

# Safety Data Sheet

acc. to OSHA HCS

Printing date 10/31/2017

Reviewed on 10/31/2017

## 1 Identification

- **Product identifier**
- **Trade name:** SILVER NITRATE
- **Article number:** 21050, 21052, 21052-SP
- **CAS Number:**  
7761-88-8
- **EC number:**  
231-853-9
- **Index number:**  
047-001-00-2
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS03 Flame over circle

Ox. Sol. 2 H272 May intensify fire; oxidizer.



GHS06 Skull and crossbones

Acute Tox. 2 H300 Fatal if swallowed.



GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

- **Label elements**
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS03



GHS05



GHS06

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Trade name: **SILVER NITRATE**

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- **Signal word** *Danger*

- **Hazard-determining components of labeling:**

*silver nitrate*

- **Hazard statements**

*May intensify fire; oxidizer.*

*Fatal if swallowed.*

*Causes severe skin burns and eye damage.*

- **Precautionary statements**

*Keep away from heat.*

*Keep/Store away from clothing/combustible materials.*

*Take any precaution to avoid mixing with combustibles.*

*Do not breathe dusts or mists.*

*Wash thoroughly after handling.*

*Do not eat, drink or smoke when using this product.*

*Wear protective gloves / eye protection / face protection.*

*IF SWALLOWED: Immediately call a POISON CENTER/ doctor.*

*If swallowed: Rinse mouth. Do NOT induce vomiting.*

*If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*Specific treatment (see on this label).*

*Wash contaminated clothing before reuse.*

*In case of fire: Use for extinction: CO2, powder or water spray.*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



*Health = 3*

*Fire = 3*

*Reactivity = 0*

*The substance possesses oxidizing properties.*

- **HMIS-ratings (scale 0 - 4)**



*Health = 4*

*Fire = 3*

*Reactivity = 0*

- **Other hazards**

- **Results of PBT and vPvB assessment**

· **PBT:** *Not applicable.*

· **vPvB:** *Not applicable.*

## 3 Composition/information on ingredients

- **Chemical characterization: Substances**

- **CAS No. Description**

*7761-88-8 silver nitrate*

- **Identification number(s)**

· **EC number:** *231-853-9*

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Trade name: SILVER NITRATE

· Index number: 047-001-00-2

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## 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Do not induce vomiting; immediately call for medical help.  
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· PAC-1:

0.047 mg/m<sup>3</sup>

· PAC-2:

0.9 mg/m<sup>3</sup>

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· PAC-3:

5.4 mg/m<sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Thorough dedusting.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

### 7761-88-8 silver nitrate

PEL	Long-term value: 0.01 mg/m <sup>3</sup> as Ag
REL	Long-term value: 0.01 mg/m <sup>3</sup> as Ag
TLV	Long-term value: 0.01 mg/m <sup>3</sup> as Ag

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes.  
Avoid contact with the eyes and skin.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

**Form:** Crystalline powder

**Color:** White

- **Odor:** Odorless

- **Odor threshold:** Not determined.

- **pH-value:** Not applicable.

- **Change in condition**

**Melting point/Melting range:** 210 °C (410 °F)

**Boiling point/Boiling range:** 444 °C (831 °F)

- **Flash point:** Not applicable.

- **Flammability (solid, gaseous):** Contact with combustible material may cause fire.

- **Ignition temperature:**

**Decomposition temperature:** Not determined.

- **Auto igniting:** Not determined.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

**Lower:** Not determined.

**Upper:** Not determined.

- **Vapor pressure:** Not applicable.

- **Density at 20 °C (68 °F):** 4.35 g/cm<sup>3</sup> (36.301 lbs/gal)

- **Relative density** Not determined.

- **Vapor density** Not applicable.

- **Evaporation rate** Not applicable.

- **Solubility in / Miscibility with**

**Water at 20 °C (68 °F):** 2.192 g/l

- **Partition coefficient (n-octanol/water):** Not determined.

- **Viscosity:**

**Dynamic:** Not applicable.

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**Kinematic:** Not applicable.

· **Solvent content:**

**Organic solvents:** 0.0 %

**VOC content:** 0.0 g/l / 0.00 lb/gl

· **Other information** No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

7761-88-8 silver nitrate

Oral	LD50	50 mg/kg (mouse)
------	------	------------------

- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:**  
Strong caustic effect.  
Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

Substance is not listed.

· **NTP (National Toxicology Program)**

Substance is not listed.

· **OSHA-Ca (Occupational Safety Health Administration)**

Substance is not listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.

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- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**  
*Water hazard class 3 (Assessment by list): extremely hazardous for water  
 Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
 Must not reach bodies of water or drainage ditch undiluted or unneutralized.  
 Danger to drinking water if even extremely small quantities leak into the ground.  
 Also poisonous for fish and plankton in water bodies.  
 Very toxic for aquatic organisms*
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
*Must not be disposed of together with household garbage. Do not allow product to reach sewage system.*
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, ADR, IMDG, IATA</b></li> </ul>   | <p style="margin-left: 20px;">UN1493</p>  |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG, IATA</b></li> </ul> | <p style="margin-left: 20px;">Silver nitrate<br/>           1493 Silver nitrate, ENVIRONMENTALLY HAZARDOUS<br/>           SILVER NITRATE</p>  |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT</b></li> </ul>   | <p style="margin-left: 20px;"></p>   |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>  | <p style="margin-left: 20px;">5.1 Oxidizing substances<br/>           5.1</p>   |
| <ul style="list-style-type: none"> <li>· <b>ADR</b></li> </ul>  | <p style="margin-left: 20px;"> </p> |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> </ul>  | <p style="margin-left: 20px;">5.1 Oxidizing substances</p>  |

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· <b>Label</b>	5.1
· <b>IMDG, IATA</b>	
	
· <b>Class</b>	5.1 Oxidizing substances
· <b>Label</b>	5.1
· <b>Packing group</b>	
· <b>DOT, ADR, IMDG, IATA</b>	II
· <b>Environmental hazards:</b>	
· <b>Special marking (ADR):</b>	Symbol (fish and tree)
· <b>Special precautions for user</b>	Warning: Oxidizing substances
· <b>Danger code (Kemler):</b>	50
· <b>EMS Number:</b>	5.1-06
· <b>Segregation groups</b>	Heavy metals and their salts (including their organometallic compounds)
· <b>Stowage Category</b>	A
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	
Not applicable.	
· <b>Transport/Additional information:</b>	
· <b>DOT</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: 5 kg On cargo aircraft only: 25 kg
· <b>Hazardous substance:</b>	1 lbs, 0.454 kg
· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1 kg
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· <b>UN "Model Regulation":</b>	UN 1493 SILVER NITRATE, 5.1, II, ENVIRONMENTALLY HAZARDOUS

## 15 Regulatory information

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

- **Section 355 (extremely hazardous substances):**

Substance is not listed.

- **Section 313 (Specific toxic chemical listings):**

Substance is listed.

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· **TSCA (Toxic Substances Control Act):**

Substance is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity:**

Substance is not listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

Substance is not listed.

· **TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

· **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS03

GHS05

GHS06

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

*silver nitrate*

· **Hazard statements**

*May intensify fire; oxidizer.**Fatal if swallowed.**Causes severe skin burns and eye damage.*

· **Precautionary statements**

*Keep away from heat.**Keep/Store away from clothing/combustible materials.**Take any precaution to avoid mixing with combustibles.**Do not breathe dusts or mists.**Wash thoroughly after handling.**Do not eat, drink or smoke when using this product.**Wear protective gloves / eye protection / face protection.**IF SWALLOWED: Immediately call a POISON CENTER/ doctor.**If swallowed: Rinse mouth. Do NOT induce vomiting.**If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**IF INHALED: Remove person to fresh air and keep comfortable for breathing.**If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.**Continue rinsing.**Specific treatment (see on this label).*

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**Trade name: SILVER NITRATE**

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Wash contaminated clothing before reuse.

In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** 10/31/2017 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety **Health**

**TLV: Threshold Limit Value**

**PEL: Permissible Exposure Limit**

**REL: Recommended Exposure Limit**

**Ox. Sol. 2: Oxidizing solids – Category 2**

**Acute Tox. 2: Acute toxicity – Category 2**

**Skin Corr. 1B: Skin corrosion/irritation – Category 1B**

**Eye Dam. 1: Serious eye damage/eye irritation – Category 1**

US

# Safety Data Sheet

## according to WHS Regulations

Printing date 31.10.2017

Revision: 31.10.2017

### 1 Identification

- **Product identifier**
- **Trade name:** SILVER NITRATE
- **Article number:** 21050, 21052, 21052-SP
- **CAS Number:**  
7761-88-8
- **EC number:**  
231-853-9
- **Index number:**  
047-001-00-2
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- ProSciTech Pty Ltd  
11 Carlton Street, Kirwan QLD 4817 Australia  
Telephone Number: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)  
Emergency Contact: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)  
Website: ems.proscitech.com
- Emgrid Australia Pty. Ltd.  
P.O. Box 118  
The Patch VIC 3792  
Australia  
Tel: 03 9752 1785  
Fax: 03 9752 1784  
Website: www.emgrid.com.au
- **Further information obtainable from:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### 2 Hazard(s) Identification

- **Classification of the substance or mixture**



GHS03 flame over circle

Ox. Sol. 2 H272 May intensify fire; oxidiser.



GHS06 skull and crossbones

Acute Tox. 2 H300 Fatal if swallowed.

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GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

· **Label elements**

· **GHS label elements**

The substance is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**



GHS03



GHS05



GHS06

· **Signal word** *Danger*

· **Hazard-determining components of labelling:**

silver nitrate

· **Hazard statements**

May intensify fire; oxidiser.

Fatal if swallowed.

Causes severe skin burns and eye damage.

· **Precautionary statements**

Keep away from heat.

Keep/Store away from clothing/combustible materials.

Take any precaution to avoid mixing with combustibles.

Do not breathe dusts or mists.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear protective gloves/protective clothing/eye protection/face protection.

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see on this label).

Wash contaminated clothing before reuse.

In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition and Information on Ingredients

· **Chemical characterisation: Substances**

· **CAS No. Description**

7761-88-8 silver nitrate

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## according to WHS Regulations

Printing date 31.10.2017

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**Trade name: SILVER NITRATE**

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- **Identification number(s)**
- **EC number:** 231-853-9
- **Index number:** 047-001-00-2

### 4 First Aid Measures

- **Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Do not induce vomiting; call for medical help immediately.  
Drink plenty of water and provide fresh air. Call for a doctor immediately.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Use neutralising agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and Storage

- **Handling:**
- **Precautions for safe handling** Thorough dedusting.
- **Information about fire - and explosion protection:** No special measures required.

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Trade name: SILVER NITRATE

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- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls and personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

7761-88-8 silver nitrate

WES	Long-term value: 0.01 mg/m <sup>3</sup> as Ag
-----	--

· **Additional information:** The lists valid during the making were used as basis.

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes.  
Avoid contact with the eyes and skin.
- **Respiratory protection:** Not required.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

AU

(Contd. on page 5)

# Safety Data Sheet

## according to WHS Regulations

Printing date 31.10.2017

Revision: 31.10.2017

Trade name: SILVER NITRATE

(Contd. of page 4)

### 9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

**Form:** Crystalline powder

**Colour:** White

· **Odour:** Odourless

· **Odour threshold:** Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

**Melting point/freezing point:** 210 °C

**Initial boiling point and boiling range:** 444 °C

· **Flash point:** Not applicable.

· **Flammability (solid, gas):** Contact with combustible material may cause fire.

· **Ignition temperature:**

**Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Not determined.

· **Explosive properties:** Product does not present an explosion hazard.

· **Explosion limits:**

**Lower:** Not determined.

**Upper:** Not determined.

· **Vapour pressure:** Not applicable.

· **Density at 20 °C:** 4.35 g/cm<sup>3</sup>

· **Relative density** Not determined.

· **Vapour density** Not applicable.

· **Evaporation rate** Not applicable.

· **Solubility in / Miscibility with**

**water at 20 °C:** 2.192 g/l

· **Partition coefficient: n-octanol/water:** Not determined.

· **Viscosity:**

**Dynamic:** Not applicable.

**Kinematic:** Not applicable.

· **Solvent content:**

**Organic solvents:** 0.0 %

**VOC (EC)** 0.00 %

· **Other information** No further relevant information available.

### 10 Stability and Reactivity

· **Reactivity** No further relevant information available.

· **Chemical stability**

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· **Possibility of hazardous reactions** No dangerous reactions known.

· **Conditions to avoid** No further relevant information available.

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# Safety Data Sheet

## according to WHS Regulations

Printing date 31.10.2017

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Trade name: SILVER NITRATE

(Contd. of page 5)

- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological Information

- **Information on toxicological effects**
- **Acute toxicity**

- **LD/LC50 values relevant for classification:**

7761-88-8 silver nitrate

Oral	LD50	50 mg/kg (mouse)
------	------	------------------

- **Primary irritant effect:**
- **Skin corrosion/irritation** Strong caustic effect on skin and mucous membranes.
- **Serious eye damage/irritation**  
Strong caustic effect.  
Strong irritant with the danger of severe eye injury.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

### 12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**  
Water hazard class 3 (German Regulation) (Assessment by list): extremely hazardous for water  
Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Must not reach sewage water or drainage ditch undiluted or unneutralised.  
Danger to drinking water if even extremely small quantities leak into the ground.  
Also poisonous for fish and plankton in water bodies.  
Very toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 7)



# Safety Data Sheet

according to WHS Regulations

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Trade name: SILVER NITRATE

(Contd. of page 6)

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

## 14 Transport information

<ul style="list-style-type: none"> <li>· UN-Number</li> <li>· ADG, IMDG, IATA</li> </ul>	UNI493
<ul style="list-style-type: none"> <li>· UN proper shipping name</li> <li>· ADG</li> <li>· IMDG, IATA</li> </ul>	1493 SILVER NITRATE, ENVIRONMENTALLY HAZARDOUS SILVER NITRATE
<ul style="list-style-type: none"> <li>· Transport hazard class(es)</li> <li>· ADG</li> </ul>	<div style="display: flex; align-items: center; gap: 10px;">   </div>
<ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	5.1 Oxidising substances. 5.1
<ul style="list-style-type: none"> <li>· IMDG, IATA</li> </ul>	<div style="display: flex; align-items: center; gap: 10px;">  </div>
<ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	5.1 Oxidising substances. 5.1
<ul style="list-style-type: none"> <li>· Packing group</li> <li>· ADG, IMDG, IATA</li> </ul>	II
<ul style="list-style-type: none"> <li>· Environmental hazards:</li> <li>· Special marking (ADG):</li> </ul>	Symbol (fish and tree)
<ul style="list-style-type: none"> <li>· Special precautions for user</li> <li>· Danger code (Kemler):</li> <li>· EMS Number:</li> <li>· Segregation groups</li> <li>· Stowage Category</li> </ul>	Warning: Oxidising substances. 50 5.1-06 Heavy metals and their salts (including their organometallic compounds) A
<ul style="list-style-type: none"> <li>· Transport in bulk according to Annex II of Marpol and the IBC Code</li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· Transport/Additional information:</li> </ul>	
<ul style="list-style-type: none"> <li>· ADG</li> <li>· Limited quantities (LQ)</li> <li>· Excepted quantities (EQ)</li> <li>· Transport category</li> </ul>	1 kg Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g 2

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# Safety Data Sheet

## according to WHS Regulations

Printing date 31.10.2017

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**Trade name: SILVER NITRATE**

(Contd. of page 7)

· <b>Tunnel restriction code</b>	E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1 kg
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· <b>UN "Model Regulation":</b>	UN 1493 SILVER NITRATE, 5.1, II, ENVIRONMENTALLY HAZARDOUS

### 15 Regulatory information

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

· **Australian Inventory of Chemical Substances**

Substance is listed.

· **Standard for the Uniform Scheduling of Medicines and Poisons**

S6

· **GHS label elements**

The substance is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**



GHS03

GHS05

GHS06

· **Signal word Danger**

· **Hazard-determining components of labelling:**

silver nitrate

· **Hazard statements**

May intensify fire; oxidiser.

Fatal if swallowed.

Causes severe skin burns and eye damage.

· **Precautionary statements**

Keep away from heat.

Keep/Store away from clothing/combustible materials.

Take any precaution to avoid mixing with combustibles.

Do not breathe dusts or mists.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear protective gloves/protective clothing/eye protection/face protection.

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see on this label).

Wash contaminated clothing before reuse.

In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.

Store locked up.

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# Safety Data Sheet

## according to WHS Regulations

Printing date 31.10.2017

Revision: 31.10.2017

**Trade name: SILVER NITRATE**

(Contd. of page 8)

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I Substance is not listed.**
- **Seveso category**  
*H2 ACUTE TOXIC*  
*P8 OXIDISING LIQUIDS AND SOLIDS*  
*E1 Hazardous to the Aquatic Environment*
- **Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t**
- **Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t**
- **Chemical safety assessment: A Chemical Safety Assessment has not been carried out.**

### 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*VOC: Volatile Organic Compounds (USA, EU)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*Ox. Sol. 2: Oxidizing solids – Category 2*

*Acute Tox. 2: Acute toxicity – Category 2*

*Skin Corr. 1B: Skin corrosion/irritation – Category 1B*

*Eye Dam. 1: Serious eye damage/eye irritation – Category 1*

AU

# Safety Data Sheet

acc. to OSHA HCS

Printing date 10/31/2017

Reviewed on 10/31/2017

## 1 Identification

- **Product identifier**
- **Trade name:** SILVER NITRATE
- **Article number:** 21050, 21052, 21052-SP
- **CAS Number:**  
7761-88-8
- **EC number:**  
231-853-9
- **Index number:**  
047-001-00-2
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS03 Flame over circle

Oxidizing Solids – Category 2      H272 May intensify fire; oxidizer.



GHS06 Skull and crossbones

Acute Toxicity (Oral) - Category 2 H300 Fatal if swallowed.



GHS05 Corrosion

Skin Corrosion - Category 1B      H314 Causes severe skin burns and eye damage.

Serious Eye Damage - Category 1 H318 Causes serious eye damage.

- **Label elements**
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS03



GHS05



GHS06

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CA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 10/31/2017

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Trade name: **SILVER NITRATE**

(Contd. of page 1)

- **Signal word** *Danger*

- **Hazard-determining components of labeling:**

*silver nitrate*

- **Hazard statements**

*May intensify fire; oxidizer.*

*Fatal if swallowed.*

*Causes severe skin burns and eye damage.*

- **Precautionary statements**

*Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.*

*Keep away from clothing and other combustible materials.*

*Do not breathe dust/fume/gas/mist/vapours/spray.*

*Wash thoroughly after handling.*

*Do not eat, drink or smoke when using this product.*

*Wear protective gloves/protective clothing/eye protection/face protection.*

*IF SWALLOWED: Immediately call a POISON CENTER/ doctor.*

*IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.*

*IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].*

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*Specific treatment (see on this label).*

*Wash contaminated clothing before reuse.*

*In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

- **Hazard description:**

- **WHMIS-symbols:**

*C - Oxidizing materials*

*D1A - Very toxic material causing immediate and serious toxic effects*

*D2B - Toxic material causing other toxic effects*

*E - Corrosive material*



- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



*Health = 3*

*Fire = 3*

*Reactivity = 0*

*The substance possesses oxidizing properties.*

- **HMIS-ratings (scale 0 - 4)**



*Health = 4*

*Fire = 3*

*Reactivity = 0*

CA

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 10/31/2017

Reviewed on 10/31/2017

Trade name: SILVER NITRATE

(Contd. of page 2)

### 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
7761-88-8 silver nitrate
- **Identification number(s)**
- **EC number:** 231-853-9
- **Index number:** 047-001-00-2

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Do not induce vomiting; immediately call for medical help.  
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

CA

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# Safety Data Sheet

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Trade name: SILVER NITRATE

(Contd. of page 3)

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Thorough dedusting.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

7761-88-8 silver nitrate

EL	Short-term value: 0.03 mg/m <sup>3</sup> Long-term value: 0.01 mg/m <sup>3</sup> as Ag
----	--

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes.  
Avoid contact with the eyes and skin.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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# Safety Data Sheet

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Trade name: SILVER NITRATE

(Contd. of page 4)

## · Eye protection:



Tightly sealed goggles

## 9 Physical and chemical properties

## · Information on basic physical and chemical properties

## · General Information

## · Appearance:

Form:	Crystalline powder
-------	--------------------

Color:	White
--------	-------

· Odor:	Odorless
---------	----------

· Odor threshold:	Not determined.
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· pH-value:	Not applicable.
-------------	-----------------

## · Change in condition

Melting point/Melting range:	210 °C
------------------------------	--------

Boiling point/Boiling range:	444 °C
------------------------------	--------

· Flash point:	Not applicable.
----------------	-----------------

· Flammability (solid, gaseous):	Contact with combustible material may cause fire.
----------------------------------	---

## · Ignition temperature:

Decomposition temperature:	Not determined.
----------------------------	-----------------

· Auto igniting:	Not determined.
------------------	-----------------

· Danger of explosion:	Product does not present an explosion hazard.
------------------------	---

## · Explosion limits:

Lower:	Not determined.
--------	-----------------

Upper:	Not determined.
--------	-----------------

· Vapor pressure:	Not applicable.
-------------------	-----------------

· Density at 20 °C:	4.35 g/cm <sup>3</sup>
---------------------	------------------------

· Relative density	Not determined.
--------------------	-----------------

· Vapor density	Not applicable.
-----------------	-----------------

· Evaporation rate	Not applicable.
--------------------	-----------------

## · Solubility in / Miscibility with

Water at 20 °C:	2.192 g/l
-----------------	-----------

· Partition coefficient (n-octanol/water):	Not determined.
--	-----------------

## · Viscosity:

Dynamic:	Not applicable.
----------	-----------------

Kinematic:	Not applicable.
------------	-----------------

Organic solvents:	0.0 %
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· Other information	No further relevant information available.
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(Contd. on page 6)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 10/31/2017

Reviewed on 10/31/2017

Trade name: SILVER NITRATE

(Contd. of page 5)

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· <b>LD/LC50 values that are relevant for classification:</b>		
7761-88-8 silver nitrate		
Oral	LD50	50 mg/kg (mouse)

- **Primary irritant effect:**

- **on the skin:** Strong caustic effect on skin and mucous membranes.

- **on the eye:**

- Strong caustic effect.

- Strong irritant with the danger of severe eye injury.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

- Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

Substance is not listed.
--------------------------

- **NTP (National Toxicology Program)**

Substance is not listed.
--------------------------

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**

- Water hazard class 3 (Assessment by list): extremely hazardous for water

- Do not allow product to reach ground water, water course or sewage system, even in small quantities.

- Must not reach bodies of water or drainage ditch undiluted or unneutralized.

- Danger to drinking water if even extremely small quantities leak into the ground.

- Also poisonous for fish and plankton in water bodies.

(Contd. on page 7)

# Safety Data Sheet

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Trade name: **SILVER NITRATE**

(Contd. of page 6)

- *Very toxic for aquatic organisms*
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, TDG, IMDG, IATA</b></li> </ul>   | <p style="margin-left: 20px;">UN1493</p>   |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT</b></li> <li>· <b>TDG</b></li> <li>· <b>IMDG, IATA</b></li> </ul> | <p style="margin-left: 20px;">Silver nitrate<br/>1493 Silver nitrate, ENVIRONMENTALLY HAZARDOUS<br/>SILVER NITRATE</p> |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT</b></li> </ul>   | <p style="margin-left: 20px;">5.1 Oxidizing substances</p>   |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> <li>· <b>TDG (Transport dangerous goods):</b></li> </ul>                 | <p style="margin-left: 20px;">5.1<br/>5.1</p>  |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>  | <p style="margin-left: 20px;">5.1 Oxidizing substances<br/>5.1</p>   |
| <ul style="list-style-type: none"> <li>· <b>IMDG, IATA</b></li> </ul>   | <p style="margin-left: 20px;">5.1 Oxidizing substances</p>   |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>  | <p style="margin-left: 20px;">5.1 Oxidizing substances<br/>5.1</p>   |

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# Safety Data Sheet

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Trade name: SILVER NITRATE

(Contd. of page 7)

· <b>Packing group</b> · <b>DOT, TDG, IMDG, IATA</b>	II
· <b>Environmental hazards:</b> · <b>Special marking (TDG):</b>	Symbol (fish and tree)
· <b>Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b> · <b>Segregation groups</b> · <b>Stowage Category</b>	Warning: Oxidizing substances 50 5.1-06 Heavy metals and their salts (including their organometallic compounds) A
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b> · <b>DOT</b> · <b>Quantity limitations</b> · <b>Hazardous substance:</b>	On passenger aircraft/rail: 5 kg On cargo aircraft only: 25 kg 1 lbs, 0.454 kg
· <b>TDG</b> · <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1 kg Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· <b>UN "Model Regulation":</b>	UN 1493 SILVER NITRATE, 5.1, II, ENVIRONMENTALLY HAZARDOUS

## 15 Regulatory information

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

· **Section 355 (extremely hazardous substances):**

Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**

Substance is listed.

· **TSCA (Toxic Substances Control Act):**

Substance is listed.

· **Canadian substance listings:**

· **Canadian Domestic Substances List (DSL)**

Substance is listed.

· **Canadian Ingredient Disclosure list (limit 0.1%)**

Substance is not listed.

(Contd. on page 9)

CA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 10/31/2017

Reviewed on 10/31/2017

Trade name: **SILVER NITRATE**

(Contd. of page 8)

· **Canadian Ingredient Disclosure list (limit 1%)**

Substance is listed.

· **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS03    GHS05    GHS06

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

*silver nitrate*

· **Hazard statements**

*May intensify fire; oxidizer.*

*Fatal if swallowed.*

*Causes severe skin burns and eye damage.*

· **Precautionary statements**

*Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.*

*Keep away from clothing and other combustible materials.*

*Do not breathe dust/fume/gas/mist/vapours/spray.*

*Wash thoroughly after handling.*

*Do not eat, drink or smoke when using this product.*

*Wear protective gloves/protective clothing/eye protection/face protection.*

*IF SWALLOWED: Immediately call a POISON CENTER/ doctor.*

*IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.*

*IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].*

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*Specific treatment (see on this label).*

*Wash contaminated clothing before reuse.*

*In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Date of preparation / last revision** 10/31/2017 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 31.10.2017

Revision: 31.10.2017

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**

· **Trade name:** SILVER NITRATE

· **Article number:** 21050, 21052, 21052-SP

· **CAS Number:**

7761-88-8

· **EC number:**

231-853-9

· **Index number:**

047-001-00-2

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

· **Application of the substance / the mixture** Laboratory chemicals

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: sgkcck@aol.com

www.emsdiasum.com

· **Further information obtainable from:** Product safety department

· **1.4 Emergency telephone number:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

### SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS03 flame over circle

Ox. Sol. 2

H272 May intensify fire; oxidiser.



GHS06 skull and crossbones

Acute Tox. 2

H300 Fatal if swallowed.



GHS05 corrosion

Skin Corr. 1B

H314 Causes severe skin burns and eye damage.

Eye Dam. 1

H318 Causes serious eye damage.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

(Contd. on page 2)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 31.10.2017

Revision: 31.10.2017

Trade name: **SILVER NITRATE**

(Contd. of page 1)

### · 2.2 Label elements

#### · Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

#### · Hazard pictograms



GHS03    GHS05    GHS06    GHS09

#### · Signal word *Danger*

#### · Hazard-determining components of labelling:

silver nitrate

#### · Hazard statements

H272 May intensify fire; oxidiser.

H300 Fatal if swallowed.

H314 Causes severe skin burns and eye damage.

H410 Very toxic to aquatic life with long lasting effects.

#### · Precautionary statements

P221 Take any precaution to avoid mixing with combustibles.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 Specific treatment (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### · 2.3 Other hazards

#### · Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

### · 3.1 Chemical characterisation: Substances

#### · CAS No. Description

7761-88-8 silver nitrate

#### · Identification number(s)

· **EC number:** 231-853-9

· **Index number:** 047-001-00-2

## SECTION 4: First aid measures

### · 4.1 Description of first aid measures

#### · General information:

Immediately remove any clothing soiled by the product.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

(Contd. on page 3)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 31.10.2017

Revision: 31.10.2017

**Trade name: SILVER NITRATE**

(Contd. of page 2)

- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Do not induce vomiting; call for medical help immediately.  
Drink plenty of water and provide fresh air. Call for a doctor immediately.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Use neutralising agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Thorough dedusting.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

(Contd. on page 4)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 31.10.2017

Revision: 31.10.2017

Trade name: SILVER NITRATE

(Contd. of page 3)

## · 8.1 Control parameters

· **Ingredients with limit values that require monitoring at the workplace:**

7761-88-8 silver nitrate

WEL	Long-term value: 0.01 mg/m <sup>3</sup> as Ag
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· **Additional information:** The lists valid during the making were used as basis.

## · 8.2 Exposure controls

· **Personal protective equipment:**· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Respiratory protection:** Not required.· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**

Tightly sealed goggles

## SECTION 9: Physical and chemical properties

## · 9.1 Information on basic physical and chemical properties

· **General Information**· **Appearance:**

Form: Crystalline powder

Colour: White

· **Odour:** Odourless· **Odour threshold:** Not determined.· **pH-value:** Not applicable.· **Change in condition**

Melting point/freezing point: 210 °C

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Trade name: SILVER NITRATE

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<b>Initial boiling point and boiling range:</b> 444 °C	
· <b>Flash point:</b>	Not applicable.
· <b>Flammability (solid, gas):</b>	Contact with combustible material may cause fire.
· <b>Ignition temperature:</b>	
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto-ignition temperature:</b>	Not determined.
· <b>Explosive properties:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapour pressure:</b>	Not applicable.
· <b>Density at 20 °C:</b>	4.35 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not applicable.
· <b>Evaporation rate</b>	Not applicable.
· <b>Solubility in / Miscibility with water at 20 °C:</b>	2.192 g/l
· <b>Partition coefficient: n-octanol/water:</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not applicable.
<b>Kinematic:</b>	Not applicable.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	0.0 %
<b>VOC (EC)</b>	0.00 %
· <b>9.2 Other information</b>	No further relevant information available.

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**  
Fatal if swallowed.

· **LD/LC50 values relevant for classification:**

7761-88-8 silver nitrate

Oral	LD50	50 mg/kg (mouse)
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# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 31.10.2017

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Trade name: SILVER NITRATE

(Contd. of page 5)

- **Primary irritant effect:**
- **Skin corrosion/irritation**  
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**  
Causes serious eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**  
Water hazard class 3 (German Regulation) (Assessment by list): extremely hazardous for water  
Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Must not reach sewage water or drainage ditch undiluted or unneutralised.  
Danger to drinking water if even extremely small quantities leak into the ground.  
Also poisonous for fish and plankton in water bodies.  
Very toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### SECTION 14: Transport information

- **14.1 UN-Number**
- **ADR, IMDG, IATA** UN1493

(Contd. on page 7)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 31.10.2017

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Trade name: SILVER NITRATE

(Contd. of page 6)

· **14.2 UN proper shipping name**  
· **ADR** 1493 SILVER NITRATE, ENVIRONMENTALLY HAZARDOUS  
· **IMDG, IATA** SILVER NITRATE

· **14.3 Transport hazard class(es)**· **ADR**

· **Class** 5.1 Oxidising substances.  
· **Label** 5.1

· **IMDG, IATA**

· **Class** 5.1 Oxidising substances.  
· **Label** 5.1

· **14.4 Packing group**· **ADR, IMDG, IATA** II· **14.5 Environmental hazards:**· **Special marking (ADR):** Symbol (fish and tree)· **14.6 Special precautions for user**

Warning: Oxidising substances.

· **Danger code (Kemler):** 50· **EMS Number:** 5.1-06· **Segregation groups** Heavy metals and their salts (including their organometallic compounds)· **Stowage Category** A· **14.7 Transport in bulk according to Annex II of****Marpol and the IBC Code** Not applicable.· **Transport/Additional information:**· **ADR**· **Limited quantities (LQ)** 1 kg· **Excepted quantities (EQ)** Code: E2

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 500 g

· **Transport category** 2· **Tunnel restriction code** E· **IMDG**· **Limited quantities (LQ)** 1 kg· **Excepted quantities (EQ)** Code: E2

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 500 g

(Contd. on page 8)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 31.10.2017

Revision: 31.10.2017

Trade name: **SILVER NITRATE**

(Contd. of page 7)

· <b>UN "Model Regulation":</b>	<b>UN 1493 SILVER NITRATE, 5.1, II, ENVIRONMENTALLY HAZARDOUS</b>
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### **SECTION 15: Regulatory information**

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I Substance is not listed.**
- **Seveso category**  
H2 ACUTE TOXIC  
P8 OXIDISING LIQUIDS AND SOLIDS  
E1 Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t**
- **Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t**
- **15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.**

### **SECTION 16: Other information**

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 VOC: Volatile Organic Compounds (USA, EU)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative  
 Ox. Sol. 2: Oxidizing solids – Category 2  
 Acute Tox. 2: Acute toxicity – Category 2  
 Skin Corr. 1B: Skin corrosion/irritation – Category 1B  
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
 Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1  
 Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

GB

# Veiligheidsinformatieblad volgens 1907/2006/EG, Artikel 31

datum van de druk: 31.10.2017

Herziening van: 31.10.2017

## RUBRIEK 1: Identificatie van de stof of het mengsel en van de vennootschap/onderneming

### 1.1 Productidentificatie

· Handelsnaam: SILVER NITRATE

· Artikelnummer: 21050, 21052, 21052-SP

· CAS-nummer:

7761-88-8

· EC-nummer:

231-853-9

· Catalogusnummer:

047-001-00-2

· 1.2 Relevant geïdentificeerd gebruik van de stof of het mengsel en ontraden gebruik

Geen verdere relevante informatie verkrijgbaar.

· Toepassing van de stof / van de bereiding *Laboratoriumchemicaliën*

· 1.3 Details betreffende de verstrekker van het veiligheidsinformatieblad

· Fabrikant/leverancier:

*Electron Microscopy Sciences*

*1560 Industry Road*

*USA-Hatfield, PA 19440*

*Tel: 215-412-8400 Fax: 215-412-8450*

*email: sgkcck@aol.com*

*www.emsdiasum.com*

*Aurion*

*Binnenhaven 5*

*6709 PD Wageningen*

*The Netherlands*

*Tel: 31 317 415094*

*Fax: 31 317 415955*

*email: info@aurion.nl*

· Inlichtingengevende sector: *Product safety department*

· 1.4 Telefoonnummer voor noodgevallen:

*ChemTrec 1-800-424-9300 Contract CCN7661*

*1-703-527-3887*

## RUBRIEK 2: Identificatie van de gevaren

· 2.1 Indeling van de stof of het mengsel

· Indeling overeenkomstig Verordening (EG) nr. 1272/2008



GHS03 vlam boven cirkel

*Ox. Sol. 2*

*H272 Kan brand bevorderen; oxiderend.*



GHS06 doodshoofd met gekruiste beenderen

*Acute Tox. 2*

*H300 Dodelijk bij inslikken.*



GHS05 corrosie

*Skin Corr. 1B*

*H314 Veroorzaakt ernstige brandwonden en oogletsel.*

*Eye Dam. 1*

*H318 Veroorzaakt ernstig oogletsel.*

(Vervolg op blz. 2)

**Handelsnaam: SILVER NITRATE**

(Vervolg van blz. 1)



GHS09 milieu

*Aquatic Acute 1 H400 Zeer giftig voor in het water levende organismen.*

*Aquatic Chronic 1 H410 Zeer giftig voor in het water levende organismen, met langdurige gevolgen.*

· **2.2 Etiketteringselementen**

· **Etikettering overeenkomstig Verordening (EG) nr. 1272/2008**

*De stof/product is geclassificeerd en geëtiketteerd volgens de CLP-verordening.*

· **Gevarenpictogrammen**



GHS03

GHS05

GHS06

GHS09

· **Signaalwoord Gevaar**

· **Gevaaraanduidende componenten voor de etikettering:**

*zilvernitraat*

· **Gevenaanduidingen**

*H272 Kan brand bevorderen; oxiderend.*

*H300 Dodelijk bij inslikken.*

*H314 Veroorzaakt ernstige brandwonden en oogletsel.*

*H410 Zeer giftig voor in het water levende organismen, met langdurige gevolgen.*

· **Veiligheidsaanbevelingen**

*P221 Vermenging met brandbare stoffen absoluut vermijden.*

*P301+P310 NA INSLIKKEN: onmiddellijk een ANTIGIFCENTRUM/arts raadplegen.*

*P303+P361+P353 BIJ CONTACT MET DE HUID (of het haar): verontreinigde kleding onmiddellijk uittrekken. Huid met water afspoelen/afdouchen.*

*P305+P351+P338 BIJ CONTACT MET DE OGEN: voorzichtig afspoelen met water gedurende een aantal minuten; contactlenzen verwijderen, indien mogelijk; blijven spoelen.*

*P321 Specifieke behandeling vereist (zie op dit etiket).*

*P405 Achter slot bewaren.*

*P501 De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.*

· **2.3 Andere gevaren**

· **Resultaten van PBT- en zPzB-beoordeling**

· **PBT:** Niet bruikbaar.

· **zPzB:** Niet bruikbaar.

**RUBRIEK 3: Samenstelling en informatie over de bestanddelen**

· **3.1 Chemische karakterisering: Stoffen**

· **CAS-Nr. omschrijving**

*7761-88-8 zilvernitraat*

· **Identificatienummer(s)**

· **EC-nummer:** 231-853-9

· **Catalogusnummer:** 047-001-00-2

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

datum van de druk: 31.10.2017

Herziening van: 31.10.2017

Handelsnaam: SILVER NITRATE

(Vervolg van blz. 2)

### RUBRIEK 4: Eerstehulpmaatregelen

- **4.1 Beschrijving van de eerstehulpmaatregelen**
- **Algemene informatie:**
  - Verontreinigde kleding onmiddellijk uittrekken.
  - Bij onregelmatige ademhaling of ademstilstand kunstmatige ademhaling toepassen.
- **Na het inademen:** Bij bewusteloosheid ligging en vervoer in stabiele zijligging.
- **Na huidcontact:** Onmiddellijk met water en zeep afwassen en goed naspoelen.
- **Na oogcontact:** Ogen met open ooglid een aantal minuten onder stromend water afspoelen en dokter raadplegen.
- **Na inslikken:**
  - Geen braken teweegbrengen en onmiddellijk medische hulp raadplegen.
  - Drink zeer veel water en voer verse lucht aan. Onmiddellijk een dokter waarschuwen.
- **4.2 Belangrijkste acute en uitgestelde symptomen en effecten** Geen verdere relevante informatie verkrijgbaar.
- **4.3 Vermelding van de vereiste onmiddellijke medische verzorging en speciale behandeling**
  - Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 5: Brandbestrijdingsmaatregelen

- **5.1 Blusmiddelen**
- **Geschikte blusmiddelen:** Brandblusmaatregelen op omgeving afstemmen.
- **5.2 Speciale gevaren die door de stof of het mengsel worden veroorzaakt**
  - Geen verdere relevante informatie verkrijgbaar.
- **5.3 Advies voor brandweerlieden**
- **Speciale beschermende kleding:** Geen bijzondere maatregelen nodig.

### RUBRIEK 6: Maatregelen bij het accidenteel vrijkomen van de stof of het mengsel

- **6.1 Persoonlijke voorzorgsmaatregelen, beschermde uitrusting en noodprocedures**
  - Beschermende kleding aantrekken. Niet beschermde personen op afstand houden.
- **6.2 Milieuvoorzorgsmaatregelen:**
  - Bij indringen in afvalwater of riolering moet de bevoegde instantie gewaarschuwd worden.
  - Niet in de riolering/het oppervlaktewater/het grondwater laten terechtkomen.
- **6.3 InsluTINGS- en reinigingsmethoden en -materiaal:**
  - Neutralisatiemiddel gebruiken.
  - Besmet materiaal zoals afval volgens punt 13 verwijderen.
  - Voor voldoende ventilatie zorgen.
- **6.4 Verwijzing naar andere rubrieken**
  - Informatie inzake veilig gebruik - zie hoofdstuk 7.
  - Informatie inzake persoonlijke beschermingsuitrusting - zie hoofdstuk 8.
  - Informatie inzake berging - zie hoofdstuk 13.

### RUBRIEK 7: Hantering en opslag

- **7.1 Voorzorgsmaatregelen voor het veilig hanteren van de stof of het mengsel** Goed stofvrij maken.
- **Informatie m.b.t. brand- en ontploffingsgevaar:** Geen bijzondere maatregelen noodzakelijk.
- **7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten**
- **Opslag:**
  - **Eisen ten opzichte van opslagruimte en tanks:** Geen bijzondere eisen.
  - **Informatie m.b.t. gezamenlijke opslag:** Niet noodzakelijk.
  - **Verdere inlichtingen over eisen m.b.t. de opslag:** Tanks ondoordringbaar gesloten houden.

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· **7.3 Specifiek eindgebruik** Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 8: Maatregelen ter beheersing van blootstelling/persoonlijke bescherming

· **Aanvullende gegevens m.b.t. de inrichting van technische installaties:** Geen aanvullende gegevens. Zie 7.· **8.1 Controleparameters**· **Bestanddelen met grenswaarden die m.b.t. de werkruimte in acht genomen moeten worden:**

7761-88-8 zilvernitraat

WGW	Lange termijn waarde: 0,01 mg/m <sup>3</sup> als Ag
-----	--

· **Aanvullende gegevens:** Als basis dienden lijsten die bij opstelling geldig waren.· **8.2 Maatregelen ter beheersing van blootstelling**· **Persoonlijke beschermingsvoorzieningen:**· **Algemene beschermings- en gezondheidsmaatregelen:**

Verwijderd houden van eet- en drinkwaren.

Verontreinigde kleding onmiddellijk uittrekken.

Vóór de pauze en aan het einde van werktijd handen wassen.

Aanraking met de ogen vermijden.

Aanraking met de ogen en de huid vermijden.

· **Ademhalingsbescherming:** Niet noodzakelijk.· **Handbescherming:**

Veiligheidshandschoenen

Het handschoenmateriaal moet ondoorlatend en bestand zijn tegen het product / de stof / de bereiding.

Op grond van falende testen kan geen aanbeveling voor handschoenmateriaal voor het product / de bereiding / het chemicaliën-mengsel afgegeven worden.

Kies handschoenmateriaal rekening houdend met de penetratietijden, de permeatiegraden en de degradatie.

· **Handschoenmateriaal**

De keuze van een geschikte handschoen is niet alleen afhankelijk van het materiaal, maar ook van andere kwaliteitskenmerken en verschilt van fabrikant tot fabrikant.

· **Doordringingstijd van het handschoenmateriaal**

De precieze penetratietijd kunt u te weten komen bij de handschoenfabrikant; houd er rekening mee.

· **Oogbescherming:**

Nauw aansluitende veiligheidsbril

### RUBRIEK 9: Fysische en chemische eigenschappen

· **9.1 Informatie over fysische en chemische basiseigenschappen**· **Algemene gegevens**· **Voorkomen:**· **Vorm:** Kristallijn poeder· **Kleur:** Wit· **Geur:** Reukloos

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· <b>Geurdrempelwaarde:</b>	Niet bepaald.
· <b>pH-waarde:</b>	Niet bruikbaar.
· <b>Toestandsverandering</b> <b>Smelt-/vriespunt:</b>	210 °C
<b>Beginkookpunt en kooktraject:</b>	444 °C
· <b>Vlampunt:</b>	Niet bruikbaar.
· <b>Ontvlambaarheid (vast, gas):</b>	Bevordert de ontbranding van brandbare stoffen.
· <b>Ontstekingstemperatuur:</b>	
<b>Ontledingstemperatuur:</b>	Niet bepaald.
· <b>Zelfontbrandingstemperatuur:</b>	Niet bepaald.
· <b>Ontploffingseigenschappen:</b>	Het produkt is niet ontploffingsgevaarlijk.
· <b>Ontploffingsgrenzen:</b>	
<b>Onderste:</b>	Niet bepaald.
<b>Bovenste:</b>	Niet bepaald.
· <b>Dampspanning:</b>	Niet bruikbaar.
<b>Dichtheid bij 20 °C:</b>	4,35 g/cm <sup>3</sup>
· <b>Relatieve dichtheid</b>	Niet bepaald.
· <b>Dampdichtheid</b>	Niet bruikbaar.
· <b>Verdampingssnelheid</b>	Niet bruikbaar.
· <b>Oplosbaarheid in/mengbaarheid met</b> <b>Water bij 20 °C:</b>	2,192 g/l
· <b>Verdelingscoëfficiënt: n-octanol/water:</b>	Niet bepaald.
· <b>Viscositeit</b>	
<b>Dynamisch:</b>	Niet bruikbaar.
<b>Kinematisch:</b>	Niet bruikbaar.
· <b>Oplosmiddelgehalte:</b>	
<b>Organisch oplosmiddel:</b>	0,0 %
<b>VOC (EG)</b>	0,00 %
· <b>9.2 Overige informatie</b>	Geen verdere relevante informatie verkrijgbaar.

## RUBRIEK 10: Stabiliteit en reactiviteit

- **10.1 Reactiviteit** Geen verdere relevante informatie verkrijgbaar.
- **10.2 Chemische stabiliteit**
- **Thermische afbraak / te vermijden omstandigheden:** Geen afbraak bij gebruik volgens voorschrift.
- **10.3 Mogelijke gevaarlijke reacties** Geen gevaarlijke reacties bekend.
- **10.4 Te vermijden omstandigheden** Geen verdere relevante informatie verkrijgbaar.
- **10.5 Chemisch op elkaar inwerkende materialen:** Geen verdere relevante informatie verkrijgbaar.
- **10.6 Gevaarlijke ontledingsproducten:** Geen gevaarlijke ontbindingsproducten bekend.

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### RUBRIEK 11: Toxicologische informatie

#### · 11.1 Informatie over toxicologische effecten

##### · Acute toxiciteit

Dodelijk bij inslikken.

##### · Indelingsrelevantie LD/LC50-waarden:

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Oraal	LD50	50 mg/kg (mouse)
-------	------	------------------

##### · Primaire aandoening:

##### · Huidcorrosie/-irritatie

Veroorzaakt ernstige brandwonden en oogletsel.

##### · Ernstig oogletsel/oogirritatie

Veroorzaakt ernstig oogletsel.

##### · Sensibilisatie van de luchtwegen/de huid

Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

##### · CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)

· **Mutageniteit in geslachtscellen** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

· **Kankerverwekkendheid** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

· **Giftigheid voor de voortplanting** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

· **STOT bij eenmalige blootstelling** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

· **STOT bij herhaalde blootstelling** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

· **Gevaar bij inademing** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

### RUBRIEK 12: Ecologische informatie

#### · 12.1 Toxiciteit

· **Aquatische toxiciteit:** Geen verdere relevante informatie verkrijgbaar.

· **12.2 Persistentie en afbreekbaarheid** Geen verdere relevante informatie verkrijgbaar.

· **12.3 Bioaccumulatie** Geen verdere relevante informatie verkrijgbaar.

· **12.4 Mobiliteit in de bodem** Geen verdere relevante informatie verkrijgbaar.

##### · Ecotoxische effecten:

· **Opmerking:** Zeer giftig voor vissen.

##### · Verdere ecologische informatie:

##### · Algemene informatie:

Waterbezwaarlijkheid (NL): A(1) zeer vergiftig voor in water levende organismen kan in aquatische milieu op lange termijn schadelijke effecten veroorzaken

Gevaar voor water klasse 3 (D) (Lijstclassificatie): gevaar voor water groot

Niet lozen in grondwater, oppervlaktewater of riolering, ook niet in kleine hoeveelheden.

Mag niet onverdund of niet geneutraliseerd in oppervlaktewater of in afwateringskanaal geloosd worden.

Gevaar voor drinkwater zelfs bij het uitlopen van zeer geringe hoeveelheden in de ondergrond.

In oppervlaktewater ook giftig voor vissen en plankton.

zeer giftig voor in het water levende organismen

##### · 12.5 Resultaten van PBT- en zPzB-beoordeling

· **PBT:** Niet bruikbaar.

· **zPzB:** Niet bruikbaar.

· **12.6 Andere schadelijke effecten** Geen verdere relevante informatie verkrijgbaar.

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## RUBRIEK 13: Instructies voor verwijdering

- **13.1 Afvalverwerkingsmethoden**
- **Aanbeveling:** Mag niet tesamen met huisvuil gestort worden of in de riolering terechtkomen.
- **Niet gereinigde verpakkingen:**
- **Aanbeveling:** Afvalverwijdering volgens overheidsbepalingen.
- **Aanbevolen reinigingsmiddel:** Water, eventueel met toevoeging van reinigingsmiddelen.

## RUBRIEK 14: Informatie met betrekking tot het vervoer

<ul style="list-style-type: none"> <li>· <b>14.1 VN-nummer</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>	UNI493
<ul style="list-style-type: none"> <li>· <b>14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG, IATA</b></li> </ul>	1493 ZILVERNITRAAT, MILIEUGEVAARLIJK SILVER NITRATE
<ul style="list-style-type: none"> <li>· <b>14.3 Transportgevarenklasse(n)</b></li> <li>· <b>ADR</b></li> </ul>	<div style="display: flex; align-items: center; gap: 10px;">   </div>
<ul style="list-style-type: none"> <li>· <b>klasse</b></li> <li>· <b>Etiket</b></li> </ul>	5.1 Oxiderende stoffen 5.1
<ul style="list-style-type: none"> <li>· <b>IMDG, IATA</b></li> </ul>	<div style="display: flex; align-items: center; gap: 10px;">  </div>
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	5.1 Oxiderende stoffen 5.1
<ul style="list-style-type: none"> <li>· <b>14.4 Verpakkingsgroep:</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>	II
<ul style="list-style-type: none"> <li>· <b>14.5 Milieugevaren:</b></li> <li>· <b>Bijzondere kenmerking (ADR):</b></li> </ul>	Symbool (vis en boom)
<ul style="list-style-type: none"> <li>· <b>14.6 Bijzondere voorzorgen voor de gebruiker</b></li> <li>· <b>Kemler-getal:</b></li> <li>· <b>EMS-nummer:</b></li> <li>· <b>Segregation groups</b></li> <li>· <b>Stowage Category</b></li> </ul>	Waarschuwing: Oxiderende stoffen 50 5.1-06 Heavy metals and their salts (including their organometallic compounds) A
<ul style="list-style-type: none"> <li>· <b>14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code</b></li> </ul>	Niet bruikbaar.

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**· Transport/verdere gegevens:****· ADR****· Beperkte hoeveelheden (LQ)**

1 kg

**· Uitgezonderde hoeveelheden (EQ)**

Code: E2

Grootste netto hoeveelheid per binnenverpakking: 30 g

Grootste netto hoeveelheid per buitenverpakking: 500 g

**· Vervoerscategorie**

2

**· Tunnelbeperkingscode**

E

**· IMDG****· Limited quantities (LQ)**

1 kg

**· Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 500 g

**· VN "Model Regulation":**

UN 1493 ZILVERNITRAAT, 5.1, II, MILIEUGEVAARLIJK

**RUBRIEK 15: Regelgeving****· 15.1 Specifieke veiligheids-, gezondheids- en milieureglementen en -wetgeving voor de stof of het mengsel****· SZW-lijst van kankerverwekkende stoffen**

De stof is niet aanwezig.

**· SZW-lijst van mutagene stoffen**

De stof is niet aanwezig.

**· NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Vruchtbaarheid**

De stof is niet aanwezig.

**· NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Ontwikkeling**

De stof is niet aanwezig.

**· NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Borstvoeding**

De stof is niet aanwezig.

**· Richtlijn 2012/18/EU****· Gevaarlijke stoffen die met naam genoemd worden - BIJLAGE I** De stof is niet aanwezig.**· Seveso-categorie**

H2 ACUUT TOXISCH

P8 OXIDERENDE VLOEISTOFFEN EN VASTE STOFFEN

E1 Gevaar voor het aquatisch milieu

**· Drempelwaarde (ton) voor toepassing van voorschriften voor lagedrempelinrichtingen** 50 t**· Drempelwaarde (ton) voor toepassing van voorschriften voor hogedrempelinrichtingen** 200 t**· Nationale voorschriften:****· Gevaarklasse v. water:**

Waterbezwaarlijkheid (NL): A(1) zeer vergiftig voor in water levende organismen kan in aquatische milieu op lange termijn schadelijke effecten veroorzaken

**· 15.2 Chemischeveiligheidsbeoordeling:** Een chemische veiligheidsbeoordeling is niet uitgevoerd.

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**RUBRIEK 16: Overige informatie**

Deze gegevens zijn gebaseerd op de huidige stand van onze kennis. Zij beschrijven echter geen garantie van produkteigenschappen en vestigen geen contractuele rechtsbetrekking.

**Afkortingen en acroniemen:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Ox. Sol. 2: Oxiderende vaste stoffen – Categorie 2

Acute Tox. 2: Acute toxiciteit – Categorie 2

Skin Corr. 1B: Huidcorrosie/-irritatie – Categorie 1B

Eye Dam. 1: Ernstig oogletsel/oogirritatie – Categorie 1

Aquatic Acute 1: Gevaar voor het aquatisch milieu - acuut aquatisch gevaar – Categorie 1

Aquatic Chronic 1: Gevaar voor het aquatisch milieu - aquatisch gevaar op lange termijn – Categorie 1

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# Fiche de données de sécurité

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### RUBRIQUE 1: Identification de la substance/du mélange et de la société/l'entreprise

· **1.1 Identificateur de produit**

- **Nom du produit:** SILVER NITRATE
- **Code du produit:** 21050, 21052, 21052-SP
- **No CAS:**  
7761-88-8
- **Numéro CE:**  
231-853-9
- **Numéro index:**  
047-001-00-2

· **1.2 Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées**

*Pas d'autres informations importantes disponibles.*

- **Emploi de la substance / de la préparation** Produits chimiques pour laboratoires

· **1.3 Renseignements concernant le fournisseur de la fiche de données de sécurité**

· **Producteur/fournisseur:**

Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com

- **Service chargé des renseignements:** Product safety department

· **1.4 Numéro d'appel d'urgence:**

ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### RUBRIQUE 2: Identification des dangers

· **2.1 Classification de la substance ou du mélange**

- **Classification selon le règlement (CE) n° 1272/2008**



GHS03 flamme au-dessus d'un cercle

Ox. Sol. 2      H272 Peut aggraver un incendie; comburant.



GHS06 tête de mort sur deux tibias

Acute Tox. 2      H300 Mortel en cas d'ingestion.



GHS05 corrosion

Skin Corr. 1B      H314 Provoque des brûlures de la peau et des lésions oculaires graves.

Eye Dam. 1      H318 Provoque des lésions oculaires graves.



GHS09 environnement

Aquatic Acute 1      H400 Très toxique pour les organismes aquatiques.

Aquatic Chronic 1      H410 Très toxique pour les organismes aquatiques, entraîne des effets néfastes à long terme.

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- **2.2 Éléments d'étiquetage**
- **Étiquetage selon le règlement (CE) n° 1272/2008** La substance est classifiée et étiquetée selon le règlement CLP.
- **Pictogrammes de danger**



GHS03   GHS05   GHS06   GHS09

- **Mention d'avertissement** Danger
- **Composants dangereux déterminants pour l'étiquetage:**  
nitrate d'argent
- **Mentions de danger**  
H272 Peut aggraver un incendie; comburant.  
H300 Mortel en cas d'ingestion.  
H314 Provoque des brûlures de la peau et des lésions oculaires graves.  
H410 Très toxique pour les organismes aquatiques, entraîne des effets néfastes à long terme.
- **Conseils de prudence**  
P221 Prendre toutes précautions pour éviter de mélanger avec des matières combustibles.  
P301+P310 EN CAS D'INGESTION: Appeler immédiatement un CENTRE ANTIPOISON/un médecin.  
P303+P361+P353 EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux): Enlever immédiatement tous les vêtements contaminés. Rincer la peau à l'eau/Se doucher.  
P305+P351+P338 EN CAS DE CONTACT AVEC LES YEUX: rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.  
P321 Traitement spécifique (voir sur cette étiquette).  
P405 Garder sous clef.  
P501 Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.
- **2.3 Autres dangers**
- **Résultats des évaluations PBT et vPvB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.

### RUBRIQUE 3: Composition/informations sur les composants

- **3.1 Caractérisation chimique: Substances**
- **No CAS Désignation**  
7761-88-8 nitrate d'argent
- **Code(s) d'identification**
- **Numéro CE:** 231-853-9
- **Numéro index:** 047-001-00-2

### RUBRIQUE 4: Premiers secours

- **4.1 Description des premiers secours**
- **Remarques générales:**  
Enlever immédiatement les vêtements contaminés par le produit.  
Respiration artificielle dans le cas d'une respiration irrégulière ou d'un arrêt respiratoire.
- **Après inhalation:** En cas d'inconscience, coucher et transporter la personne en position latérale stable.
- **Après contact avec la peau:** Laver immédiatement à l'eau et au savon et bien rincer.

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- **Après contact avec les yeux:**  
Rincer les yeux, pendant plusieurs minutes, sous l'eau courante en écartant bien les paupières et consulter un médecin.
- **Après ingestion:**  
Ne pas faire vomir, demander d'urgence une assistance médicale.  
Boire de l'eau en abondance et donner de l'air frais. Consulter immédiatement un médecin.
- **4.2 Principaux symptômes et effets, aigus et différés** Pas d'autres informations importantes disponibles.
- **4.3 Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires**  
Pas d'autres informations importantes disponibles.

### RUBRIQUE 5: Mesures de lutte contre l'incendie

- **5.1 Moyens d'extinction**
- **Moyens d'extinction:** Adapter les mesures d'extinction d'incendie à l'environnement.
- **5.2 Dangers particuliers résultant de la substance ou du mélange**  
Pas d'autres informations importantes disponibles.
- **5.3 Conseils aux pompiers**
- **Équipement spécial de sécurité:** Aucune mesure particulière n'est requise.

### RUBRIQUE 6: Mesures à prendre en cas de dispersion accidentelle

- **6.1 Précautions individuelles, équipement de protection et procédures d'urgence**  
Porter un équipement de sécurité. Eloigner les personnes non protégées.
- **6.2 Précautions pour la protection de l'environnement:**  
En cas de pénétration dans les eaux ou les égouts, avertir les autorités compétentes.  
Ne pas rejeter dans les canalisations, dans les eaux de surface et dans les nappes d'eau souterraines.
- **6.3 Méthodes et matériel de confinement et de nettoyage:**  
Utiliser un neutralisant.  
Evacuer les matériaux contaminés en tant que déchets conformément au point 13.  
Assurer une aération suffisante.
- **6.4 Référence à d'autres rubriques**  
Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.  
Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.  
Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.

### RUBRIQUE 7: Manipulation et stockage

- **7.1 Précautions à prendre pour une manipulation sans danger** Bien dépoussiérer.
- **Préventions des incendies et des explosions:** Aucune mesure particulière n'est requise.
- **7.2 Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités**
- **Stockage:**
- **Exigences concernant les lieux et conteneurs de stockage:** Aucune exigence particulière.
- **Indications concernant le stockage commun:** Pas nécessaire.
- **Autres indications sur les conditions de stockage:** Tenir les emballages hermétiquement fermés.
- **7.3 Utilisation(s) finale(s) particulière(s)** Pas d'autres informations importantes disponibles.

### RUBRIQUE 8: Contrôles de l'exposition/protection individuelle

- **Indications complémentaires pour l'agencement des installations techniques:**  
Sans autre indication, voir point 7.

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### · 8.1 Paramètres de contrôle

#### · Composants présentant des valeurs-seuil à surveiller par poste de travail:

7761-88-8 nitrate d'argent	
VME	Valeur à long terme: 0,01 mg/m <sup>3</sup> en Ag

#### · Remarques supplémentaires:

Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.

### · 8.2 Contrôles de l'exposition

#### · Equipement de protection individuel:

#### · Mesures générales de protection et d'hygiène:

Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.

Retirer immédiatement les vêtements souillés ou humectés.

Se laver les mains avant les pauses et en fin de travail.

Eviter tout contact avec les yeux.

Eviter tout contact avec les yeux et avec la peau.

#### · Protection respiratoire: N'est pas nécessaire.

#### · Protection des mains:



Gants de protection

Le matériau des gants doit être imperméable et résistant au produit / à la substance / à la préparation.

À cause du manque de tests, aucune recommandation pour un matériau de gants pour le produit / la préparation / le mélange de produits chimiques ne peut être donnée.

Choix du matériau des gants en fonction des temps de pénétration, du taux de perméabilité et de la dégradation.

#### · Matériau des gants

Le choix de gants appropriés ne dépend pas seulement du matériau, mais également d'autres critères de qualité qui peuvent varier d'un fabricant à l'autre.

#### · Temps de pénétration du matériau des gants

Le temps de pénétration exact est à déterminer par le fabricant des gants de protection et à respecter.

#### · Protection des yeux:



Lunettes de protection hermétiques

## RUBRIQUE 9: Propriétés physiques et chimiques

### · 9.1 Informations sur les propriétés physiques et chimiques essentielles

#### · Indications générales

#### · Aspect:

Forme: Poudre cristalline

Couleur: Blanc

· Odeur: Inodore

· Seuil olfactif: Non déterminé.

· valeur du pH: Non applicable.

#### · Changement d'état

Point de fusion/point de congélation: 210 °C

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<b>Point initial d'ébullition et intervalle d'ébullition:</b> 444 °C	
· <b>Point d'éclair</b>	Non applicable.
· <b>Inflammabilité (solide, gaz):</b>	Favorise l'inflammation des matières combustibles.
· <b>Température d'inflammation:</b>	
<b>Température de décomposition:</b>	Non déterminé.
· <b>Température d'auto-inflammabilité:</b>	Non déterminé.
· <b>Propriétés explosives:</b>	Le produit n'est pas explosif.
· <b>Limites d'explosion:</b>	
<b>Inférieure:</b>	Non déterminé.
<b>Supérieure:</b>	Non déterminé.
· <b>Pression de vapeur:</b>	Non applicable.
· <b>Densité à 20 °C:</b>	4,35 g/cm <sup>3</sup>
· <b>Densité relative</b>	Non déterminé.
· <b>Densité de vapeur:</b>	Non applicable.
· <b>Taux d'évaporation:</b>	Non applicable.
· <b>Solubilité dans/miscibilité avec l'eau à 20 °C:</b>	2,192 g/l
· <b>Coefficient de partage: n-octanol/eau:</b>	Non déterminé.
· <b>Viscosité:</b>	
<b>Dynamique:</b>	Non applicable.
<b>Cinématique:</b>	Non applicable.
· <b>Teneur en solvants:</b>	
<b>Solvants organiques:</b>	0,0 %
<b>VOC (CE)</b>	0,00 %
· <b>9.2 Autres informations</b>	Pas d'autres informations importantes disponibles.

### RUBRIQUE 10: Stabilité et réactivité

- **10.1 Réactivité** Pas d'autres informations importantes disponibles.
- **10.2 Stabilité chimique**
- **Décomposition thermique/conditions à éviter:** Pas de décomposition en cas d'usage conforme.
- **10.3 Possibilité de réactions dangereuses** Aucune réaction dangereuse connue.
- **10.4 Conditions à éviter** Pas d'autres informations importantes disponibles.
- **10.5 Matières incompatibles:** Pas d'autres informations importantes disponibles.
- **10.6 Produits de décomposition dangereux:** Pas de produits de décomposition dangereux connus

### RUBRIQUE 11: Informations toxicologiques

- **11.1 Informations sur les effets toxicologiques**
- **Toxicité aiguë**  
Mortel en cas d'ingestion.

· **Valeurs LD/LC50 déterminantes pour la classification:**

7761-88-8 nitrate d'argent

Oral	LD50	50 mg/kg (souris)
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- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée**  
Provoque des brûlures de la peau et des lésions oculaires graves.
- **Lésions oculaires graves/irritation oculaire**  
Provoque des lésions oculaires graves.
- **Sensibilisation respiratoire ou cutanée**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Effets CMR (cancérogène, mutagène et toxique pour la reproduction)**
- **Mutagénicité sur les cellules germinales**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Cancérogénicité** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité pour la reproduction**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité spécifique pour certains organes cibles - exposition unique**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité spécifique pour certains organes cibles - exposition répétée**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Danger par aspiration** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

### RUBRIQUE 12: Informations écologiques

- **12.1 Toxicité**
- **Toxicité aquatique:** Pas d'autres informations importantes disponibles.
- **12.2 Persistance et dégradabilité** Pas d'autres informations importantes disponibles.
- **12.3 Potentiel de bioaccumulation** Pas d'autres informations importantes disponibles.
- **12.4 Mobilité dans le sol** Pas d'autres informations importantes disponibles.
- **Effets écotoxiques:**
- **Remarque:** Très toxique chez les poissons.
- **Autres indications écologiques:**
- **Indications générales:**  
Catégorie de pollution des eaux 3 (D) (classification selon liste): très polluant  
Ne pas laisser pénétrer dans la nappe phréatique, les eaux ou les canalisations, même pas en petite quantité.  
Ne doit pas pénétrer à l'état non dilué ou non neutralisé dans les eaux usées ou le collecteur.  
Danger pour l'eau potable dès fuite d'une quantité minime dans le sous-sol.  
Dans les eaux, également toxique pour les poissons et le plancton.  
Très toxique pour organismes aquatiques.
- **12.5 Résultats des évaluations PBT et VPVB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.
- **12.6 Autres effets néfastes** Pas d'autres informations importantes disponibles.

### RUBRIQUE 13: Considérations relatives à l'élimination

- **13.1 Méthodes de traitement des déchets**
- **Recommandation:** Ne doit pas être évacué avec les ordures ménagères. Ne pas laisser pénétrer dans les égouts.
- **Emballages non nettoyés:**
- **Recommandation:** Evacuation conformément aux prescriptions légales.
- **Produit de nettoyage recommandé:** Eau, éventuellement avec des produits de nettoyage

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### RUBRIQUE 14: Informations relatives au transport

<ul style="list-style-type: none"> <li>· 14.1 Numéro ONU</li> <li>· ADR, IMDG, IATA</li> </ul>	<p align="center">UN1493</p>
<ul style="list-style-type: none"> <li>· 14.2 Désignation officielle de transport de l'ONU</li> <li>· ADR</li> <li>· IMDG, IATA</li> </ul>	<p align="center">1493 NITRATE D'ARGENT, DANGEREUX POUR L'ENVIRONNEMENT SILVER NITRATE</p>
<ul style="list-style-type: none"> <li>· 14.3 Classe(s) de danger pour le transport</li> <li>· ADR</li> </ul>	
	
<ul style="list-style-type: none"> <li>· Classe</li> <li>· Étiquette</li> </ul>	<p align="center">5.1 Matières comburantes. 5.1</p>
<ul style="list-style-type: none"> <li>· IMDG, IATA</li> </ul>	
	
<ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	<p align="center">5.1 Matières comburantes. 5.1</p>
<ul style="list-style-type: none"> <li>· 14.4 Groupe d'emballage</li> <li>· ADR, IMDG, IATA</li> </ul>	<p align="center">II</p>
<ul style="list-style-type: none"> <li>· 14.5 Dangers pour l'environnement:</li> <li>· Marquage spécial (ADR):</li> </ul>	<p align="center">Signe conventionnel (poisson et arbre)</p>
<ul style="list-style-type: none"> <li>· 14.6 Précautions particulières à prendre par l'utilisateur</li> <li>· Indice Kemler:</li> <li>· No EMS:</li> <li>· Segregation groups</li> <li>· Stowage Category</li> </ul>	<p align="center">Attention: Matières comburantes. 50 5.1-06 Heavy metals and their salts (including their organometallic compounds) A</p>
<ul style="list-style-type: none"> <li>· 14.7 Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC</li> </ul>	<p align="center">Non applicable.</p>
<ul style="list-style-type: none"> <li>· Indications complémentaires de transport:</li> </ul>	
<ul style="list-style-type: none"> <li>· ADR</li> <li>· Quantités limitées (LQ)</li> <li>· Quantités exceptées (EQ)</li> <li>· Catégorie de transport</li> <li>· Code de restriction en tunnels</li> </ul>	<p align="center">1 kg Code: E2 Quantité maximale nette par emballage intérieur: 30 g Quantité maximale nette par emballage extérieur: 500 g 2 E</p>

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<ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>	<p>1 kg Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g</p>
<ul style="list-style-type: none"> <li>· <b>"Règlement type" de l'ONU:</b></li> </ul>	<p>UN 1493 NITRATE D'ARGENT, 5.1, II, DANGEREUX POUR L'ENVIRONNEMENT</p>

### RUBRIQUE 15: Informations relatives à la réglementation

- **15.1 Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement**
- **Directive 2012/18/UE**
- **Substances dangereuses désignées - ANNEXE I la substance n'est pas comprise**
- **Catégorie SEVESO**  
H2 TOXICITÉ AIGUË  
P8 LIQUIDES ET SOLIDES COMBURANTS  
E1 Danger pour l'environnement aquatique
- **Quantité seuil (tonnes) pour l'application des exigences relatives au seuil bas 50 t**
- **Quantité seuil (tonnes) pour l'application des exigences relatives au seuil haut 200 t**
- **15.2 Évaluation de la sécurité chimique: Une évaluation de la sécurité chimique n'a pas été réalisée.**

### RUBRIQUE 16: Autres informations

Ces indications sont fondées sur l'état actuel de nos connaissances, mais ne constituent pas une garantie quant aux propriétés du produit et ne donnent pas lieu à un rapport juridique contractuel.

- **Acronymes et abréviations:**  
ADR: Accord européen sur le transport des marchandises dangereuses par Route  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
VOC: Volatile Organic Compounds (USA, EU)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
Ox. Sol. 2: Matières solides comburantes – Catégorie 2  
Acute Tox. 2: Toxicité aiguë – Catégorie 2  
Skin Corr. 1B: Corrosion cutanée/irritation cutanée – Catégorie 1B  
Eye Dam. 1: Lésions oculaires graves/irritation oculaire – Catégorie 1  
Aquatic Acute 1: Dangers pour le milieu aquatique- toxicité aiguë pour le milieu aquatique – Catégorie 1  
Aquatic Chronic 1: Dangers pour le milieu aquatique- toxicité à long terme pour le milieu aquatique – Catégorie 1

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### ABSCHNITT 1: Bezeichnung des Stoffs beziehungsweise des Gemischs und des Unternehmens

· **1.1 Produktidentifikator**

- **Handelsname:** SILVER NITRATE
- **Artikelnummer:** 21050, 21052, 21052-SP
- **CAS-Nummer:**  
7761-88-8
- **EG-Nummer:**  
231-853-9
- **Indexnummer:**  
047-001-00-2

· **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**

Keine weiteren relevanten Informationen verfügbar.

- **Verwendung des Stoffes / des Gemischs** Laborchemikalien

· **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**

· **Hersteller/Lieferant:**

Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com

Science Services GmbH  
Unterhachinger Str. 75  
81737 München Germany

Tel: +49(0)89 18 93 668-0  
safety@scienceservices.de

Deutschland: +49 (0)89 19240, 24h Giftnotruf Munchen, www.toxinfo.org

Osterreich: +43 1406 43 43, Gesundheit Osterreich GmbH, 24 h

- **Auskunftgebender Bereich:** Product safety department

· **1.4 Notrufnummer:**

ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### ABSCHNITT 2: Mögliche Gefahren

· **2.1 Einstufung des Stoffs oder Gemischs**

- **Einstufung gemäß Verordnung (EG) Nr. 1272/2008**



GHS03 Flamme über einem Kreis

Ox. Sol. 2

H272 Kann Brand verstärken; Oxidationsmittel.



GHS06 Totenkopf mit gekreuzten Knochen

Acute Tox. 2

H300 Lebensgefahr bei Verschlucken.

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GHS05 Ätzwirkung

Skin Corr. 1B      H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.

Eye Dam. 1      H318 Verursacht schwere Augenschäden.



GHS09 Umwelt

Aquatic Acute 1      H400 Sehr giftig für Wasserorganismen.

Aquatic Chronic 1      H410 Sehr giftig für Wasserorganismen mit langfristiger Wirkung.

### · 2.2 Kennzeichnungselemente

#### · Kennzeichnung gemäß Verordnung (EG) Nr. 1272/2008

Der Stoff ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.

#### · Gefahrenpiktogramme



GHS03



GHS05



GHS06



GHS09

#### · Signalwort Gefahr

#### · Gefahrbestimmende Komponenten zur Etikettierung:

Silbernitrat

#### · Gefahrenhinweise

H272 Kann Brand verstärken; Oxidationsmittel.

H300 Lebensgefahr bei Verschlucken.

H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.

H410 Sehr giftig für Wasserorganismen mit langfristiger Wirkung.

#### · Sicherheitshinweise

P221 Mischen mit brennbaren Stoffen unbedingt verhindern.

P301+P310 BEI VERSCHLUCKEN: Sofort GIFTINFORMATIONSZENTRUM/Arzt anrufen.

P303+P361+P353 BEI BERÜHRUNG MIT DER HAUT (oder dem Haar): Alle kontaminierten Kleidungsstücke sofort ausziehen. Haut mit Wasser abwaschen/duschen.

P305+P351+P338 BEI KONTAKT MIT DEN AUGEN: Einige Minuten lang behutsam mit Wasser spülen. Eventuell vorhandene Kontaktlinsen nach Möglichkeit entfernen. Weiter spülen.

P321 Besondere Behandlung (siehe auf diesem Kennzeichnungsetikett).

P405 Unter Verschluss aufbewahren.

P501 Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen / internationalen Vorschriften.

#### · 2.3 Sonstige Gefahren

#### · Ergebnisse der PBT- und vPvB-Beurteilung

· **PBT:** Nicht anwendbar.· **vPvB:** Nicht anwendbar.

## ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

### · 3.1 Chemische Charakterisierung: Stoffe

#### · CAS-Nr. Bezeichnung

7761-88-8 Silbernitrat

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- **Identifikationsnummer(n)**
- **EG-Nummer:** 231-853-9
- **Indexnummer:** 047-001-00-2

### ABSCHNITT 4: Erste-Hilfe-Maßnahmen

- **4.1 Beschreibung der Erste-Hilfe-Maßnahmen**
- **Allgemeine Hinweise:**
  - Mit Produkt verunreinigte Kleidungsstücke unverzüglich entfernen.
  - Bei unregelmäßiger Atmung oder Atemstillstand künstliche Beatmung.
- **Nach Einatmen:** Bei Bewußtlosigkeit Lagerung und Transport in stabiler Seitenlage.
- **Nach Hautkontakt:** Sofort mit Wasser und Seife abwaschen und gut nachspülen.
- **Nach Augenkontakt:**
  - Augen bei geöffnetem Lidspalt mehrere Minuten unter fließendem Wasser abspülen und Arzt konsultieren.
- **Nach Verschlucken:**
  - Kein Erbrechen herbeiführen, sofort Arzthilfe zuziehen.
  - Reichlich Wasser nachtrinken und Frischluftzufuhr. Unverzüglich Arzt hinzuziehen.
- **4.2 Wichtigste akute und verzögert auftretende Symptome und Wirkungen**
  - Keine weiteren relevanten Informationen verfügbar.
- **4.3 Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung**
  - Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

- **5.1 Löschmittel**
- **Geeignete Löschmittel:** Feuerlöschmaßnahmen auf die Umgebung abstimmen.
- **5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren**
  - Keine weiteren relevanten Informationen verfügbar.
- **5.3 Hinweise für die Brandbekämpfung**
- **Besondere Schutzausrüstung:** Keine besonderen Maßnahmen erforderlich.

### ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

- **6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren**
  - Schutzausrüstung tragen. Ungeschützte Personen fernhalten.
- **6.2 Umweltschutzmaßnahmen:**
  - Bei Eindringen in Gewässer oder Kanalisation zuständige Behörden benachrichtigen.
  - Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.
- **6.3 Methoden und Material für Rückhaltung und Reinigung:**
  - Neutralisationsmittel anwenden.
  - Kontaminiertes Material als Abfall nach Abschnitt 13 entsorgen.
  - Für ausreichende Lüftung sorgen.
- **6.4 Verweis auf andere Abschnitte**
  - Informationen zur sicheren Handhabung siehe Abschnitt 7.
  - Informationen zur persönlichen Schutzausrüstung siehe Abschnitt 8.
  - Informationen zur Entsorgung siehe Abschnitt 13.

### ABSCHNITT 7: Handhabung und Lagerung

- **7.1 Schutzmaßnahmen zur sicheren Handhabung** Gute Entstaubung.

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- **Hinweise zum Brand- und Explosionsschutz:** Keine besonderen Maßnahmen erforderlich.
- **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**
- **Lagerung:**
- **Anforderung an Lagerräume und Behälter:** Keine besonderen Anforderungen.
- **Zusammenlagerungshinweise:** Nicht erforderlich.
- **Weitere Angaben zu den Lagerbedingungen:** Behälter dicht geschlossen halten.
- **Lagerklasse:**
- **Klassifizierung nach Betriebsicherheitsverordnung (BetrSichV):** -
- **7.3 Spezifische Endanwendungen** Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 8: Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen

- **Zusätzliche Hinweise zur Gestaltung technischer Anlagen:** Keine weiteren Angaben, siehe Abschnitt 7.
- **8.1 Zu überwachende Parameter**

- **Bestandteile mit arbeitsplatzbezogenen, zu überwachenden Grenzwerten:**

7761-88-8 Silbernitrat

AGW	Langzeitwert: 0,01E mg/m <sup>3</sup> 2(1);DFG,EU,10
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- **Zusätzliche Hinweise:** Als Grundlage dienen die bei der Erstellung gültigen Listen.

- **8.2 Begrenzung und Überwachung der Exposition**
- **Persönliche Schutzausrüstung:**
- **Allgemeine Schutz- und Hygienemaßnahmen:**  
Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.  
Beschmutzte, getränkte Kleidung sofort ausziehen.  
Vor den Pausen und bei Arbeitsende Hände waschen.  
Berührung mit den Augen vermeiden.  
Berührung mit den Augen und der Haut vermeiden.
- **Atemschutz:** Nicht erforderlich.
- **Handschutz:**



Schutzhandschuhe

Das Handschuhmaterial muss undurchlässig und beständig gegen das Produkt / den Stoff / die Zubereitung sein. Aufgrund fehlender Tests kann keine Empfehlung zum Handschuhmaterial für das Produkt / die Zubereitung / das Chemikaliengemisch abgegeben werden.

Auswahl des Handschuhmaterials unter Beachtung der Durchbruchzeiten, Permeationsraten und der Degradation.

- **Handschuhmaterial**  
Die Auswahl eines geeigneten Handschuhs ist nicht nur vom Material, sondern auch von weiteren Qualitätsmerkmalen abhängig und von Hersteller zu Hersteller unterschiedlich.
- **Durchdringungszeit des Handschuhmaterials**  
Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.

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**· Augenschutz:**

Dichtschließende Schutzbrille

### ABSCHNITT 9: Physikalische und chemische Eigenschaften

**· 9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften****· Allgemeine Angaben****· Aussehen:****Form:** Kristallines Pulver**Farbe:** Weiß**· Geruch:** Geruchlos**· Geruchsschwelle:** Nicht bestimmt.**· pH-Wert:** Nicht anwendbar.**· Zustandsänderung****Schmelzpunkt/Gefrierpunkt:** 210 °C**Siedebeginn und Siedebereich:** 444 °C**· Flammpunkt:** Nicht anwendbar.**· Entzündbarkeit (fest, gasförmig):** Feuergefahr bei Berührung mit brennbaren Stoffen.**· Zündtemperatur:****Zersetzungstemperatur:** Nicht bestimmt.**· Selbstentzündungstemperatur:** Nicht bestimmt.**· Explosive Eigenschaften:** Das Produkt ist nicht explosionsgefährlich.**· Explosionsgrenzen:****Untere:** Nicht bestimmt.**Obere:** Nicht bestimmt.**· Dampfdruck:** Nicht anwendbar.**· Dichte bei 20 °C:** 4,35 g/cm<sup>3</sup>**· Relative Dichte:** Nicht bestimmt.**· Dampfdichte:** Nicht anwendbar.**· Verdampfungsgeschwindigkeit:** Nicht anwendbar.**· Löslichkeit in / Mischbarkeit mit****Wasser bei 20 °C:** 2,192 g/l**· Verteilungskoeffizient: n-Octanol/Wasser:** Nicht bestimmt.**· Viskosität:****Dynamisch:** Nicht anwendbar.**Kinematisch:** Nicht anwendbar.**· Lösemittelgehalt:****Organische Lösemittel:** 0,0 %**VOC (EU)** 0,00 %

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**· 9.2 Sonstige Angaben**

Keine weiteren relevanten Informationen verfügbar.

**ABSCHNITT 10: Stabilität und Reaktivität**

- **10.1 Reaktivität** Keine weiteren relevanten Informationen verfügbar.
- **10.2 Chemische Stabilität**
- **Thermische Zersetzung / zu vermeidende Bedingungen:**  
Keine Zersetzung bei bestimmungsgemäßer Verwendung.
- **10.3 Möglichkeit gefährlicher Reaktionen** Keine gefährlichen Reaktionen bekannt.
- **10.4 Zu vermeidende Bedingungen** Keine weiteren relevanten Informationen verfügbar.
- **10.5 Unverträgliche Materialien:** Keine weiteren relevanten Informationen verfügbar.
- **10.6 Gefährliche Zersetzungsprodukte:** Keine gefährlichen Zersetzungsprodukte bekannt.

**ABSCHNITT 11: Toxikologische Angaben**

- **11.1 Angaben zu toxikologischen Wirkungen**
  - **Akute Toxizität**  
Lebensgefahr bei Verschlucken.
- |  |      |                  |
|--|------|------------------|
| <b>· Einstufungsrelevante LD/LC50-Werte:</b> |      |                  |
| 7761-88-8 Silbernitrat                       |      |                  |
| Oral   | LD50 | 50 mg/kg (mouse) |
- **Primäre Reizwirkung:**
  - **Ätz-/Reizwirkung auf die Haut**  
Verursacht schwere Verätzungen der Haut und schwere Augenschäden.
  - **Schwere Augenschädigung/-reizung**  
Verursacht schwere Augenschäden.
  - **Sensibilisierung der Atemwege/Haut** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
  - **CMR-Wirkungen (krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)**
  - **Keimzell-Mutagenität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
  - **Karzinogenität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
  - **Reproduktionstoxizität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
  - **Spezifische Zielorgan-Toxizität bei einmaliger Exposition**  
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
  - **Spezifische Zielorgan-Toxizität bei wiederholter Exposition**  
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
  - **Aspirationsgefahr** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

**ABSCHNITT 12: Umweltbezogene Angaben**

- **12.1 Toxizität**
- **Aquatische Toxizität:** Keine weiteren relevanten Informationen verfügbar.
- **12.2 Persistenz und Abbaubarkeit** Keine weiteren relevanten Informationen verfügbar.
- **12.3 Bioakkumulationspotenzial** Keine weiteren relevanten Informationen verfügbar.
- **12.4 Mobilität im Boden** Keine weiteren relevanten Informationen verfügbar.
- **Ökotoxische Wirkungen:**
- **Bemerkung:** Sehr giftig für Fische.
- **Weitere ökologische Hinweise:**
- **Allgemeine Hinweise:**  
Wassergefährdungsklasse 3 (Listeneinstufung): stark wassergefährdend

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- Nicht in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen, auch nicht in kleinen Mengen.  
Darf nicht unverdünnt bzw. unneutralisiert ins Abwasser bzw. in den Vorfluter gelangen.  
Trinkwassergefährdung bereits beim Auslaufen geringster Mengen in den Untergrund.  
In Gewässern auch giftig für Fische und Plankton.  
sehr giftig für Wasserorganismen
- **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**
  - **PBT:** Nicht anwendbar.
  - **vPvB:** Nicht anwendbar.
  - **12.6 Andere schädliche Wirkungen** Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 13: Hinweise zur Entsorgung

- **13.1 Verfahren der Abfallbehandlung**
- **Empfehlung:** Darf nicht zusammen mit Hausmüll entsorgt werden. Nicht in die Kanalisation gelangen lassen.
- **Ungereinigte Verpackungen:**
- **Empfehlung:** Entsorgung gemäß den behördlichen Vorschriften.
- **Empfohlenes Reinigungsmittel:** Wasser, gegebenenfalls mit Zusatz von Reinigungsmitteln.

### ABSCHNITT 14: Angaben zum Transport

- |   |  |
|---|--|
| <b>· 14.1 UN-Nummer</b>   |  |
| <b>· ADR, IMDG, IATA</b>  | UN1493   |
| <b>· 14.2 Ordnungsgemäße UN-Versandbezeichnung</b>                                  |  |
| <b>· ADR</b>  | 1493 SILBERNITRAT, UMWELTGEFÄHRDEND              |
| <b>· IMDG, IATA</b>   | SILVER NITRATE                                   |
| <b>· 14.3 Transportgefahrenklassen</b>  |  |
| <b>· ADR</b>  |  |
|  |  |
| <b>· Klasse</b>   | 5.1 Entzündend (oxidierend) wirkende Stoffe      |
| <b>· Gefahrzettel</b>   | 5.1  |
| <b>· IMDG, IATA</b>   |  |
|  |  |
| <b>· Class</b>  | 5.1 Entzündend (oxidierend) wirkende Stoffe      |
| <b>· Label</b>  | 5.1  |
| <b>· 14.4 Verpackungsgruppe</b>   |  |
| <b>· ADR, IMDG, IATA</b>  | II   |
| <b>· 14.5 Umweltgefahren:</b>   |  |
| <b>· Besondere Kennzeichnung (ADR):</b>   | Symbol (Fisch und Baum)                          |
| <b>· 14.6 Besondere Vorsichtsmaßnahmen für den Verwender</b>                        | Achtung: Entzündend (oxidierend) wirkende Stoffe |

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· <b>Kemler-Zahl:</b>	50
· <b>EMS-Nummer:</b>	5.1-06
· <b>Segregation groups</b>	Heavy metals and their salts (including their organometallic compounds)
· <b>Stowage Category</b>	A
· <b>14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code</b> Nicht anwendbar.	
· <b>Transport/weitere Angaben:</b>	
· <b>ADR</b>	
· <b>Begrenzte Menge (LQ)</b>	1 kg
· <b>Freigestellte Mengen (EQ)</b>	Code: E2 Höchste Nettomenge je Innenverpackung: 30 g Höchste Nettomenge je Außenverpackung: 500 g
· <b>Beförderungskategorie</b>	2
· <b>Tunnelbeschränkungscode</b>	E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1 kg
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· <b>UN "Model Regulation":</b>	UN 1493 SILBERNITRAT, 5.1, 11, UMWELTGEFÄHRDEND

### ABSCHNITT 15: Rechtsvorschriften

- **15.1 Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder das Gemisch**
- **Richtlinie 2012/18/EU**
- **Namentlich aufgeführte gefährliche Stoffe - ANHANG I** Der Stoff ist nicht enthalten.
- **Seveso-Kategorie**  
H2 AKUT TOXISCH  
P8 ENTZÜNDEND (OXIDIEREND) WIRKENDE FLÜSSIGKEITEN UND FESTSTOFFE  
E1 Gewässergefährdend
- **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der unteren Klasse** 50 t
- **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der oberen Klasse** 200 t
- **Nationale Vorschriften:**
- **Wassergefährdungsklasse:** WGK 3 (Listeneinstufung): stark wassergefährdend.
- **Sonstige Vorschriften, Beschränkungen und Verbotsverordnungen**  
Das Produkt unterliegt der Anlage 2 der Chemikalienverbotsverordnung (ChemVerbotsV) - Anforderungen in Bezug auf die Abgabe
- **15.2 Stoffsicherheitsbeurteilung:** Eine Stoffsicherheitsbeurteilung wurde nicht durchgeführt.

### ABSCHNITT 16: Sonstige Angaben

Die Angaben stützen sich auf den heutigen Stand unserer Kenntnisse, sie stellen jedoch keine Zusicherung von Produkteigenschaften dar und begründen kein vertragliches Rechtsverhältnis.

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**· Abkürzungen und Akronyme:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

*GHS: Globally Harmonised System of Classification and Labelling of Chemicals*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*VOC: Volatile Organic Compounds (USA, EU)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*Ox. Sol. 2: Oxidierende Feststoffe – Kategorie 2*

*Acute Tox. 2: Akute Toxizität – Kategorie 2*

*Skin Corr. 1B: Hautreizende/-ätzende Wirkung – Kategorie 1B*

*Eye Dam. 1: Schwere Augenschädigung/Augenreizung – Kategorie 1*

*Aquatic Acute 1: Gewässergefährdend - akut gewässergefährdend – Kategorie 1*

*Aquatic Chronic 1: Gewässergefährdend - langfristig gewässergefährdend – Kategorie 1*

DE

**Scheda di dati di sicurezza**  
ai sensi del regolamento 1907/2006/CE, Articolo 31

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### SEZIONE 1: Identificazione della sostanza o della miscela e della società/impresa

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale:** SILVER NITRATE

· **Articolo numero:** 21050, 21052, 21052-SP

· **Numero CAS:**

7761-88-8

· **Numeri CE:**

231-853-9

· **Numero indice:**

047-001-00-2

· **1.2 Usi identificati pertinenti della sostanza o della miscela e usi sconsigliati**

Non sono disponibili altre informazioni.

· **Utilizzazione della Sostanza / del Preparato** Prodotti chimici per laboratorio

· **1.3 Informazioni sul fornitore della scheda di dati di sicurezza**

· **Produttore/fornitore:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: sgkcck@aol.com

www.emsdiasum.com

Societa Italiana Chimici

Via Rio Nell Ellba 140

00138 Rome, Italy

Tel: 39 06 8800211

Fax: 39 30 06 8815313

Web: www.sichim.com

· **Informazioni fornite da:** Product safety department

· **1.4 Numero telefonico di emergenza:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

### SEZIONE 2: Identificazione dei pericoli

· **2.1 Classificazione della sostanza o della miscela**

· **Classificazione secondo il regolamento (CE) n. 1272/2008**



GHS03 fiamma su cerchio

Ox. Sol. 2

H272 Può aggravare un incendio; comburente.



GHS06 teschio e tibie incrociate

Acute Tox. 2

H300 Letale se ingerito.



GHS05 corrosione

Skin Corr. 1B

H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.

Eye Dam. 1

H318 Provoca gravi lesioni oculari.

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IT

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GHS09 ambiente

*Aquatic Acute 1 H400 Molto tossico per gli organismi acquatici.*

*Aquatic Chronic 1 H410 Molto tossico per gli organismi acquatici con effetti di lunga durata.*

· **2.2 Elementi dell'etichetta**

· **Etichettatura secondo il regolamento (CE) n. 1272/2008**

*La sostanza è classificata ed etichettata conformemente al regolamento CLP.*

· **Pittogrammi di pericolo**



GHS03



GHS05



GHS06



GHS09

· **Avvertenza Pericolo**

· **Componenti pericolosi che ne determinano l'etichettatura:**

*nitrate di argento*

· **Indicazioni di pericolo**

*H272 Può aggravare un incendio; comburente.*

*H300 Letale se ingerito.*

*H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.*

*H410 Molto tossico per gli organismi acquatici con effetti di lunga durata.*

· **Consigli di prudenza**

*P221 Prendere ogni precauzione per evitare di miscelare con sostanze combustibili.*

*P301+P310 IN CASO DI INGESTIONE: contattare immediatamente un CENTRO ANTIVELENI/un medico.*

*P303+P361+P353 IN CASO DI CONTATTO CON LA PELLE (o con i capelli): togliere immediatamente tutti gli indumenti contaminati. Sciacquare la pelle/fare una doccia.*

*P305+P351+P338 IN CASO DI CONTATTO CON GLI OCCHI: sciacquare accuratamente per parecchi minuti. Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare.*

*P321 Trattamento specifico (vedere su questa etichetta).*

*P405 Conservare sotto chiave.*

*P501 Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.*

· **2.3 Altri pericoli**

· **Risultati della valutazione PBT e vPvB**

· **PBT:** Non applicabile.

· **vPvB:** Non applicabile.

### SEZIONE 3: Composizione/informazioni sugli ingredienti

· **3.1 Caratteristiche chimiche: Sostanze**

· **Numero CAS**

*7761-88-8 nitrato di argento*

· **Numeroli di identificazione**

· **Numeri CE:** 231-853-9

· **Numero indice:** 047-001-00-2

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#### **SEZIONE 4: Misure di primo soccorso**

- **4.1 Descrizione delle misure di primo soccorso**
- **Indicazioni generali:**  
 Allontanare immediatamente gli abiti contaminati dal prodotto.  
 In caso di respirazione irregolare o di blocco respiratorio praticare la respirazione artificiale.
- **Inalazione:** Se il soggetto è svenuto provvedere a tenerlo durante il trasporto in posizione stabile su un fianco.
- **Contatto con la pelle:** Lavare immediatamente con acqua e sapone sciacquando accuratamente.
- **Contatto con gli occhi:**  
 Lavare con acqua corrente per diversi minuti tenendo le palpebre ben aperte e consultare il medico.
- **Ingestione:**  
 Non provocare il vomito, chiamare subito il medico.  
 Bere abbondante acqua e sostare in zona ben areata. Richiedere immediatamente l'intervento del medico.
- **4.2 Principali sintomi ed effetti, sia acuti che ritardati** Non sono disponibili altre informazioni.
- **4.3 Indicazione dell'eventuale necessità di consultare immediatamente un medico e di trattamenti speciali**  
 Non sono disponibili altre informazioni.

#### **SEZIONE 5: Misure antincendio**

- **5.1 Mezzi di estinzione**
- **Mezzi di estinzione idonei:** Adottare provvedimenti antiincendio nei dintorni della zona colpita.
- **5.2 Pericoli speciali derivanti dalla sostanza o dalla miscela** Non sono disponibili altre informazioni.
- **5.3 Raccomandazioni per gli addetti all'estinzione degli incendi**
- **Mezzi protettivi specifici:** Non sono richiesti provvedimenti particolari.

#### **SEZIONE 6: Misure in caso di rilascio accidentale**

- **6.1 Precauzioni personali, dispositivi di protezione e procedure in caso di emergenza**  
 Indossare equipaggiamento protettivo. Allontanare le persone non equipaggiate.
- **6.2 Precauzioni ambientali:**  
 In caso di infiltrazione nei corpi d'acqua o nelle fognature avvertire le autorità competenti.  
 Impedire infiltrazioni nella fognatura/nelle acque superficiali/nelle acque freatiche.
- **6.3 Metodi e materiali per il contenimento e per la bonifica:**  
 Utilizzare mezzi di neutralizzazione.  
 Smaltimento del materiale contaminato conformemente al punto 13.  
 Provvedere ad una sufficiente areazione.
- **6.4 Riferimento ad altre sezioni**  
 Per informazioni relative ad un manipolazione sicura, vedere capitolo 7.  
 Per informazioni relative all'equipaggiamento protettivo ad uso personale vedere Capitolo 8.  
 Per informazioni relative allo smaltimento vedere Capitolo 13.

#### **SEZIONE 7: Manipolazione e immagazzinamento**

- **7.1 Precauzioni per la manipolazione sicura** Accurata captazione delle polveri.
- **Indicazioni in caso di incendio ed esplosione:** Non sono richiesti provvedimenti particolari.
- **7.2 Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità**
- **Stoccaggio:**
- **Requisiti dei magazzini e dei recipienti:** Non sono richiesti requisiti particolari.
- **Indicazioni sullo stoccaggio misto:** Non necessario.
- **Ulteriori indicazioni relative alle condizioni di immagazzinamento:** Mantenere i recipienti ermeticamente chiusi.

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· 7.3 Usi finali particolari Non sono disponibili altre informazioni.

### SEZIONE 8: Controllo dell'esposizione/protezione individuale

· Ulteriori indicazioni sulla struttura di impianti tecnici: Nessun dato ulteriore, vedere punto 7.

## · 8.1 Parametri di controllo

· Componenti i cui valori limite devono essere tenuti sotto controllo negli ambienti di lavoro:

7761-88-8 nitrato di argento

VL	Valore a lungo termine: 0,01 mg/m <sup>3</sup> come Ag
----	---

· Ulteriori indicazioni: Le liste valide alla data di compilazione sono state usate come base.

## · 8.2 Controlli dell'esposizione

## · Mezzi protettivi individuali:

## · Norme generali protettive e di igiene del lavoro:

Tenere lontano da cibo, bevande e foraggi.

Togliere immediatamente gli abiti contaminati.

Lavarsi le mani prima dell'intervallo o a lavoro terminato.

Evitare il contatto con gli occhi.

Evitare il contatto con gli occhi e la pelle.

· Maschera protettiva: Non necessario.

## · Guanti protettivi:



Guanti protettivi

Il materiale dei guanti deve essere impermeabile e stabile contro il prodotto/ la sostanza/ la formulazione.

A causa della mancanza di tests non può essere consigliato alcun tipo di materiale per i guanti con cui manipolare il prodotto / la formulazione / la miscela di sostanze chimiche.

Scelta del materiale dei guanti in considerazione dei tempi di passaggio, dei tassi di permeazione e della degradazione.

## · Materiale dei guanti

La scelta dei guanti adatti non dipende soltanto dal materiale bensì anche da altre caratteristiche di qualità variabili da un produttore a un altro.

## · Tempo di permeazione del materiale dei guanti

Richiedere dal fornitore dei guanti il tempo di passaggio preciso il quale deve essere rispettato.

## · Occhiali protettivi:



Occhiali protettivi a tenuta

### SEZIONE 9: Proprietà fisiche e chimiche

## · 9.1 Informazioni sulle proprietà fisiche e chimiche fondamentali

## · Indicazioni generali

## · Aspetto:

Forma: Polvere cristallina

Colore: Bianco

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· <b>Odore:</b>	Inodore
· <b>Soglia olfattiva:</b>	Non definito.
· <b>valori di pH:</b>	Non applicabile.
· <b>Cambiamento di stato</b>	
<b>Punto di fusione/punto di congelamento:</b>	210 °C
<b>Punto di ebollizione iniziale e intervallo di ebollizione:</b>	444 °C
· <b>Punto di infiammabilità:</b>	Non applicabile.
· <b>Infiammabilità (solidi, gas):</b>	Può provocare l'accensione di materie combustibili.
· <b>Temperatura di accensione:</b>	
<b>Temperatura di decomposizione:</b>	Non definito.
· <b>Temperatura di autoaccensione:</b>	Non definito.
· <b>Proprietà esplosive:</b>	Prodotto non esplosivo.
· <b>Limiti di infiammabilità:</b>	
<b>Inferiore:</b>	Non definito.
<b>Superiore:</b>	Non definito.
· <b>Tensione di vapore:</b>	Non applicabile.
· <b>Densità a 20 °C:</b>	4,35 g/cm <sup>3</sup>
· <b>Densità relativa</b>	Non definito.
· <b>Densità di vapore:</b>	Non applicabile.
· <b>Velocità di evaporazione</b>	Non applicabile.
· <b>Solubilità in/Miscibilità con acqua a 20 °C:</b>	2,192 g/l
· <b>Coefficiente di ripartizione: n-ottanolo/acqua:</b>	Non definito.
· <b>Viscosità:</b>	
<b>Dinamica:</b>	Non applicabile.
<b>Cinematica:</b>	Non applicabile.
· <b>Tenore del solvente:</b>	
<b>Solventi organici:</b>	0,0 %
<b>VOC (CE)</b>	0,00 %
· <b>9.2 Altre informazioni</b>	Non sono disponibili altre informazioni.

### SEZIONE 10: Stabilità e reattività

- **10.1 Reattività** Non sono disponibili altre informazioni.
- **10.2 Stabilità chimica**
- **Decomposizione termica/ condizioni da evitare:** Il prodotto non si decompone se utilizzato secondo le norme.
- **10.3 Possibilità di reazioni pericolose** Non sono note reazioni pericolose.
- **10.4 Condizioni da evitare** Non sono disponibili altre informazioni.
- **10.5 Materiali incompatibili:** Non sono disponibili altre informazioni.
- **10.6 Prodotti di decomposizione pericolosi:** Non sono noti prodotti di decomposizione pericolosi.

(continua a pagina 6)

**Scheda di dati di sicurezza**  
ai sensi del regolamento 1907/2006/CE, Articolo 31

Stampato il: 31.10.2017

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Denominazione commerciale: SILVER NITRATE

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### SEZIONE 11: Informazioni tossicologiche

· **11.1 Informazioni sugli effetti tossicologici**

- **Tossicità acuta**  
Letale se ingerito.

· **Valori LD/LC50 rilevanti per la classificazione:**

7761-88-8 nitrato di argento

Orale	LD50	50 mg/kg (mouse)
-------	------	------------------

- **Irritabilità primaria:**
- **Corrosione/irritazione cutanea**  
Provoca gravi ustioni cutanee e gravi lesioni oculari.
- **Lesioni oculari gravi/irritazioni oculari gravi**  
Provoca gravi lesioni oculari.
- **Sensibilizzazione respiratoria o cutanea**  
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione)**
- **Mutagenicità delle cellule germinali**  
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Cancerogenicità** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Tossicità per la riproduzione** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione singola**  
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione ripetuta**  
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Pericolo in caso di aspirazione** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

### SEZIONE 12: Informazioni ecologiche

- **12.1 Tossicità**
- **Tossicità acquatica:** Non sono disponibili altre informazioni.
- **12.2 Persistenza e degradabilità** Non sono disponibili altre informazioni.
- **12.3 Potenziale di bioaccumulo** Non sono disponibili altre informazioni.
- **12.4 Mobilità nel suolo** Non sono disponibili altre informazioni.
- **Effetti tossici per l'ambiente:**
- **Osservazioni:** Molto tossico per i pesci.
- **Ulteriori indicazioni in materia ambientale:**
- **Ulteriori indicazioni:**  
Pericolosità per le acque classe 3 (D) (Classif. secondo le liste): molto pericoloso  
Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature, anche in piccole dosi.  
Non immettere il prodotto non diluito o non neutralizzato nelle acque di scarico e nei canali di raccolta.  
Pericolo per le acque potabili anche in caso di perdite nel sottosuolo di quantità minime di prodotto.  
Tossico per pesci e plancton.  
Molto tossico per gli organismi acquatici
- **12.5 Risultati della valutazione PBT e vPvB**
- **PBT:** Non applicabile.
- **vPvB:** Non applicabile.
- **12.6 Altri effetti avversi** Non sono disponibili altre informazioni.

(continua a pagina 7)

**Scheda di dati di sicurezza**  
ai sensi del regolamento 1907/2006/CE, Articolo 31

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### SEZIONE 13: Considerazioni sullo smaltimento

- **13.1 Metodi di trattamento dei rifiuti**
- **Consigli:** Non smaltire il prodotto insieme ai rifiuti domestici Non immettere nelle fognature.
- **Imballaggi non puliti:**
- **Consigli:** Smaltimento in conformità con le disposizioni amministrative.
- **Detergente consigliato:** Acqua eventualmente con l'aggiunta di detersivi.

### SEZIONE 14: Informazioni sul trasporto

- |  |  |
|--|--|
| · <b>14.1 Numero ONU</b><br>· <b>ADR, IMDG, IATA</b>   | UN1493   |
| · <b>14.2 Nome di spedizione dell'ONU</b><br>· <b>ADR</b><br><br>· <b>IMDG, IATA</b>   | 1493 NITRATO DI ARGENTO, PERICOLOSO PER L'AMBIENTE<br>SILVER NITRATE   |
| · <b>14.3 Classi di pericolo connesso al trasporto</b><br>· <b>ADR</b>   |  |
|  |  |
| · <b>Classe</b><br>· <b>Etichetta</b>  | 5.1 Materie comburenti<br>5.1  |
| · <b>IMDG, IATA</b>  |  |
|  |  |
| · <b>Class</b><br>· <b>Label</b>   | 5.1 Materie comburenti<br>5.1  |
| · <b>14.4 Gruppo di imballaggio</b><br>· <b>ADR, IMDG, IATA</b>  | II   |
| · <b>14.5 Pericoli per l'ambiente:</b><br>· <b>Marcatura speciali (ADR):</b>   | Simbolo (pesce e albero)   |
| · <b>14.6 Precauzioni speciali per gli utilizzatori</b><br>· <b>Numero Kemler:</b><br>· <b>Numero EMS:</b><br>· <b>Segregation groups</b><br><br>· <b>Stowage Category</b> | Attenzione: Materie comburenti<br>50<br>5.1-06<br>Heavy metals and their salts (including their organometallic compounds)<br>A |
| · <b>14.7 Trasporto di rinfuse secondo l'allegato II di MARPOL ed il codice IBC</b>  | Non applicabile.   |

(continua a pagina 8)

IT

**Scheda di dati di sicurezza**  
ai sensi del regolamento 1907/2006/CE, Articolo 31

Stampato il: 31.10.2017

Revisione: 31.10.2017

**Denominazione commerciale: SILVER NITRATE**

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**· Trasporto/ulteriori indicazioni:****· ADR****· Quantità limitate (LQ)**

1 kg

**· Quantità esenti (EQ)**

Codice: E2

Quantità massima netta per imballaggio interno: 30 g

Quantità massima netta per imballaggio esterno: 500 g

**· Categoria di trasporto**

2

**· Codice di restrizione in galleria**

E

**· IMDG****· Limited quantities (LQ)**

1 kg

**· Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 500 g

**· UN "Model Regulation":**UN 1493 NITRATO DI ARGENTO, 5.1, II, PERICOLOSO  
PER L'AMBIENTE**SEZIONE 15: Informazioni sulla regolamentazione****· 15.1 Disposizioni legislative e regolamentari su salute, sicurezza e ambiente specifiche per la sostanza o la miscela****· Direttiva 2012/18/UE****· Sostanze pericolose specificate - ALLEGATO I** La sostanza non è contenuta**· Categoria Seveso**

H2 TOSSICITÀ ACUTA

P8 LIQUIDI E SOLIDI COMBURENTI

E1 Pericoloso per l'ambiente acquatico

**· Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia inferiore 50 t****· Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia superiore 200 t****· 15.2 Valutazione della sicurezza chimica:** Una valutazione della sicurezza chimica non è stata effettuata.**SEZIONE 16: Altre informazioni**

I dati sono riportati sulla base delle nostre conoscenze attuali, non rappresentano tuttavia alcuna garanzia delle caratteristiche del prodotto e non motivano alcun rapporto giuridico contrattuale.

**· Abbreviazioni e acronimi:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Ox. Sol. 2: Solidi comburenti – Categoria 2

Acute Tox. 2: Tossicità acuta – Categoria 2

Skin Corr. 1B: Corrosione/irritazione della pelle – Categoria 1B

Eye Dam. 1: Gravi lesioni oculari/irritazione oculare – Categoria 1

Aquatic Acute 1: Pericoloso per l'ambiente acquatico - pericolo acuto per l'ambiente acquatico – Categoria 1

Aquatic Chronic 1: Pericoloso per l'ambiente acquatico - pericolo a lungo termine per l'ambiente acquatico – Categoria 1

# 물질안전보건자료 GHS에 따라

기압점: 2017.10.31

개정: 2017.10.31

## 1 화학제품과 회사에 관한 정보

- **제품 식별자**
- **제품명:** SILVER NITRATE
- **상품번호:** 21050, 21052, 21052-SP
- **CAS-번호**  
7761-88-8
- **EC 의번호:**  
231-853-9
- **색인 번호:**  
047-001-00-2
- **해당 순물질이나 혼합물의 관련 하위용도 및 사용금지용도** 추가적인 정보가 존재하지 않습니다.
- **제품의 권고 용도와 사용상의 제한:** 실험실 화학품
- **안전데이터표(Safety Data Sheet)내 공급업체 관련 상세 정보**
- **제조사/수입자/유통업자 정보:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Samchang Commercial Co., Ltd.**  
Yeo Eui Do  
PO Box 1110  
Seoul, Korea  
Tel: 82 2 703 3040  
Fax: 82 2 717 3298
- **추가적인 정보 획득 가능:** Product safety department
- **비상연락 전화번호:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 유해성·위험성

· **순물질 또는 혼합물의 분류**



회오리 화염

산화성 고체 - 구분 2

H272 화재를 강렬하게 함: 산화제



두개골과 대퇴골

급성 독성 - 경구 - 구분 2

H300 삼키면 치명적임



부식

피부 부식성/피부 자극성 - 구분 1 H314 피부에 심한 화상과 눈 손상을 일으킴

심한 눈 손상성/눈 자극성 - 구분 1 H318 눈에 심한 손상을 일으킴

(2 쪽에 계속)

# 물질안전보건자료

## GHS에 따라

기압점: 2017.10.31

개정: 2017.10.31

**제품명: SILVER NITRATE**

(1 쪽부터계속)



환경

수생환경 유해성 - 급성 1  
수생환경 유해성 - 만성 1

H400 수생생물에 매우 유독함  
H410 장기적인 영향에 의해 수생생물에게 매우 유독함

- 라벨표기 요소
- GHS 라벨 요소
- 그림문자



GHS03   GHS05   GHS06   GHS09

- 신호어 위험
- 상표상에명확히위험성이표시된성분:  
silver nitrate
- 유해.위험 문구  
화재를 강렬하게 함: 산화제  
삼키면 치명적임  
피부에 심한 화상과 눈 손상을 일으킴  
장기적인 영향에 의해 수생생물에게 매우 유독함
- 예방조치 문구  
가연성 물질.과혼합되지 않도록 조치하십시오.  
삼켰을 시: 즉시 독성물질센터/병원 연락 필요.  
피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗으시오. 피부를 물로 씻으시오/샤워하십시오.  
눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면콘택트렌즈를 제거하십시오. 계속 씻으시오.  
(라벨 참조) 처치를 하시오.  
잠금장치가 있는 저장장소에 저장 하시오.  
현지/지역/국가/국제 규정에 따라서 내용물/용기 노출
- 기타 유해성
- PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과
- PBT(잔류성, 생물농축성, 독성 물질): 해당사항 없음.
- vPvB(고 잔류성, 고 생물농축성 물질): 해당사항 없음.

### 3 구성성분의 명칭 및 함유량

- 화학적 특성: 화학물질
- CAS-번호표시  
7761-88-8 silver nitrate
- 식별 번호
- EC 의번호: 231-853-9
- 색인 번호: 047-001-00-2

### 4 응급조치 요령

- 응급조치요령 내용
- 일반적 정보:  
이 제품에 의해 오염된 의상은 즉시 제거한다.

(3 쪽에계속)



# 물질안전보건자료

## GHS에 따라

기압점: 2017.10.31

개정: 2017.10.31

**제품명: SILVER NITRATE**

(2 쪽부터계속)

- 불규칙적인 호흡이나 호흡정지상태에서는 인공 호흡을 실시한다.
- **흡입했을 때:** 환자가 의식을 잃었을 경우에는 안전한 자세에서 환자를 운반한다.
- **피부에 접촉했을 때:** 즉시 물과 비누로 씻고 잘 행군다.
- **눈에 들어갔을 때:** 흐르는 물에 눈을 몇분동안 씻어내고 나서, 의사와 상담한다
- **먹었을 때:** 구토를 유발시키지 않는다. 즉시 의료진의 도움을 구한다.  
물을 충분히 마시고 신선한 공기를 쐬다. 즉시 의사의 도움을 구한다.
- **기타 의사의 주의사항:**
- **가장 중요한 급·만성 증상 및 영향** 추가적인 정보가 존재하지 않습니다.
- **즉각적인 의료처치 및 특별치료가 필요함을 시사하는 징후** 추가적인 정보가 존재하지 않습니다.

### 5 폭발·화재시 대처방법

- **소화제**
- **적절한 소화제:** 주변 환경에 맞는 화재 진화방법을 사용한다.
- **본 화학물질이나 혼합물에서 발생하는 특별 유해성** 추가적인 정보가 존재하지 않습니다.
- **소방관에 대한 권고사항**
- **화재 진압 시 착용할 보호구 및 예방조치:** 특별한 조치가 필요없음.

### 6 누출 사고 시 대처방법

- **개인적 예방조치, 보호장비 및 응급처치 절차** 안전장비 착용하고, 무방비의 사람은 격리시킨다.
- **환경 관련 예방조치:**  
하천이나 하수로 유입되었을 경우 해당 관청에 보고한다.  
하수도망/해수면위의물/지하수로도 달하지 않게 한다.
- **밀폐 및 정화 방법과 소재:**  
중성제를 사용한다.  
항목 13에 따라 오염된 물질을 쓰레기로 처분한다.  
충분한 환기가 되도록 한다.
- **타 섹션 참조**  
안전 관리에 대한 정보는 제7 장을 참고하십시오.  
개인 보호 장비에 대한 정보는 제8 장을 참고하십시오.  
쓰레기 처리에 대한 정보는 제13 장을 참고하십시오.

### 7 취급 및 저장방법

- **취급:**
- **안전 취급을 위한 예방조치** 철저한 먼지 제거.
- **화재 및 폭발 사고 예방대책에 관한 정보:** 특별한 조치가 필요없음.
- **혼합 위험성 등 안전 저장 조건**
- **보관:**
- **안전한 저장 방법:** 특별한 요구사항이 없음.
- **하나의 공동 보관 시설에 대한 보관 관련 정보:** 필요없음
- **보관 조건에 관한 추가적인 정보:** 용기를 새지 않게 밀폐한 채 보관한다.
- **구체적 최종 사용자** 추가적인 정보가 존재하지 않습니다.

### 8 누출방지 및 개인보호구

- **첨단시설 디자인에 대한 추가정보:** 더 이상 의 자료는 없음. 항목 7을 참고하십시오.

(4 쪽에 계속)

# 물질안전보건자료 GHS에 따라

기압점: 2017.10.31

개정: 2017.10.31

**제품명: SILVER NITRATE**

(3 쪽부터계속)

· 통제 변수

· 화학물질의 노출기준, 생물학적 노출기준 등:

7761-88-8 silver nitrate

TLV (KR)	장기간의값: 0.01 mg/m <sup>3</sup> as Ag
IOELV (EU)	장기간의값: 0.01 mg/m <sup>3</sup> as Ag
PEL (US)	장기간의값: 0.01 mg/m <sup>3</sup> as Ag
REL (US)	장기간의값: 0.01 mg/m <sup>3</sup> as Ag
TLV (US)	장기간의값: 0.01 mg/m <sup>3</sup> as Ag

· 추가 정보: 제조할 당시에 유효한 목록을 기초로 사용했다.

· 노출 통제

· 개인 보호구

· 일반적보호조치및위생조치:

- 식료품, 음료수와 사료로부터 멀리 떨어져 두어 놓는다.
- 더러워진 옷이나 음료수가 묻은 옷은 즉시 탈의한다.
- 휴식 전이나 작업이 끝날때마다 손을 씻는다.
- 눈과의 접촉을 피한다.
- 눈과 피부와의 접촉은 피한다.

· 호흡기 보호: 필요없음.

· 손 보호:



보호용 장갑

장갑재질은제품 / 원료 / 조제를투과시키지않아야하고, 내구성이있어야한다.  
테스트를 하지않았기 때문에 제품 / 조제 / 화학 혼합 물에 적합한 장갑재질에 대한 추천이 없다.  
투과 시간, 침투율 과 저하를 고려해서 장갑 재료를 선택한다.

· 장갑의재료

적합한장갑의선택은재질차이뿐아니라품질기준의차이도 고려하여이루어져야 하고제조업자에따라서도다르게선정되어야한다.

· 장갑 재료 의 투과 시간 정확한관통시간은보호장갑제조자에 의하여인지되고, 준수되어야한다.

· 눈 보호:



확조이는보안경

## 9 물리화학적 특성

· 기본 물리 및 화학적 특성에 대한 정보

· 일반정보

· 외형

물리적 상태:	수정가루
색:	하얀

(5 쪽에계속)

# 물질안전보건자료

## GHS에 따라

기압점: 2017.10.31

개정: 2017.10.31

**제품명: SILVER NITRATE**

(4 쪽부터계속)

· 냄새:	무취의
· 후각역치	알맞지않다.
· pH:	해당사항 없음.
· 상태변화 녹는점/어는점:	210 °C
초기 끓는점과 끓는점 범위:	444 °C
· 인화점:	해당사항 없음.
· 인화성(고체, 기체):	가연성물질과 접촉할 경우의 화재위험
· 점화온도:	
분해 온도:	알맞지않다.
· 자기점화:	알맞지않다.
· 폭발위험:	이제품은폭발위험성이없다
· 인화 또는 폭발 범위의 상한/하한 아래로:	알맞지않다.
위로:	알맞지않다.
· 증기압:	해당사항 없음.
· 밀도 의경우 20 °C:	4.35 g/cm <sup>3</sup>
· 비중:	알맞지않다.
· 증기밀도:	해당사항 없음.
· 증발 속도:	해당사항 없음.
· 용해도: 물 의경우 20 °C:	2.192 g/l
· n 옥탄올/물 분배계수:	알맞지않다.
· 점도: 역학성:	해당사항 없음.
동점성:	해당사항 없음.
· 용매내용물 유기용매:	0.0 %
VOC (EU)	0.00 %
· 기타 정보	추가적인 정보가 존재하지 않습니다.

### 10 안정성 및 반응성

- 반응성 추가적인 정보가 존재하지 않습니다.
- 화학적 안정성
- 화학적 안정성 및 유해 반응의 가능성 / 피해야 할 조건: 규정에따라사용할경우해체는없다
- 유해반응 가능성 위험한 반응으로는알려지지않았다.
- 피해야 할 조건 추가적인 정보가 존재하지 않습니다.
- 혼합 금지 물질: 추가적인 정보가 존재하지 않습니다.
- 유해분해물질: 위험성있는분해물들은알려지지않았다.

KR

(6 쪽에계속)

# 물질안전보건자료

## GHS에 따라

기압점: 2017.10.31

개정: 2017.10.31

**제품명: SILVER NITRATE**

(5 쪽부터계속)

### 11 독성에 관한 정보

- 독성학적 영향에 대한 정보
- 급성 독성:

· LD/LC50-수치에 따른 분류:

7761-88-8 silver nitrate

구강의	LD50	50 mg/kg (mouse)
-----	------	------------------

- 일차적 자극 효과:
- 피부 부식성 또는 자극성: 피부와점막에강한부식작용.
- 심한 눈 손상 또는 자극성: 강한부식작용  
심각한안구상처의위험이있는강한자극
- 감각화: 민감한영향이없는것으로알려져있다.
- 추가적인 독성에 관한 정보:  
삼킬경우식도나위등의내장기관벽에상처를주는위험과 마찬가지로입 주변이나구강에강한부식작용을한다

### 12 환경에 미치는 영향

- 독성
- 수생독성: 추가적인 정보가 존재하지 않습니다.
- 지속성 및 분해성 추가적인 정보가 존재하지 않습니다.
- 환경 시스템에서의 행동:
- 생물농축 잠재성 추가적인 정보가 존재하지 않습니다.
- 토양내 이동성 추가적인 정보가 존재하지 않습니다.
- 생태독성:
- 의견: 어류 에 매우 독성임
- 추가적인 생태학 정보:
- 일반 특징:  
수질오염등급 3 (목록분류): 심하게수질오염이된 지하수나, 하천으로또는하수도망에도달하지않게한다. 역시극소수의양이라도안된다. 희석시키지않은채또는중화시키지않은채하수도나배수로에도달하지않게해야한다. 지하수로아주미세한양이유입되었을 경우엔이미식수오염상태이다 하천에서는역시물고기나플랑크톤게는독성이있다. 물속의유기체에아주독이되는것
- PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과
- PBT(잔류성, 생물농축성, 독성 물질): 해당사항 없음.
- vPvB(고 잔류성, 고 생물농축성 물질): 해당사항 없음.
- 기타 부작용 추가적인 정보가 존재하지 않습니다.

### 13 폐기시 주의사항

- 폐기물 처리 방법
- 권고: 생활쓰레기와함께처리되어서는안된다. 하수도망으로유입되어서는안된다.
- 비위생적 포장:
- 권고: 당국의지침에입각한쓰레기처리.
- 추천 세정제: 경우에따라서세제가첨가된물

기압점: 2017.10.31

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제품명: SILVER NITRATE

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**14 운송에 필요한 정보**

· 유엔 번호 · ADR, IMDG, IATA	UN1493
· UN 적정 선적명 · ADR · IMDG, IATA	1493 SILVER NITRATE, ENVIRONMENTALLY HAZARDOUS SILVER NITRATE
· 교통 위험 클래스 · ADR  · 등급 · 위험물 라벨	5.1 인화성이 (산화하는) 있는것에영향을주는물질 5.1
· IMDG, IATA  · Class · Label	5.1 인화성이 (산화하는) 있는것에영향을주는물질 5.1
· 용기등급 · ADR, IMDG, IATA	II
· 환경적 유해물질: · 특수 마킹 (ADR):	심벌 (물고기와 나무)
· 이용자 특별 예방조치 · 위험 코드: · EMS-번호: · Segregation groups · Stowage Category	경고: 인화성이 (산화하는) 있는것에영향을주는물질 50 5.1-06 Heavy metals and their salts (including their organometallic compounds) A
· MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송	해당사항 없음.
· 운 송/추가 정보: · ADR · 한정 수량 (LQ) · Excepted quantities (EQ) · 운송 구분 · 터널 제한 코드	1 kg Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g 2 E

(8 쪽에계속)

# 물질안전보건자료 GHS에 따라

기압점: 2017.10.31

개정: 2017.10.31

**제품명: SILVER NITRATE**

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<ul style="list-style-type: none"> <li>· IMDG</li> <li>· Limited quantities (LQ)</li> <li>· Excepted quantities (EQ)</li> </ul>	<p>1 kg Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g</p>
<ul style="list-style-type: none"> <li>· UN "모범 규제":</li> </ul>	<p>UN 1493 SILVER NITRATE, 5.1, II, ENVIRONMENTALLY HAZARDOUS</p>

## 15 법적 규제현황

· 산업안전보건법에 의한 규제:

· 제조 등 금지물질:

성분이포함되어있지않다

· 허가대상물질:

성분이포함되어있지않다

· 관리대상유해물질:

성분이포함되어있다

· 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률

· Korean Existing Chemical Inventory

KE-31281

· 화학물질관리법

· 사고대비물질

성분이포함되어있지않다

· 금지물질

성분이포함되어있지않다

· 제한물질

성분이포함되어있지않다

· 유독물질

성분이포함되어있다

· 허가물질

성분이포함되어있다

· GHS 라벨 요소

본 화학물질은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.

· 그림문자



GHS03   GHS05   GHS06   GHS09

· 신호어 위험

· 상표상에명확히위험성이표시된성분:

silver nitrate

· 유해.위험 문구

화제를 강렬하게 함: 산화제

(9 쪽에계속)

# 물질안전보건자료

## GHS에 따라

기압점: 2017.10.31

개정: 2017.10.31

**제품명: SILVER NITRATE**

(8 쪽부터계속)

삼키면 치명적임  
 피부에 심한 화상과 눈 손상을 일으킴  
 장기적인 영향에 의해 수생생물에게 매우 유독함

· **예방조치 문구**

가연성 물질. 과혼합되지 않도록 조치하십시오.  
 삼켰을 시: 즉시 독성물질센터/병원 연락 필요.  
 피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗으십시오. 피부를 물로 씻으십시오/샤워하십시오.  
 눈에 묻으면 몇 분간 물로 조심해서 씻으십시오. 가능하면 콘택트렌즈를 제거하십시오. 계속 씻으십시오.  
 (라벨 참조) 처치를 하십시오.

잠금장치가 있는 저장장소에 저장 하십시오.

현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

· **화학물질 안전성 평가:** 화학물질 안전성 평가가 수행되지 않음

### 16 그 밖의 참고사항

이 보고는 우리 지식에 대한 오늘 날의 상태에 대하여 평가하고 있다, 하지만 이 보고서는 생산 특성에 관한 보증은 기술하지 않았으며 계약적인 법률 관계에 기반을 두고 있지 않다

- **최초 작성일자:** 2017.10.31
- **개정 횟수 및 최종 개정일자:** 1 / 2017.10.31
- **약어와 두문자어:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 31.10.2017

Revisión: 31.10.2017

### SECCIÓN 1: Identificación de la sustancia o la mezcla y de la sociedad o la empresa

#### · 1.1 Identificador del producto

· **Nombre comercial:** SILVER NITRATE

· **Número del artículo:** 21050, 21052, 21052-SP

· **Número CAS:**

7761-88-8

· **Número CE:**

231-853-9

· **Número de clasificación:**

047-001-00-2

· **1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados**

No existen más datos relevantes disponibles.

· **Utilización del producto / de la elaboración** Sustancias químicas de laboratorio

· **1.3 Datos del proveedor de la ficha de datos de seguridad**

· **Fabricante/distribuidor:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: sgkcck@aol.com

www.emsdiasum.com

Aname

C/ Perez Galdos no. 2

28693 Quijorna

Madrid, Spain

Tel: +34.91.816.89.50

Fax: +34.91.816.85.94

email: ventas@aname.es

· **Área de información:** Product safety department

· **1.4 Teléfono de emergencia:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

### SECCIÓN 2: Identificación de los peligros

· **2.1 Clasificación de la sustancia o de la mezcla**

· **Clasificación con arreglo al Reglamento (CE) n° 1272/2008**



GHS03 llama sobre un círculo

Ox. Sol. 2

H272 Puede agravar un incendio; comburente.



GHS06 calavera y tibias cruzadas

Acute Tox. 2

H300 Mortal en caso de ingestión.



GHS05 corrosión

Skin Corr. 1B

H314 Provoca quemaduras graves en la piel y lesiones oculares graves.

Eye Dam. 1

H318 Provoca lesiones oculares graves.

( se continua en página 2 )



# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 31.10.2017

Revisión: 31.10.2017

Nombre comercial: SILVER NITRATE

( se continua en página 1 )



GHS09 medio ambiente

Aquatic Acute 1 H400 Muy tóxico para los organismos acuáticos.

Aquatic Chronic 1 H410 Muy tóxico para los organismos acuáticos, con efectos nocivos duraderos.

### · 2.2 Elementos de la etiqueta

#### · Etiquetado con arreglo al Reglamento (CE) n° 1272/2008

La sustancia se ha clasificado y etiquetado de conformidad con el reglamento CLP.

#### · Pictogramas de peligro



GHS03



GHS05



GHS06



GHS09

#### · Palabra de advertencia Peligro

#### · Componentes peligrosos a indicar en el etiquetaje:

nitrato de plata

#### · Indicaciones de peligro

H272 Puede agravar un incendio; comburente.

H300 Mortal en caso de ingestión.

H314 Provoca quemaduras graves en la piel y lesiones oculares graves.

H410 Muy tóxico para los organismos acuáticos, con efectos nocivos duraderos.

#### · Consejos de prudencia

P221 Tomar todas las precauciones necesarias para no mezclar con materias combustibles.

P301+P310 EN CASO DE INGESTIÓN: Llamar inmediatamente a un CENTRO DE TOXICOLOGÍA/médico.

P303+P361+P353 EN CASO DE CONTACTO CON LA PIEL (o el pelo): Quitar inmediatamente todas las prendas contaminadas. Aclararse la piel con agua/ducharse.

P305+P351+P338 EN CASO DE CONTACTO CON LOS OJOS: Aclarar cuidadosamente con agua durante varios minutos. Quitar las lentes de contacto, si lleva y resulta fácil. Seguir aclarando.

P321 Se necesita un tratamiento específico (ver en esta etiqueta).

P405 Guardar bajo llave.

P501 Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.

### · 2.3 Otros peligros

#### · Resultados de la valoración PBT y mPmB

· PBT: No aplicable.

· mPmB: No aplicable.

## SECCIÓN 3: Composición/información sobre los componentes

### · 3.1 Caracterización química: Sustancias

#### · Denominación N° CAS

7761-88-8 nitrato de plata

#### · Número(s) de identificación

· Número CE: 231-853-9

· Número de clasificación: 047-001-00-2

ES

( se continua en página 3 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 31.10.2017

Revisión: 31.10.2017

Nombre comercial: SILVER NITRATE

( se continua en página 2 )

### SECCIÓN 4: Primeros auxilios

- **4.1 Descripción de los primeros auxilios**
- **Instrucciones generales:**
  - *Quitarse de inmediato toda prenda contaminada con el producto.*
  - *En caso de respiración irregular o apnea (paro respiratorio), hágase la respiración artificial.*
- **En caso de inhalación del producto:**
  - *Las personas desmayadas deben tenderse y transportarse de lado con la suficiente estabilidad.*
- **En caso de contacto con la piel:** *Lavar inmediatamente con agua y jabón y enjuagar bien.*
- **En caso de con los ojos:**
  - *Limpicar los ojos abiertos durante varios minutos con agua corriente y consultar un médico.*
- **En caso de ingestión:**
  - *No provocar el vómito y solicitar asistencia médica inmediata.*
  - *Beber mucha agua a respirar aire fresco. Solicitar asistencia médica inmediatamente.*
- **4.2 Principales síntomas y efectos, agudos y retardados** *No existen más datos relevantes disponibles.*
- **4.3 Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente** *No existen más datos relevantes disponibles.*

### SECCIÓN 5: Medidas de lucha contra incendios

- **5.1 Medios de extinción**
- **Sustancias extintoras apropiadas:** *Combatir los incendios con medidas adaptados al ambiente circundante.*
- **5.2 Peligros específicos derivados de la sustancia o la mezcla** *No existen más datos relevantes disponibles.*
- **5.3 Recomendaciones para el personal de lucha contra incendios**
- **Equipo especial de protección:** *No se requieren medidas especiales.*

### SECCIÓN 6: Medidas en caso de vertido accidental

- **6.1 Precauciones personales, equipo de protección y procedimientos de emergencia**
  - *Llevar puesto equipo de protección. Mantener alejadas las personas sin protección.*
- **6.2 Precauciones relativas al medio ambiente:**
  - *Al penetrar en las aguas o en el alcantarillado, avisar a las autoridades pertinentes.*
  - *Evitar que penetre en la canalización /aguas de superficie /agua subterráneas.*
- **6.3 Métodos y material de contención y de limpieza:**
  - *Utilizar un neutralizador.*
  - *Desechar el material contaminado como vertido según item 13.*
  - *Asegurar suficiente ventilación.*
- **6.4 Referencia a otras secciones**
  - *Ver capítulo 7 para mayor información sobre una manipulación segura.*
  - *Ver capítulo 8 para mayor información sobre el equipo personal de protección.*
  - *Para mayor información sobre cómo desechar el producto, ver capítulo 13.*

### SECCIÓN 7: Manipulación y almacenamiento

- **7.1 Precauciones para una manipulación segura** *Desempolvar cuidadosamente.*
- **Prevención de incendios y explosiones:** *No se requieren medidas especiales.*
- **7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**
- **Almacenamiento:**
  - **Exigencias con respecto al almacén y los recipientes:** *No se requieren medidas especiales.*
  - **Normas en caso de un almacenamiento conjunto:** *No es necesario.*

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- **Indicaciones adicionales sobre las condiciones de almacenamiento:**  
Mantener el recipiente cerrado herméticamente.
- **7.3 Usos específicos finales** No existen más datos relevantes disponibles.

### SECCIÓN 8: Controles de exposición/protección individual

- **Instrucciones adicionales para el acondicionamiento de instalaciones técnicas:**  
Sin datos adicionales, ver punto 7.

#### · 8.1 Parámetros de control

- **Componentes con valores límite admisibles que deben controlarse en el puesto de trabajo:**

7761-88-8 nitrato de plata

LEP	Valor de larga duración: 0,01 mg/m <sup>3</sup> c, VLI, como Ag
-----	--

- **Indicaciones adicionales:** Como base se han utilizado las listas vigentes en el momento de la elaboración.

#### · 8.2 Controles de la exposición

##### · Equipo de protección individual:

##### · Medidas generales de protección e higiene:

Mantener alejado de alimentos, bebidas y alimentos para animales.

Quitarse de inmediato la ropa ensuciada o impregnada.

Lavarse las manos antes de las pausas y al final del trabajo.

Evitar el contacto con los ojos.

Evitar el contacto con los ojos y la piel.

- **Protección respiratoria:** No es necesario.

##### · Protección de manos:



Guantes de protección

El material del guante deberá ser impermeable y resistente al producto / sustancia / preparado.

Ante la ausencia de tests específicos, no se puede recomendar ningún material específico para guantes de protección contra el producto / preparado / mezcla de sustancias químicas.

Selección del material de los guantes en función de los tiempos de rotura, grado de permeabilidad y degradación.

##### · Material de los guantes

La elección del guante adecuado no depende únicamente del material, sino también de otras características de calidad, que pueden variar de un fabricante a otro.

##### · Tiempo de penetración del material de los guantes

El tiempo de resistencia a la penetración exacto deberá ser pedido al fabricante de los guantes. Este tiempo debe ser respetado.

##### · Protección de ojos:



Gafas de protección herméticas

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### SECCIÓN 9: Propiedades físicas y químicas

#### · 9.1 Información sobre propiedades físicas y químicas básicas

##### · Datos generales

##### · Aspecto:

Forma: Polvo cristalino

Color: Blanco

· Olor: Inodoro

· Umbral olfativo: No determinado.

· valor pH: No aplicable.

##### · Cambio de estado

Punto de fusión/punto de congelación: 210 °C

Punto inicial de ebullición e intervalo de ebullición: 444 °C

· Punto de inflamación: No aplicable.

· Inflamabilidad (sólido, gas): Peligro de fuego en contacto con materias combustibles.

##### · Temperatura de ignición:

Temperatura de descomposición: No determinado.

· Temperatura de auto-inflamación: No determinado.

· Propiedades explosivas: El producto no es explosivo.

##### · Límites de explosión:

Inferior: No determinado.

Superior: No determinado.

· Presión de vapor: No aplicable.

· Densidad a 20 °C: 4,35 g/cm<sup>3</sup>

· Densidad relativa: No determinado.

· Densidad de vapor: No aplicable.

· Tasa de evaporación: No aplicable.

· Solubilidad en / miscibilidad con agua a 20 °C: 2,192 g/l

· Coeficiente de reparto: n-octanol/agua: No determinado.

##### · Viscosidad:

Dinámica: No aplicable.

Cinemática: No aplicable.

##### · Concentración del disolvente:

Disolventes orgánicos: 0,0 %

VOC (CE) 0,00 %

· 9.2 Otros datos: No existen más datos relevantes disponibles.

### SECCIÓN 10: Estabilidad y reactividad

· 10.1 Reactividad: No existen más datos relevantes disponibles.

#### · 10.2 Estabilidad química

· Descomposición térmica / condiciones que deben evitarse: No se descompone al emplearse adecuadamente.

· 10.3 Posibilidad de reacciones peligrosas: No se conocen reacciones peligrosas.

· 10.4 Condiciones que deben evitarse: No existen más datos relevantes disponibles.

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- **10.5 Materiales incompatibles:** No existen más datos relevantes disponibles.
- **10.6 Productos de descomposición peligrosos:** No se conocen productos de descomposición peligrosos.

### SECCIÓN 11: Información toxicológica

- **11.1 Información sobre los efectos toxicológicos**
- **Toxicidad aguda**  
Mortal en caso de ingestión.

- **Valores LD/LC50 (dosis letal /dosis letal = 50%) relevantes para la clasificación:**

7761-88-8 nitrato de plata

Oral	LD50	50 mg/kg (mouse)
------	------	------------------

- **Efecto estimulante primario:**
- **Corrosión o irritación cutáneas**  
Provoca quemaduras graves en la piel y lesiones oculares graves.
- **Lesiones o irritación ocular graves**  
Provoca lesiones oculares graves.
- **Sensibilización respiratoria o cutánea**  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)**
- **Mutagenicidad en células germinales**  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Carcinogenicidad** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad para la reproducción** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad específica en determinados órganos (STOT) – exposición única**  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad específica en determinados órganos (STOT) – exposición repetida**  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Peligro de aspiración** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

### SECCIÓN 12: Información ecológica

- **12.1 Toxicidad**
- **Toxicidad acuática:** No existen más datos relevantes disponibles.
- **12.2 Persistencia y degradabilidad** No existen más datos relevantes disponibles.
- **12.3 Potencial de bioacumulación** No existen más datos relevantes disponibles.
- **12.4 Movilidad en el suelo** No existen más datos relevantes disponibles.
- **Efectos ecotóxicos:**
- **Observación:** Muy tóxico para peces.
- **Indicaciones medioambientales adicionales:**
- **Indicaciones generales:**  
Nivel de riesgo para el agua 3 (clasificación de listas): muy peligroso para el agua  
No dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados, ni siquiera en pequeñas cantidades.  
En estado no diluido o no neutralizado, no verter en el alcantarillado o en otros sistemas de desagüe.  
Una cantidad ínfima vertida en el subsuelo ya representa un peligro para el agua potable.  
Vertido en aguas superficiales, también es tóxico para los peces y el plancton.  
muy tóxico para organismos acuáticos
- **12.5 Resultados de la valoración PBT y mPmB**
- **PBT:** No aplicable.
- **mPmB:** No aplicable.

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· 12.6 Otros efectos adversos No existen más datos relevantes disponibles.

### SECCIÓN 13: Consideraciones relativas a la eliminación

- 13.1 Métodos para el tratamiento de residuos
- **Recomendación:** No debe desecharse con la basura doméstica. No debe llegar al alcantarillado.
- **Embalajes sin limpiar:**
- **Recomendación:** Eliminar conforme a las disposiciones oficiales.
- **Producto de limpieza recomendado:** Agua, eventualmente añadiendo productos de limpieza.

### SECCIÓN 14: Información relativa al transporte

- |  |   |
|--|---|
| · 14.1 Número ONU  |   |
| · ADR, IMDG, IATA  | UN1493  |
| · 14.2 Designación oficial de transporte de las Naciones Unidas                        |   |
| · ADR  | 1493 NITRATO DE PLATA, PELIGROSO PARA EL MEDIO AMBIENTE                 |
| · IMDG, IATA   | SILVER NITRATE  |
| · 14.3 Clase(s) de peligro para el transporte  |   |
| · ADR  |   |
|     |   |
| · Clase  | 5.1 Materias comburentes  |
| · Etiqueta   | 5.1   |
| · IMDG, IATA   |   |
|     |   |
| · Class  | 5.1 Materias comburentes  |
| · Label  | 5.1   |
| · 14.4 Grupo de embalaje   |   |
| · ADR, IMDG, IATA  | II  |
| · 14.5 Peligros para el medio ambiente:  |   |
| · Marcado especial (ADR):  | Símbolo (pez y árbol)   |
| · 14.6 Precauciones particulares para los usuarios                                     | Atención: Materias comburentes  |
| · Número Kemler:   | 50  |
| · Número EMS:  | 5.1-06  |
| · Segregation groups   | Heavy metals and their salts (including their organometallic compounds) |
| · Stowage Category   | A   |
| · 14.7 Transporte a granel con arreglo al anexo II del Convenio MARPOL y el Código IBC | No aplicable.   |

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### · Transporte/datos adicionales:

#### · ADR

- **Cantidades limitadas (LQ)** 1 kg
- **Cantidades exceptuadas (EQ)** Código: E2  
Cantidad neta máxima por envase interior: 30 g  
Cantidad neta máxima por embalaje exterior: 500 g
- **Categoría de transporte** 2
- **Código de restricción del túnel** E

#### · IMDG

- **Limited quantities (LQ)** 1 kg
- **Excepted quantities (EQ)** Code: E2  
Maximum net quantity per inner packaging: 30 g  
Maximum net quantity per outer packaging: 500 g

- **"Reglamentación Modelo" de la UNECE:** UN 1493 NITRATO DE PLATA, 5.1, II, PELIGROSO PARA EL MEDIO AMBIENTE

## SECCIÓN 15: Información reglamentaria

- **15.1 Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**
- **Directiva 2012/18/UE**
- **Sustancias peligrosas nominadas - ANEXO I** No contiene la sustancia.
- **Categoría Seveso**  
H2 TOXICIDAD AGUDA  
P8 LÍQUIDOS Y SÓLIDOS COMBURENTES  
E1 Peligroso para el medio ambiente acuático
- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel inferior** 50 t
- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel superior** 200 t
- **15.2 Evaluación de la seguridad química:** Una evaluación de la seguridad química no se ha llevado a cabo.

## SECCIÓN 16: Otra información

Los datos se fundan en el estado actual de nuestros conocimientos, pero no constituyen garantía alguna de cualidades del producto y no generan ninguna relación jurídica contractual.

### · Abreviaturas y acrónimos:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 VOC: Volatile Organic Compounds (USA, EU)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative  
 Ox. Sol. 2: Sólidos comburentes – Categoría 2  
 Acute Tox. 2: Toxicidad aguda – Categoría 2  
 Skin Corr. 1B: Corrosión o irritación cutáneas – Categoría 1B  
 Eye Dam. 1: Lesiones oculares graves o irritación ocular – Categoría 1  
 Aquatic Acute 1: Peligroso para el medio ambiente acuático - peligro acuático agudo – Categoría 1  
 Aquatic Chronic 1: Peligroso para el medio ambiente acuático - peligro acuático a largo plazo – Categoría 1