

## Safety data sheet according to UK REACH

Printing date 27.03.2025


Version number 24


Revision: 27.03.2025


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

- **1.1 Product identifier**
- **Trade name:** Silver nitrate
- **SDS number:** CH0106
- **CAS Number:**  
7761-88-8
- **EC number:**  
231-853-9
- **Index number:**  
047-001-00-2
- **Application of the substance / the mixture** Chemicals products for laboratory
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
CARLO ERBA REAGENTS  
Chaussée du Vexin  
Parc d'Affaires des Portes - BP616  
27106 VAL DE REUIL Cedex  
Téléphone: +33 (0)2 32 09 20 00  
Télécopie: +33 (0)2 32 09 20 20
- **Further information obtainable from:**  
Q.A / Normative  
email: MSDS\_CER-SDS@cer.dgroup.it
- **1.4 Emergency telephone number:**  
Ireland - Tel : 00 353 1 8092568 - 00 353 1 8379964 (24h/24)  
EU Tel : 112  
National Poisons Information Centre: +353 (1) 809 2166 (8.00 a.m. to 10.00 p.m. 7 days a week)  
Healthcare Professionals: +353 (1) 809 2566 (24 hour service)  
Members of the public seeking specific information on poisons should contact:  
In England and Wales: NHS 111 - dial 111  
In Scotland: NHS 24 - dial 111

### 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.
------------	------------------------------------
- 
GHS05 corrosion  

Met. Corr.1	H290 May be corrosive to metals.
Skin Corr. 1B	H314 Causes severe skin burns and 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 UK REACH

Printing date 27.03.2025

Version number 24

Revision: 27.03.2025

**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 GB CLP regulation.
- **Hazard pictograms**



GHS03    GHS05    GHS09

- **Signal word** *Danger*
- **Hazard statements**  
*H272 May intensify fire; oxidiser.*  
*H290 May be corrosive to metals.*  
*H314 Causes severe skin burns and eye damage.*  
*H410 Very toxic to aquatic life with long lasting effects.*
- **Precautionary statements**  
*P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.*  
*P280 Wear protective gloves / eye protection / face protection.*  
*P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.*  
*P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].*  
*P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.*  
*P310 Immediately call a POISON CENTER/doctor.*  
*P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
- **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**  
CAS: 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:**  
Remove immediately any clothing soiled by the product and wash with plenty of water. The rescuer has to be equipped with individual protection
- **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. Wash contaminated clothing before reuse.

(Contd. on page 3)

## Safety data sheet according to UK REACH

Printing date 27.03.2025

Version number 24

Revision: 27.03.2025

**Trade name: Silver nitrate**

(Contd. of page 2)

- *Seek immediate medical advice.*
- *If skin irritation continues, consult a doctor.*
- **After eye contact:** *Rinse opened eye for several minutes under running water. Then consult a doctor.*
- **After swallowing:**
  - *Drink plenty of water and provide fresh air.*
  - *Call for a doctor immediately.*
  - *Rinse out mouth and then drink plenty of water.*
- **Information for doctor:** *Show the doctor this Material Safety Data Sheet.*
- **4.2 Most important symptoms and effects, both acute and delayed** *Gastric or intestinal disorders*
- **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:**
  - *CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.*
  - *Use fire extinguishing methods suitable to surrounding conditions.*
- **For safety reasons unsuitable extinguishing agents:** *Water with full jet.*
- **5.2 Special hazards arising from the substance or mixture**
  - *In case of fire, the following can be released:*
  - *Nitrogen oxides (NO<sub>x</sub>)*
  - *In the absence of oxygen: Ammonia (NH<sub>3</sub>).*
- **5.3 Advice for firefighters**
- **Protective equipment:** *Do not inhale gases in case of fire or combustion.*
- **Additional information** *Keep receptacles cool with water spray.*

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
  - *Wear protective equipment. Keep unprotected persons away.*
  - *In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.*
  - *Ensure adequate ventilation*
- **6.2 Environmental precautions:**
  - *Inform respective authorities in case of seepage into water course or sewage system.*
  - *Do not allow to penetrate the ground/soil.*
  - *Do not allow to enter sewers/ surface or ground water.*
  - *In case of seepage into the ground inform responsible authorities.*
- **6.3 Methods and material for containment and cleaning up:**
  - *Pick up mechanically.*
  - *Ensure adequate ventilation.*
  - *Use neutralising agent.*
  - *Dispose contaminated material as waste according to section 13.*
  - *Provide suction extractors if dust is formed.*
- **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.*

GB

(Contd. on page 4)

## Safety data sheet according to UK REACH

Printing date 27.03.2025

Version number 24

Revision: 27.03.2025

Trade name: Silver nitrate

(Contd. of page 3)

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Thorough dedusting.  
Prevent formation of dust.  
Provide suction extractors if dust is formed.  
When diluting always pour product into water and not vice versa.
- **Information about fire - and explosion protection:** The product is not flammable.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Unsuitable material for receptacle: aluminium.  
Use polyethylene receptacles.  
Store in a well-ventilated place. Keep container tightly closed.  
Prevent any seepage into the ground.  
Use only receptacles specifically permitted for this substance/product.
- **Information about storage in one common storage facility:** Store away from flammable substances.
- **Further information about storage conditions:** None.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

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

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

**CAS: 7761-88-8 Silver nitrate**

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

- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures are to be adhered to when handling chemicals.  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Avoid contact with the eyes and skin.
- **Respiratory protection:**  
Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
- **Protection of hands:**  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation



Protective gloves

- Rubber gloves

- **Material of gloves**

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

(Contd. on page 5)

## Safety data sheet according to UK REACH

Printing date 27.03.2025

Version number 24

Revision: 27.03.2025

**Trade name: Silver nitrate**

(Contd. of page 4)

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

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.

Thin, disposable gloves in PVC or PE

· **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.

· **For the permanent contact gloves made of the following materials are suitable:**

The penetration time has to be at least 480 minutes

Nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.11$  mm

· **Eye protection:**



Tightly sealed goggles

· **Limitation and supervision of exposure into the environment**

The product must not be released into the environment.

In case of unintended release of the product: See section 6 of the Safety Data Sheet.

· **Risk management measures** Keep good industrial hygiene.

### SECTION 9: Physical and chemical properties

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

**Molecular weight** 169.87 g

· **Appearance:**

**Form:** Crystalline

**Colour:** Colourless

· **Odour:** Odourless

· **Odour threshold:** Not determined.

· **pH-value:** 3.5-5.5

· **Change in condition**

**Melting point/freezing point:** 212 °C

**Initial boiling point and boiling range:** 250-440 °C

· **Flash point:** Not applicable.

· **Flammability:** Product is not flammable.

· **Decomposition temperature:** Not determined.

· **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.

(Contd. on page 6)

## Safety data sheet according to UK REACH

Printing date 27.03.2025

Version number 24

Revision: 27.03.2025

Trade name: Silver nitrate

(Contd. of page 5)

- **Viscosity:**
- **Dynamic:** Not applicable.
- **Kinematic:** Not applicable.

- **9.2 Other information**
- **Molecular formula** Ag N O<sub>3</sub>

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** See 10.3
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**  
Reacts with various metals.  
Corrosive action on metals.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** Metals
- **10.6 Hazardous decomposition products:** Nitrogen oxides (NO<sub>x</sub>)

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

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

Oral	LD50	>2,000 mg/kg (rat)
------	------	--------------------

- **Primary irritant effect:**
- **Skin corrosion/irritation**  
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**  
Strong caustic effect.  
Causes severe skin burns and eye damage.
- **Ingestion:** It can be harmful if swallowed.
- **Inhalation:**  
Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Other information (about experimental toxicology):** No further relevant information available.
- **Target organ information**
- **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.

(Contd. on page 7)

## Safety data sheet according to UK REACH

Printing date 27.03.2025

Version number 24

Revision: 27.03.2025

**Trade name: Silver nitrate**



(Contd. of page 6)

- **Method**
- **Ecological information** Not 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
- **Remark:** Inhibition of bacterial flora
- **Additional ecological information:**
- **General notes:**  
*Water danger 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.  
 Reutilise if possible or contact a waste processors for recycling or safe disposal.*
- **Uncleaned packaging:**
- **Recommendation:**  
*Disposal must be made according to official regulations.  
 Packagings that may not be cleansed are to be disposed of in the same manner as the product.*
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### SECTION 14: Transport information

- **14.1 UN-Number**
- **DOT, ADR/RID, IMDG, IATA** UN1493
- **14.2 UN proper shipping name**
- **ADR/RID** 1493 SILVER NITRATE, ENVIRONMENTALLY HAZARDOUS
- **IMDG** SILVER NITRATE, MARINE POLLUTANT
- **IATA** Silver nitrate
- **14.3 Transport hazard class(es)**
- **ADR/RID**
- 

- **Class** 5.1 (O2) Oxidising substances.

(Contd. on page 8)

## Safety data sheet according to UK REACH

Printing date 27.03.2025

Version number 24

Revision: 27.03.2025

**Trade name: Silver nitrate**

(Contd. of page 7)

· **Label** 5.1

· **IMDG**



· **Class** 5.1 Oxidising substances.

· **Label** 5.1

· **IATA**



· **Class** 5.1 Oxidising substances.

· **Label** 5.1

· **14.4 Packing group**

· **ADR/RID, IMDG, IATA** II

· **14.5 Environmental hazards:** Environmentally hazardous substance, solid; Marine Pollutant

· **Marine pollutant:** No  
Symbol (fish and tree)

· **Special marking (ADR/RID):** Symbol (fish and tree)

· **14.6 Special precautions for user** Warning: Oxidising substances.

· **Hazard identification number (Kemler code):** 50

· **EMS Number:** F-A,S-Q

· **Segregation groups** (SGG7) 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/RID**

· **Excepted quantities (EQ):** E2

· **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 9)

## Safety data sheet according to UK REACH

Printing date 27.03.2025

Version number 24

Revision: 27.03.2025

**Trade name: Silver nitrate**

(Contd. of page 8)

· **UN "Model Regulation":** UN 1493 SILVER NITRATE, 5.1, II, ENVIRONMENTALLY HAZARDOUS

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **SARA Section 355 (extremely hazardous substances)** Substance is not listed.
- **SARA Section 313 (specific toxic chemical listings)** Substance is listed.
- **Prop 65 - Chemicals known to cause cancer** Substance is not listed.
- **Poisons Act**
- **Regulated explosives precursors** Substance is not listed.
- **Regulated poisons** Substance is not listed.
- **Reportable explosives precursors** Substance is not listed.
- **Reportable poisons** Substance is not listed.
- **Chemical safety assessment**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **Seveso category**
- **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
- **National regulations:**
- **Waterhazard class:** Water danger class 3 (Assessment by list): extremely hazardous for water.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has 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.

- **Department issuing SDS:** Q.A./Normative
- **Abbreviations and acronyms:**
- **RID:** Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
- **ICAO:** International Civil Aviation Organisation
- **RCR:** Risk Characterisation Ratio
- **ADR:** Accord relatif au transport international 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
- **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)
- **LC50:** Lethal concentration, 50 percent
- **LD50:** Lethal dose, 50 percent
- **PBT:** Persistent, Bioaccumulative and Toxic
- **vPvB:** very Persistent and very Bioaccumulative
- **ATE:** Acute toxicity estimate values
- **Ox. Sol. 2:** Oxidizing solids – Category 2
- **Met. Corr. 1:** Corrosive to metals – Category 1
- **Skin Corr. 1B:** Skin corrosion/irritation – Category 1B
- **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
- **Sources**
- **Globally Harmonized System, GHS**

(Contd. on page 10)

***Safety data sheet***  
***according to UK REACH***

Printing date 27.03.2025

Version number 24

Revision: 27.03.2025

***Trade name: Silver nitrate***

*ADR/RID, IMDG, IATA*

*PubChem : an open chemistry database at the National Institutes of Health (NIH)*

*ECHA : European CHemicals Agency*

*· \* Data compared to the previous version altered. .*

(Contd. of page 9)

GB

(Contd. on page 11)

## Safety data sheet according to UK REACH

Printing date 27.03.2025

Version number 24

Revision: 27.03.2025

**Trade name: Silver nitrate**

(Contd. of page 10)

### Annex: Exposure scenario

- **Short title of the exposure scenario**
- **Sector of Use** Industrial use.
- **Description of the activities / processes covered in the Exposure Scenario**  
See section 1 of the annex to the Safety Data Sheet.
- **Conditions of use** Customary application according to section 1.
- **Duration and frequency** 5 workdays/week.
- **Worker hrs** (full working shift).
- **Physical parameters**  
The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.
- **Physical state** Crystalline
- **Concentration of the substance in the mixture** Raw material.
- **Other operational conditions** Observe the general safety regulations when handling chemicals.
- **Other operational conditions affecting environmental exposure** Use only on hard ground.
- **Other operational conditions affecting worker exposure**  
Avoid contact with eyes.  
Avoid contact with the skin.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**  
Keep good industrial hygiene.  
Ensure that activities are executed by specialists or authorised personnel only.  
Persons, who tend to skin diseases or other hypersensitivity reactions of the skin, should not handle the product.  
Provide sufficient washing facilities.
- **Technical protective measures**  
Ensure good ventilation/exhaustion at the workplace.  
Any unavoidable deposit of dust must be regularly removed.
- **Personal protective measures**  
Do not inhale dust / smoke / mist.  
Avoid contact with the skin.  
Avoid contact with the eyes.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation  
Protective gloves  
Rubber gloves  
Tightly sealed goggles  
The usual precautionary measures are to be adhered to when handling chemicals.  
Detailed measures on hand protection according to Safety Data Sheet, section 8.  
Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
- **Environmental protection measures**
- **Water**  
Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.  
Do not allow to reach sewage system.
- **Soil** Prevent contamination of soil.
- **Notes** In case of unintended release of the product: See section 6 of the Safety Data Sheet.
- **Disposal measures** Ensure that waste is collected and contained.
- **Disposal procedures**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 12)

**Safety data sheet**  
**according to UK REACH**

Printing date 27.03.2025

Version number 24

Revision: 27.03.2025

**Trade name: Silver nitrate**

(Contd. of page 11)

- **Waste type** Partially emptied and uncleaned packaging
- **Exposure estimation**
- **Worker (inhalation) RCR 0.69**
- **Guidance for downstream users**

Whether the downstream user acts within the scope of the Exposure Scenario can be verified based on the information in sections 1 to 8.

Whether the downstream user uses the substance / the mixture within the scope of the Exposure Scenario can be determined by means of a technical assessment.

GB