid measures

|                                            |                                                                                                                        |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.        |
| <b>Skin Contact</b>                        | Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.            |
| <b>Inhalation</b>                          | Remove to fresh air. Get medical attention if symptoms occur. If not breathing, give artificial respiration.           |
| <b>Ingestion</b>                           | Do NOT induce vomiting. Get medical attention.                                                                         |
| <b>Most important symptoms and effects</b> | . May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood): Symptoms may be delayed |
| <b>Notes to Physician</b>                  | Treat symptomatically                                                                                                  |

#### 5. Fire-fighting measures

|                                         |                                                                                       |
|-----------------------------------------|---------------------------------------------------------------------------------------|
| <b>Suitable Extinguishing Media</b>     | Substance is nonflammable; use agent most appropriate to extinguish surrounding fire. |
| <b>Unsuitable Extinguishing Media</b>   | No information available                                                              |
| <b>Flash Point</b>                      | Not applicable                                                                        |
| <b>Method -</b>                         | No information available                                                              |
| <b>Autoignition Temperature</b>         | No information available                                                              |
| <b>Explosion Limits</b>                 |                                                                                       |
| <b>Upper</b>                            | No data available                                                                     |
| <b>Lower</b>                            | No data available                                                                     |
| <b>Sensitivity to Mechanical Impact</b> | No information available                                                              |
| <b>Sensitivity to Static Discharge</b>  | No information available                                                              |

#### Specific Hazards Arising from the Chemical

Non-combustible. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition. None reasonably foreseeable.

#### Hazardous Combustion Products

Thermal decomposition can lead to release of irritating gases and vapors.

#### 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.

#### NFPA

|               |                     |                    |                         |
|---------------|---------------------|--------------------|-------------------------|
| <b>Health</b> | <b>Flammability</b> | <b>Instability</b> | <b>Physical hazards</b> |
| 1             | 0                   | 0                  | N/A                     |

#### 6. Accidental release measures

|                                             |                                                                                                                        |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| <b>Personal Precautions</b>                 | Use personal protective equipment as required. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. |
| <b>Environmental Precautions</b>            | Do not flush into surface water or sanitary sewer system.                                                              |
| <b>Methods for Containment and Clean Up</b> | Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.                               |

## 7. Handling and storage

|                 |                                                                                                                                                             |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Handling</b> | Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. |
| <b>Storage.</b> | Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. None known. .                                              |

## 8. Exposure controls / personal protection

### Exposure Guidelines

| Component      | ACGIH TLV                   | OSHA PEL                              | NIOSH IDLH                                                | Mexico OEL (TWA)                                       |
|----------------|-----------------------------|---------------------------------------|-----------------------------------------------------------|--------------------------------------------------------|
| Silver nitrate | TWA: 0.01 mg/m <sup>3</sup> | (Vacated) TWA: 0.01 mg/m <sup>3</sup> | IDLH: 10 mg/m <sup>3</sup><br>TWA: 0.01 mg/m <sup>3</sup> | TWA: 0.01 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup> |

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

|                             |                                                                                                                                                   |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Engineering Measures</b> | Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|

### Personal Protective Equipment

|                                 |                                                                                                                                                                                                                                                   |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye/face Protection</b>      | Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.                                                                       |
| <b>Skin and body protection</b> | Wear appropriate protective gloves and clothing to prevent skin exposure.                                                                                                                                                                         |
| <b>Respiratory Protection</b>   | Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. |
| <b>Hygiene Measures</b>         | Handle in accordance with good industrial hygiene and safety practice.                                                                                                                                                                            |

## 9. Physical and chemical properties

|                                               |                          |
|-----------------------------------------------|--------------------------|
| <b>Physical State</b>                         | Liquid                   |
| <b>Appearance</b>                             | Colorless                |
| <b>Odor</b>                                   | Odorless                 |
| <b>Odor Threshold</b>                         | No information available |
| <b>pH</b>                                     | ~ 6                      |
| <b>Melting Point/Range</b>                    | No data available        |
| <b>Boiling Point/Range</b>                    | No information available |
| <b>Flash Point</b>                            | Not applicable           |
| <b>Evaporation Rate</b>                       | > 1 (Ether = 1.0)        |
| <b>Flammability (solid,gas)</b>               | Not applicable           |
| <b>Flammability or explosive limits</b>       |                          |
| Upper                                         | No data available        |
| Lower                                         | No data available        |
| <b>Vapor Pressure</b>                         | 14 mmHg @ 20 °C          |
| <b>Vapor Density</b>                          | 5.9                      |
| <b>Specific Gravity</b>                       | 1.0 - 1.1                |
| <b>Solubility</b>                             | miscible                 |
| <b>Partition coefficient; n-octanol/water</b> | No data available        |
| <b>Autoignition Temperature</b>               | No information available |
| <b>Decomposition Temperature</b>              | No information available |

|                   |                                     |
|-------------------|-------------------------------------|
| Viscosity         | No information available            |
| Molecular Formula | AgNO <sub>3</sub> .H <sub>2</sub> O |
| Molecular Weight  | 169.8731                            |

## 10. Stability and reactivity

|                                  |                                                                          |
|----------------------------------|--------------------------------------------------------------------------|
| Reactive Hazard                  | None known, based on information available                               |
| Stability                        | Light sensitive.                                                         |
| Conditions to Avoid              | Excess heat. Exposure to light.                                          |
| Incompatible Materials           | None known,                                                              |
| Hazardous Decomposition Products | Thermal decomposition can lead to release of irritating gases and vapors |
| Hazardous Polymerization         | Hazardous polymerization does not occur.                                 |
| Hazardous Reactions              | None under normal processing.                                            |

## 11. Toxicological information

### Acute Toxicity

#### Product Information

|             |                                                                               |
|-------------|-------------------------------------------------------------------------------|
| Oral LD50   | Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg. |
| Dermal LD50 | Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg. |
| Vapor LC50  | Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.    |

#### Component Information

| Component      | LD50 Oral            | LD50 Dermal               | LC50 Inhalation                          |
|----------------|----------------------|---------------------------|------------------------------------------|
| Water          | -                    | -                         | -                                        |
| Silver nitrate | > 2000 mg/kg ( Rat ) | LD50 > 2000 mg/kg ( Rat ) | LC50 > 750 µg/m <sup>3</sup> ( Rat ) 4 h |

|                                      |                          |
|--------------------------------------|--------------------------|
| Toxicologically Synergistic Products | No information available |
|--------------------------------------|--------------------------|

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

|                 |                                                                                          |
|-----------------|------------------------------------------------------------------------------------------|
| Irritation      | No information available                                                                 |
| Sensitization   | No information available                                                                 |
| Carcinogenicity | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Component      | CAS No    | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|----------------|-----------|------------|------------|------------|------------|------------|
| Water          | 7732-18-5 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Silver nitrate | 7761-88-8 | Not listed | Not listed | Not listed | Not listed | Not listed |

|                   |                          |
|-------------------|--------------------------|
| Mutagenic Effects | No information available |
|-------------------|--------------------------|

|                      |                           |
|----------------------|---------------------------|
| Reproductive Effects | No information available. |
|----------------------|---------------------------|

|                       |                           |
|-----------------------|---------------------------|
| Developmental Effects | No information available. |
|-----------------------|---------------------------|

|                |                           |
|----------------|---------------------------|
| Teratogenicity | No information available. |
|----------------|---------------------------|

|                          |            |
|--------------------------|------------|
| STOT - single exposure   | None known |
| STOT - repeated exposure | None known |

|                   |                          |
|-------------------|--------------------------|
| Aspiration hazard | No information available |
|-------------------|--------------------------|

|                                            |                                                                                                                         |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Symptoms / effects, both acute and delayed | May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood):<br>Symptoms may be delayed |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

The product contains following substances which are hazardous for the environment. Contains a substance which is: Very toxic to aquatic organisms.

| Component      | Freshwater Algae | Freshwater Fish                      | Microtox                                                                                                                                                                                                                           | Water Flea            |
|----------------|------------------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Silver nitrate | -                | Leuciscus idus: LC50: 0.029 mg/L/96h | Photobacterium phosphoreum: EC50: 0.038 mg/L/24h<br>Photobacterium phosphoreum: EC50: 0.395 mg/L/15min<br>Photobacterium phosphoreum: EC50: 0.44 mg/L/30 min as Ag++<br>Photobacterium phosphoreum: EC50: 0.86 mg/L/15 min as Ag++ | EC50: 0.0006 mg/L/48h |

**Persistence and Degradability** Miscible with water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its water solubility.

| Component      | log Pow |
|----------------|---------|
| Silver nitrate | 0.19    |

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

|                 |               |
|-----------------|---------------|
| <b>DOT</b>      | Not regulated |
| <b>TDG</b>      | Not regulated |
| <b>IATA</b>     | Not regulated |
| <b>IMDG/IMO</b> | Not regulated |

## 15. Regulatory information

### United States of America Inventory

| Component      | CAS No    | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|----------------|-----------|------|-----------------------------------------------|-----------------------------|
| Water          | 7732-18-5 | X    | ACTIVE                                        | -                           |
| Silver nitrate | 7761-88-8 | X    | ACTIVE                                        | -                           |

#### Legend:

**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)** Not applicable

**TSCA 12(b)** - Notices of Export Not applicable

**International Inventories**

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component      | CAS No    | DSL | NDL | EINECS    | PICCS | ENCS | ISHL | AICS | IECSC | KECL     |
|----------------|-----------|-----|-----|-----------|-------|------|------|------|-------|----------|
| Water          | 7732-18-5 | X   | -   | 231-791-2 | X     | X    |      | X    | X     | KE-35400 |
| Silver nitrate | 7761-88-8 | X   | -   | 231-853-9 | X     | X    | X    | X    | X     | KE-31281 |

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

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

| Component      | CAS No    | Weight % | SARA 313 - Threshold Values % |
|----------------|-----------|----------|-------------------------------|
| Silver nitrate | 7761-88-8 | < 1      | 1.0                           |

**SARA 311/312 Hazard Categories** See section 2 for more information

**CWA (Clean Water Act)**

| Component      | CWA - Hazardous Substances | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants |
|----------------|----------------------------|-----------------------------|------------------------|---------------------------|
| Silver nitrate | X                          | 1 lb                        | X                      | -                         |

**Clean Air Act** Not applicable

**OSHA - Occupational Safety and Health Administration** Not applicable

**CERCLA**

| Component      | Hazardous Substances RQs | CERCLA EHS RQs |
|----------------|--------------------------|----------------|
| Silver nitrate | 1 lb                     | -              |

**California Proposition 65** This product does not contain any Proposition 65 chemicals.

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

| Component      | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|----------------|---------------|------------|--------------|----------|--------------|
| Water          | -             | -          | X            | -        | -            |
| Silver nitrate | X             | X          | X            | X        | X            |

**U.S. Department of Transportation**

Reportable Quantity (RQ): Y  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

**Authorisation/Restrictions according to EU REACH**

| Component | CAS No | REACH (1907/2006) - Annex XIV - Substances | REACH (1907/2006) - Annex XVII - Restrictions | REACH Regulation (EC 1907/2006) article 59 - |
|-----------|--------|--------------------------------------------|-----------------------------------------------|----------------------------------------------|
|-----------|--------|--------------------------------------------|-----------------------------------------------|----------------------------------------------|

|                |           | Subject to Authorization | on Certain Dangerous Substances                                    | Candidate List of Substances of Very High Concern (SVHC) |
|----------------|-----------|--------------------------|--------------------------------------------------------------------|----------------------------------------------------------|
| Water          | 7732-18-5 | -                        | -                                                                  | -                                                        |
| Silver nitrate | 7761-88-8 | -                        | Use restricted. See item 75.<br>(see link for restriction details) | -                                                        |

<https://echa.europa.eu/substances-restricted-under-reach>

#### Safety, health and environmental regulations/legislation specific for the substance or mixture

| Component      | CAS No    | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|----------------|-----------|----------|------------------------------|---------------------------|--------------------------------------------|
| Water          | 7732-18-5 | Listed   | Not applicable               | Not applicable            | Not applicable                             |
| Silver nitrate | 7761-88-8 | Listed   | Not applicable               | Not applicable            | Not applicable                             |

| Component      | CAS No    | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|----------------|-----------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------|------------------------------------|
| Water          | 7732-18-5 | Not applicable                                                                            | Not applicable                                                                           | Not applicable             | Not applicable                     |
| Silver nitrate | 7761-88-8 | Not applicable                                                                            | Not applicable                                                                           | Not applicable             | Not applicable                     |

## 16. Other information

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**Revision Summary** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

#### Disclaimer

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

**End of SDS**