

**Silver nitrate for Molecular biology**

Revision: 12.09.2025

Product code: AC21.00153

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Silver nitrate for Molecular biology

REACH Registration Number: 01-2119513705-43-XXXX  
CAS No: 7761-88-8  
Index No: 047-001-00-2  
EC No: 231-853-9

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Reagents and laboratory chemicals  
Only for laboratory and analysis purposes.

**Uses advised against**

Do not use for private purposes (household).

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

Company name: AnalytiChem Services, Unipessoal, Lda  
Street: Rua de Júlio Dinis 676 7º  
Place: N-4050-320 Porto  
Telephone: +351 226002917  
E-mail: info@analytichem.com  
Contact person: SDS service department  
E-mail: SDS@analytichem.com  
Internet: www.analytichem.com  
Responsible Department: SDS service department

**Supplier or manufacturer details**

Company name: AnalytiChem Belgium NV  
Street: Industriezone "De Arend" 2  
Place: B-8210 Zedelgem  
Telephone: +32 50 28 83 20  
E-mail: info.be@analytichem.com  
Contact person: SDS service department  
E-mail: SDS@analytichem.com  
Responsible Department: AnalytiChem  
EU-Belgium: AnalytiChem Belgium, Industriezone "De Arend" 2, 8210 Zedelgem, Belgium, +32 50 28 83 20  
EU-Germany: AnalytiChem Germany, Stempelstrasse 6, 47167 Duisburg, Germany, +49 203 51 94 – 200  
EU-Netherlands: AnalytiChem Netherlands, Communicatieweg 7, 3641 SG Mijdrecht, The Netherlands, +31 297 286848  
UK: AnalytiChem UK, Unit 7 Launton Business Center, Murdock Road, Bicester, OX26 4XB, England, +44 1869 355 500  
USA: AnalytiChem USA, 227 China Road, Winslow, Maine, 04901, United States, +1 800-244-8378  
Canada: AnalytiChem Canada, 21800 Clark Graham Avenue, Baie d'Urfe, H9X 4B6, Canada, +1 514-457-0701  
Australia: ORE Research & Exploration Pty Ltd, 37A Hosie Street, Bayswater North, 3153, Australia, +61 3 9729 0333

**1.4. Emergency telephone number:**

+44 20 3807 3798 (CHEMTREC)

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**Further Information**

No data available

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Ox. Sol. 2; H272

Met. Corr. 1; H290

Skin Corr. 1B; H314

Eye Dam. 1; H318

Aquatic Acute 1; H400 (M-Factor (self-classification) = 1000)

Aquatic Chronic 1; H410 (M-Factor (self-classification) = 100)

Full text of hazard statements: see SECTION 16.

**2.2. Label elements****Regulation (EC) No 1272/2008**

Signal word: Danger

Pictograms:

**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**

P221 Take any precaution to avoid mixing with combustibles.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

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

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

P308 IF exposed or concerned:

P310 Immediately call a POISON CENTER/doctor.

**2.3. Other hazards**

No data available

**SECTION 3: Composition/information on ingredients****3.1. Substances**Sum formula: AgNO<sub>3</sub>

Molecular weight: 169,87 g/mol

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## Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7761-88-8	silver nitrate			100 %
	231-853-9	047-001-00-2	01-2119513705-43-XXXX	
	Ox. Sol. 2, Met. Corr. 1, Skin Corr. 1B, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1; H272 H290 H314 H318 H400 H410			

Full text of H and EUH statements: see section 16.

## Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
7761-88-8	231-853-9	silver nitrate	100 %
	dermal: LD50 = > 348 mg/kg; oral: LD50 = > 2000 mg/kg Aquatic Acute 1; H400: M=1000 Aquatic Chronic 1; H410: M=100		

## Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

## SECTION 4: First aid measures

4.1. Description of first aid measures

## General information

Self-protection of the first aider

## After inhalation

Provide fresh air.

Call a physician immediately.

## After contact with skin

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

Call a physician immediately.

## After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Remove contact lenses, if present and easy to do. Continue rinsing.

## After ingestion

Rinse mouth immediately and drink plenty of water.

Do NOT induce vomiting. Do not allow a neutralisation agent to be drunk.

Call a physician immediately.

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

Irritant

Cough

Dyspnoea

Dizziness

Unconsciousness

Gastrointestinal complaints

Vomiting

Risk of serious damage to eyes.

Corneal opacity.

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Spasms

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

No data available

## SECTION 5: Firefighting measures

### **5.1. Extinguishing media**

#### **Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

#### **Unsuitable extinguishing media**

no restriction

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

Non-combustible solids

Oxidizing

Hazardous combustion products

In case of fire may be liberated:

Nitrogen oxides (NOx)

### **5.3. Advice for firefighters**

Avoid contact with skin, eyes and clothes.

In case of fire: Wear self-contained breathing apparatus.

### **Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Use water spray jet to protect personnel and to cool endangered containers.

## SECTION 6: Accidental release measures

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

#### **General advice**

Corrosive to metals.

#### **For non-emergency personnel**

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

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

#### **For emergency responders**

Precautionary statements For emergency responders : Personal protection equipment: see section 8

### **6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

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

#### **For containment**

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Take up carefully when dry. Take up dust-free and set down dust-free.

#### **For cleaning up**

Clean contaminated articles and floor according to the environmental legislation.

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**Other information**

Provide adequate ventilation.  
Do not breathe dust/fume/gas/mist/vapours/spray.  
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

**6.4. Reference to other sections**

Safe handling: see section 7  
Personal protection equipment: see section 8  
Disposal: see section 13

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

Handle and open container with care.  
Provide adequate ventilation.  
Avoid contact with skin, eyes and clothes.  
Avoid dust formation. Do not breathe dust.  
Read label before use.

**Advice on protection against fire and explosion**

Keep away from combustible material.  
May intensify fire; oxidiser.

**Advice on general occupational hygiene**

Take off contaminated clothing.  
Wash hands before breaks and after work.  
When using do not eat or drink.

**Further information on handling**

Take off contaminated clothing and wash it before reuse.  
Wash hands before breaks and after work.  
Draw up and observe skin protection programme.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed and dry.  
Protect against: Light

**Hints on joint storage**

Keep away from combustible material.  
Take national regulations into account.

**Further information on storage conditions**

storage temperature +5°C - +30°C

**7.3. Specific end use(s)**

Laboratory chemicals

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters**

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## DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
DNEL type				
7761-88-8	silver nitrate			
Worker DNEL, long-term		inhalation	systemic	0,016 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	systemic	0,006 mg/m <sup>3</sup>
Consumer DNEL, long-term		oral	systemic	0,02 mg/kg bw/day

## PNEC values

CAS No	Substance	Value
Environmental compartment		
7761-88-8	silver nitrate	
Freshwater		0,00004 mg/l
Marine water		0,00086 mg/l
Freshwater sediment		438,13 mg/kg
Marine sediment		438,13 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,025 mg/l
Soil		1,41 mg/kg

**8.2. Exposure controls****Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Suitable eye protection: goggles.

**Hand protection**

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: vertrieb@kcl.de with the following specification (test according to EN 374):

By long-term hand contact

Trade name/designation: KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation: KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

**Skin protection**

Wear suitable protective clothing.

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Take off immediately all contaminated clothing.

Wash hands before breaks and after work.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

**Respiratory protection**

Respiratory protection necessary at: dust formation

Filtering device with filter or ventilator filtering device of type: P2

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

**Thermal hazards**

No data available

**Environmental exposure controls**

Do not allow to enter into surface water or drains.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	solid
Colour:	colourless
Odour:	odourless
Odour threshold:	No data available
Melting point/freezing point:	212 °C
Boiling point or initial boiling point and boiling range:	444 °C
Flammability:	not determined
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	X
Auto-ignition temperature:	No data available
Decomposition temperature:	>444 °C
pH-Value (at 20 °C):	5,4 -6,4 (100 g/l)
Viscosity / kinematic:	No data available
Water solubility: (at 20 °C)	2160 g/l
Solubility in other solvents	not determined
Dissolution rate:	No data available
Partition coefficient n-octanol/water:	No data available
Dispersion stability:	No data available
Vapour pressure:	No data available
Vapour pressure:	No data available
Density (at 20 °C):	4,35 g/cm³
Relative density:	No data available
Bulk density:	~2350 kg/m³
Relative vapour density:	not determined
Particle characteristics:	No data available

**9.2. Other information****Information with regard to physical hazard classes****Explosive properties**

No data available

**Sustained combustibility:**

No data available

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Self-ignition temperature

Solid:

not determined

Gas:

not applicable

Oxidizing properties

The product is: oxidising, Oxidising.

Oxidizing solids, Category 2

**Other safety characteristics**

Evaporation rate:

not determined

Solvent separation test:

No data available

Solvent content:

No data available

Solid content:

100%

Sublimation point:

No data available

Softening point:

No data available

Pour point:

No data available

Viscosity / dynamic:

No data available

Flow time:

No data available

**Further Information**

No data available

**SECTION 10: Stability and reactivity****10.1. Reactivity**

Possibility of hazardous reactions. oxidising, Oxidising.

Corrosive to metals.

**10.2. Chemical stability**

Protect against: Light

**10.3. Possibility of hazardous reactions**

Alcohols, arsenic, Hydrazine

Carbide, Ethanol, Ammonia (NH3)

Nitriles, Acetylene, aldehydes

Reducing agent, Combustible substance

NaOH, Mg

**10.4. Conditions to avoid**

Light

Heat

**10.5. Incompatible materials**

Aluminium

Steel

**10.6. Hazardous decomposition products**

In case of fire may be liberated:

SECTION 5: Firefighting measures

**Further information**

No data available

**SECTION 11: Toxicological information****11.1. Information on hazard classes****Toxicokinetics, metabolism and distribution**

No data available

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**Acute toxicity**

Based on available data, the classification criteria are not met.

If swallowed danger of perforation of the esophagus and the stomach ( strong corrosive effects).

Inhalation effect: Damage to the respiratory tract.

Mucous membrane irritation in the mouth, throat, esophagus and gastrointestinal tract.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7761-88-8	silver nitrate				
	oral	LD50 mg/kg	> 2000 Rat	Study report (1993)	OECD Guideline 401
	dermal	LD50 mg/kg	> 348 Guinea pig	J. Vet. Med. Sci.73: 1417 - 1423. (2011)	OECD Guideline 434

**Irritation and corrosivity**

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

Serious eye damage/eye irritation: Causes serious eye damage.

Risk of serious damage to eyes.

Corneal opacity.

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects 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.

**Information on likely routes of exposure**

No data available

**Specific effects in experiment on an animal**

No data available

**Additional information on tests**

No data available

**Practical experience**

No data available

**11.2. Information on other hazards****Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

**Other information**

No data available

**Further information**

Irritant

Cough

Dyspnoea

Dizziness

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Unconsciousness  
 Gastrointestinal complaints  
 Vomiting  
 Risk of serious damage to eyes.  
 Corneal opacity.  
 Spasms

## SECTION 12: Ecological information

## 12.1. Toxicity

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

CAS No	Chemical name	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
7761-88-8	silver nitrate						
	Acute fish toxicity	LC50 0,0012 mg/l	96 h		Pimephales promelas	Environmental Toxicology and Chemistry.	A guideline was not specified. The test
	Acute algae toxicity	ErC50 0,0099 mg/l	96 h		Pseudokirchneriella subcapitata	Environmental Science and Technology. 44	eline: U.S. Environmental Protection Age
	Acute crustacea toxicity	EC50 0,00022 mg/l	48 h		Daphnia magna	Environmental Toxicology and Chemistry.	The protective effect of reactive sulphi
	Fish toxicity	NOEC > 0,00125 mg/l	73 d		Oncorhynchus mykiss	Environmental Toxicology and Chemistry 2	other: ASTM 1241-98
	Algae toxicity	NOEC 0,0012 mg/l	14 d		Champia parvula	in Bishop WE, Cardwell RD Heidolph BB (E	The toxicity tests lasted 11 days for th
	Crustacea toxicity	NOEC 0,00031 mg/l	20 d		Isonychia bicolour	Environmental Toxicology and Chemistry.	20 day sublethal effects on representati

## 12.2. Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

## 12.3. Bioaccumulative potential

## BCF

CAS No	Chemical name	BCF	Species	Source
7761-88-8	silver nitrate	70	Cyprinus carpio	Water, Air and Soil

## 12.4. Mobility in soil

No data available

## 12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of UK REACH.

## 12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

## 12.7. Other adverse effects

Avoid release to the environment.

Forms corrosive mixtures with water even if diluted.

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**Further information**

Do not allow to enter into surface water or drains.

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

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not empty into drains.

Do not mix with other wastes.

**Contaminated packaging**

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

**SECTION 14: Transport information****Land transport (ADR/RID)**

<b>14.1. UN number or ID number:</b>	UN 1493
<b>14.2. UN proper shipping name:</b>	SILVER NITRATE
<b>14.3. Transport hazard class(es):</b>	5.1
<b>14.4. Packing group:</b>	II
Hazard label:	5.1
Classification code:	O2
Limited quantity:	1 kg
Excepted quantity:	E2
Transport category:	2
Hazard No:	50
Tunnel restriction code:	E

**Inland waterways transport (ADN)**

<b>14.1. UN number or ID number:</b>	UN 1493
<b>14.2. UN proper shipping name:</b>	SILVER NITRATE
<b>14.3. Transport hazard class(es):</b>	5.1
<b>14.4. Packing group:</b>	II
Hazard label:	5.1
Classification code:	O2
Limited quantity:	1 kg
Excepted quantity:	E2

**Marine transport (IMDG)**

<b>14.1. UN number or ID number:</b>	UN 1493
<b>14.2. UN proper shipping name:</b>	SILVER NITRATE
<b>14.3. Transport hazard class(es):</b>	5.1
<b>14.4. Packing group:</b>	II
Hazard label:	5.1
Special Provisions:	-
Limited quantity:	1 kg
Excepted quantity:	E2
EmS:	F-A, S-Q

**Air transport (ICAO-TI/IATA-DGR)**

<b>14.1. UN number or ID number:</b>	UN 1493
<b>14.2. UN proper shipping name:</b>	SILVER NITRATE

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<b>14.3. Transport hazard class(es):</b>	5.1
<b>14.4. Packing group:</b>	II
Hazard label:	5.1
Limited quantity Passenger:	2.5 kg
Passenger LQ:	Y544
Excepted quantity:	E2
IATA-packing instructions - Passenger:	558
IATA-max. quantity - Passenger:	5 kg
IATA-packing instructions - Cargo:	562
IATA-max. quantity - Cargo:	25 kg

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS:	Yes
Danger releasing substance:	silver nitrate

**14.6. Special precautions for user**

Warning: Oxidising substances.

**14.7. Maritime transport in bulk according to IMO instruments**

not applicable

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 75

Information according to Directive P8 OXIDISING LIQUIDS AND SOLIDS

2012/18/EU (SEVESO III):

Additional information: E1

**National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 3 - highly hazardous to water

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 1,8,11,12.

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**Abbreviations and acronyms**

Ox. Sol. 2: Oxidising solids, hazard category 2

Met. Corr. 1: Corrosive to metals, hazard category 1

Skin Corr. 1B: Skin corrosion, sub-category 1B

Eye Dam. 1: Serious eye damage, hazard category 1

Aquatic Acute 1: Hazardous to the aquatic environment, hazard category: Acute 1

Aquatic Chronic 1: Hazardous to the aquatic environment, long-term hazard category: Chronic 1

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 Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

**Relevant H and EUH statements (number and full text)**

H272 May intensify fire; oxidiser.

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

**Further Information**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

Provide appropriate information, instructions and training to users