

# Silver nitrate

## Safety Data Sheet

**S0536**

according to Regulation (EU) 2015/830

Version: 2.1

Date of issue: 06/10/2010      Revision date 15/03/2019

Supersedes 03/10/2017

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

#### 1.1. Product identifier

Product form : Substance  
 Trade name : Silver nitrate  
 EC Index-No. : 047-001-00-2  
 EC-No. : 231-853-9  
 CAS-No. : 7761-88-8  
 Product code : S0536  
 Formula : AgNO<sub>3</sub>  
 Synonyms : Argenti Nitras  
 Product group : Raw material

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

##### 1.2.1. Relevant identified uses

Main use category : Professional use  
 Industrial/Professional use spec : For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

##### Supplier

Duchefa Biochemie B.V.  
 A. Hofmanweg 71  
 2031 BH Haarlem - The Netherlands  
 T +31(0)23-5319093 - F +31(0)23-5318027  
[info@duchefa.nl](mailto:info@duchefa.nl)

#### 1.4. Emergency telephone number

Emergency number : Supplier contact information:  
 +31(0)23-5319093 (M-F 09:00-17:00)  
 +31(0)6-30109355 (outside office hours)

| Organisation/Company  | Address   | Comment                                   |
|---|---|---|
| World Health Organization world directory of poison centres | <a href="http://apps.who.int/poisoncentres/">http://apps.who.int/poisoncentres/</a> | Consult website for a local poison centre |

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Oxidising Solids, Category 2 H272  
 Corrosive to metals, Category 1 H290  
 Skin corrosion/irritation, Category 1B H314  
 Hazardous to the aquatic environment — Acute Hazard, Category 1 H400  
 Hazardous to the aquatic environment — Chronic Hazard, Category 1 H410

# Silver nitrate

S0536

## Safety Data Sheet

according to Regulation (EU) 2015/830

Full text of H statements : see section 16

### Adverse physicochemical, human health and environmental effects

No additional information available

### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS03

GHS05

GHS09

Signal word (CLP) : Danger

Hazard statements (CLP) : 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 (CLP) : P260 - Do not breathe dust/fume/gas/mist/vapours/spray.

P273 - Avoid release to the environment

P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P370+P378 - In case of fire: Use ABC-powder to extinguish.

P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351 - IF IN EYES: Rinse cautiously with water for several minutes.

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name : Silver nitrate

CAS-No. : 7761-88-8

EC-No. : 231-853-9

EC Index-No. : 047-001-00-2

| Name           | Product identifier   | %       |
|----------------|--|---------|
| silver nitrate | (CAS-No.) 7761-88-8<br>(EC-No.) 231-853-9<br>(EC Index-No.) 047-001-00-2 | >= 99,8 |

Full text of H-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice.

First-aid measures after inhalation : Assure fresh air breathing

Give oxygen or artificial respiration if necessary

Call a physician immediately.

- First-aid measures after skin contact : After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water  
Call a physician immediately.
- First-aid measures after eye contact : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- First-aid measures after ingestion : Drink plenty of water  
Do not induce vomiting because of corrosive effects  
Get immediate medical advice/attention.

#### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/effects : Cough  
Corrosion or irritation of the linings of the mouth, throat, and gastrointestinal tract.  
Redness, pain  
Causes serious eye damage.  
May cause severe burns  
May cause gastric irritation.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
Harmful if inhaled.  
Blurred vision.

#### 4.3. Indication of any immediate medical attention and special treatment needed

Seek immediate medical advice.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO<sub>2</sub>).
- Unsuitable extinguishing media : Strong water jet.

#### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : May intensify fire; oxidiser.
- Reactivity in case of fire : Reacts violently with water.
- Hazardous decomposition products in case of fire : - NO<sub>x</sub>.

#### 5.3. Advice for firefighters

- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Ensure adequate air ventilation.

##### 6.1.1. For non-emergency personnel

- Protective equipment : Wear recommended personal protective equipment.
- Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene.
- Measures in case of dust release : Avoid dust formation.

##### 6.1.2. For emergency responders

No additional information available

## 6.2. Environmental precautions

Avoid release to the environment. Do not allow to enter drains or water courses.

## 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : This material and its container must be disposed of in a safe way, and as per local legislation.

Other information : Keep in suitable, closed containers for disposal.

## 6.4. Reference to other sections

No additional information available

# SECTION 7: Handling and storage

## 7.1. Precautions for safe handling

Additional hazards when processed : Handle in accordance with good industrial hygiene and safety procedures.

Precautions for safe handling : Do not get in eyes, on skin, or on clothing.

## 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed and protected from light  
Store in corrosive resistant container with a resistant inner liner  
Store at room temperature.

## 7.3. Specific end use(s)

For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

# SECTION 8: Exposure controls/personal protection

## 8.1. Control parameters

No additional information available

## 8.2. Exposure controls

### Hand protection:

| Type   | Material             | Permeation        | Thickness (mm) | Standard   |
|--------|----------------------|-------------------|----------------|------------|
| Gloves | Nitrile rubber (NBR) | 6 (> 480 minutes) | 0,11           | EN ISO 374 |

### Eye protection:

Safety glasses

### Skin and body protection:

Wear suitable protective clothing

### Respiratory protection:

Dust production: dust mask with filter type P2

# SECTION 9: Physical and chemical properties

## 9.1. Information on basic physical and chemical properties

Physical state : Solid  
Appearance : Crystalline powder.  
Molecular mass : 169,9 g/mol  
Colour : White.

## Safety Data Sheet

according to Regulation (EU) 2015/830

|  |                           |
|--|---------------------------|
| Odour                                      | : Odourless.              |
| Odour threshold                            | : No data available       |
| pH   | : No data available       |
| pH solution                                | : 5,6 - 6,4 (100g/l 20°C) |
| Relative evaporation rate (butylacetate=1) | : No data available       |
| Melting point                              | : 212 °C                  |
| Freezing point                             | : No data available       |
| Boiling point                              | : 444                     |
| Flash point                                | : No data available       |
| Auto-ignition temperature                  | : No data available       |
| Decomposition temperature                  | : 444 °C                  |
| Flammability (solid, gas)                  | : No data available       |
| Vapour pressure                            | : No data available       |
| Relative vapour density at 20 °C           | : No data available       |
| Relative density                           | : No data available       |
| Density                                    | : 4,35 g/cm <sup>3</sup>  |
| Solubility                                 | : Water: 2150 g/l (20°C)  |
| Log Pow                                    | : 5 (20°C)                |
| Viscosity, kinematic                       | : No data available       |
| Viscosity, dynamic                         | : No data available       |
| Explosive properties                       | : No data available       |
| Oxidising properties                       | : No data available       |
| Explosive limits                           | : No data available       |

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions.

### 10.2. Chemical stability

May decompose under the influence of light.

### 10.3. Possibility of hazardous reactions

Strong acids

Organic products.

### 10.4. Conditions to avoid

Light (daylight)

Overheating.

### 10.5. Incompatible materials

Aldehyde

Ammonia solution

Magnesium

- Metals

Strong bases

Strong reducing agents.

**10.6. Hazardous decomposition products**- NO<sub>x</sub>

Silver.

**SECTION 11: Toxicological information****11.1. Information on toxicological effects**

Acute toxicity : Not classified

| <b>Silver nitrate (7761-88-8)</b> |            |
|-----------------------------------|------------|
| LD50 oral rat                     | 1173 mg/kg |

Skin corrosion/irritation : Causes severe skin burns and eye damage.

Serious eye damage/irritation : Serious eye damage, category 1, implicit

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

**SECTION 12: Ecological information****12.1. Toxicity**

| <b>Silver nitrate (7761-88-8)</b> |   |
|-----------------------------------|---|
| LC50 fish 1                       | 0,006 mg/l <i>Oncorhynchus mykiss</i> (Rainbow trout) |
| EC50 Daphnia 1                    | 0,002 ppm <i>Daphnia Magna</i>                        |

**12.2. Persistence and degradability**

No additional information available

**12.3. Bioaccumulative potential**

| <b>Silver nitrate (7761-88-8)</b>   |          |
|-------------------------------------|----------|
| Bioconcentration factor (BCF REACH) | 120      |
| Log Pow                             | 5 (20°C) |

**12.4. Mobility in soil**

No additional information available

**12.5. Results of PBT and vPvB assessment**

No additional information available

**12.6. Other adverse effects**

Additional information : Avoid release to the environment. Prevent entry to sewers and public waters. In aqueous solution it's a corrosive acid

**SECTION 13: Disposal considerations****13.1. Waste treatment methods**

Waste treatment methods : Dispose of this material and its container at hazardous or special waste collection point. Dispose in a safe manner in accordance with local/national regulations.

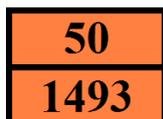
**SECTION 14: Transport information**

In accordance with ADR / IATA / IMDG

| ADR  | IMDG  | IATA  |
|--|---|---|
| <b>14.1. UN number</b>   |   |   |
| 1493   | 1493  | 1493  |
| <b>14.2. UN proper shipping name</b>   |   |   |
| SILVER NITRATE   | SILVER NITRATE  | Silver nitrate  |
| <b>Transport document description</b>  |   |   |
| UN 1493 SILVER NITRATE, 5.1, II, (E), ENVIRONMENTALLY HAZARDOUS  | UN 1493 SILVER NITRATE, 5.1, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS   | UN 1493 Silver nitrate, 5.1, II, ENVIRONMENTALLY HAZARDOUS  |
| <b>14.3. Transport hazard class(es)</b>  |   |   |
| 5.1  | 5.1   | 5.1   |
|   |   |   |
| <b>14.4. Packing group</b>   |   |   |
| II   | II  | II  |
| <b>14.5. Environmental hazards</b>   |   |   |
| Dangerous for the environment : Yes  | Dangerous for the environment : Yes<br>Marine pollutant : Yes   | Dangerous for the environment : Yes   |
| No supplementary information available   |   |   |

**14.6. Special precautions for user****. Overland transport**

Classification code (ADR) : O2  
 Limited quantities (ADR) : 1kg  
 Excepted quantities (ADR) : E2  
 Transport category (ADR) : 2  
 Hazard identification number (Kemler No.) : 50  
 Orange plates :



Tunnel restriction code (ADR) : E  
 EAC code : 1Y

**- Transport by sea**

Limited quantities (IMDG) : 1 kg  
 Excepted quantities (IMDG) : E2  
 EmS-No. (Fire) : F-A

|                                    |   |
|------------------------------------|---|
| EmS-No. (Spillage)                 | : S-Q   |
| Stowage category (IMDG)            | : A   |
| Properties and observations (IMDG) | : Colourless crystals. Soluble in water. Mixtures with combustible material are readily ignited and may burn fiercely. Harmful if swallowed. Irritating to skin and mucous membranes. |
| MFAG-No                            | : 140   |

### - Air transport

|  |         |
|--|---------|
| PCA Excepted quantities (IATA)               | : E2    |
| PCA Limited quantities (IATA)                | : Y544  |
| PCA limited quantity max net quantity (IATA) | : 2.5kg |
| PCA packing instructions (IATA)              | : 558   |
| PCA max net quantity (IATA)                  | : 5kg   |
| CAO packing instructions (IATA)              | : 562   |
| CAO max net quantity (IATA)                  | : 25kg  |
| ERG code (IATA)                              | : 5L    |

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Silver nitrate is not on the REACH Candidate List

Silver nitrate is not on the REACH Annex XIV List

#### 15.1.2. National regulations

##### Germany

Reference to AwSV : Water hazard class (WGK) 3, Highly hazardous to water (Classification according to VwVwS, Annex 1 or 2; ID No. 185)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

##### Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

**15.2. Chemical safety assessment**

No additional information available

**SECTION 16: Other information**

Indication of changes:

|     |                                |          |  |
|-----|--------------------------------|----------|--|
| 2.2 | Hazard statements (CLP)        | Added    | H290   |
| 2.2 | Precautionary statements (CLP) | Modified | P273;P280;P301+P330+P331;P309+P310;P305+P351<br>-><br>P260;P273;P301+P330+P331;P370+P378;P304+P340;P305+P351 |

Abbreviations and acronyms:

|       |   |
|-------|---|
| ATE   | Acute Toxicity Estimate   |
| ADR   | European Agreement concerning the International Carriage of Dangerous Goods by Road               |
| BCF   | Bioconcentration factor   |
| CLP   | Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008                       |
| DPD   | Dangerous Preparations Directive 1999/45/EC   |
| DSD   | Dangerous Substances Directive 67/548/EEC   |
| IATA  | International Air Transport Association   |
| IMDG  | International Maritime Dangerous Goods  |
| LC50  | Median lethal concentration   |
| LD50  | Median lethal dose  |
| LOAEL | Lowest Observed Adverse Effect Level  |
| NOAEC | No-Observed Adverse Effect Concentration  |
| PBT   | Persistent Bioaccumulative Toxic  |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006 |
| SDS   | Safety Data Sheet   |

Data sources : Supplier. REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Full text of H- and EUH-statements:

|                   |   |
|-------------------|---|
| Aquatic Acute 1   | Hazardous to the aquatic environment — Acute Hazard, Category 1   |
| Aquatic Chronic 1 | Hazardous to the aquatic environment — Chronic Hazard, Category 1 |
| Met. Corr. 1      | Corrosive to metals, Category 1                                   |
| Ox. Sol. 2        | Oxidising Solids, Category 2                                      |
| Skin Corr. 1B     | Skin corrosion/irritation, Category 1B                            |
| H272              | May intensify fire; oxidiser.                                     |
| H290              | May be corrosive to metals.                                       |
| H314              | Causes severe skin burns and eye damage.                          |
| H400              | Very toxic to aquatic life.                                       |
| H410              | Very toxic to aquatic life with long lasting effects              |

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