

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**17314H Silbernitrat**

Revision date: 17.05.2016

Product code: 17314H

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

17314H Silbernitrat

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**

Reagent for analysis

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

Company name: HACH LANGE GmbH  
Street: Willstätterstr. 11  
Place: D-40549 Düsseldorf  
Telephone: +49 (0)211 5288-383  
e-mail: SDS@hach.com  
Internet: www.de.hach.com  
Responsible Department: HACH LANGE Ltd.  
5, Pacific Way  
Salford Manchester M50 1DL - United Kingdom  
Tel. +44 (0) 161 872 1487 \* Fax +44 (0) 161 848 7324  
e-Mail: info-uk@hach.com

HACH LANGE Ltd.  
Unit 1, Chestnut Road Western Industrial Estate  
IRL-Dublin 12  
Tel. +353 (0)1 4602522  
e-Mail: info-ie@hach.com

**1.4. Emergency telephone number:**

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

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

Hazard categories:

Oxidising solid: Ox. Sol. 2

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Corr. 1B

Specific target organ toxicity - single exposure: STOT SE 3

Specific target organ toxicity - repeated exposure: STOT RE 1

Hazardous to the aquatic environment: Aquatic Acute 1 (M-Factor = 100)

Hazardous to the aquatic environment: Aquatic Chronic 1 (M-Factor = 100)

Hazard Statements:

May intensify fire; oxidiser.

Harmful if swallowed.

Causes severe skin burns and eye damage.

May cause respiratory irritation.

Causes damage to organs through prolonged or repeated exposure.

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

**2.2. Label elements**

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#### Regulation (EC) No. 1272/2008

##### Hazard components for labelling

silver nitrate

**Signal word:** Danger

##### Pictograms:



##### Hazard statements

H271 May cause fire or explosion; strong oxidiser.  
 H302 Harmful if swallowed.  
 H335 May cause respiratory irritation.  
 H314 Causes severe skin burns and eye damage.  
 H372 Causes damage to organs through prolonged or repeated exposure.  
 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.  
 P220 Keep/Store away from combustible materials.  
 P273 Avoid release to the environment.  
 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.

##### Additional advice on labelling

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

#### 2.3. Other hazards

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

#### Hazardous components

CAS No	Chemical name	Quantity
	EC No	Index No
	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]	
7761-88-8	silver nitrate	100 %
	231-853-9	047-001-00-2
	Ox. Sol. 2, Acute Tox. 4, Skin Corr. 1B, STOT SE 3, STOT RE 1, Aquatic Acute 1 (M-Factor = 100), Aquatic Chronic 1 (M-Factor = 100); H272 H302 H314 H335 H372 H400 H410	

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

Take off contaminated clothing and shoes immediately.  
 Show this safety data sheet to the doctor in attendance.

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First aider needs to protect himself.

#### After inhalation

Move to fresh air.  
If symptoms persist, call a physician.

#### After contact with skin

Wash off immediately with plenty of water for at least 15 minutes. Consult a physician.

#### After contact with eyes

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

#### After ingestion

Drink 1 or 2 glasses of water.  
Do NOT induce vomiting.  
Call a physician immediately.

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

Irritation and corrosion, Cough, Shortness of breath, Unconsciousness,  
Vomiting, Diarrhoea, Fatality, Stomach/intestinal disorders

May cause blindness.

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### **5.1. Extinguishing media**

##### **Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Water, Carbon dioxide (CO<sub>2</sub>), Alcohol-resistant foam Dry powder,

##### **Unsuitable extinguishing media**

No Limit

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

Fire may liberate hazardous vapours.  
Oxidising  
In the event of fire the following can be released: Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), dense black smoke.

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

In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.  
In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.  
Suppress (knock down) gases/vapours/mists with a water spray jet.

#### **Additional information**

Prevent fire extinguishing water from contaminating surface water or the ground water system.

### SECTION 6: Accidental release measures

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

Evacuate personnel to safe areas. Only qualified personnel equipped with suitable protective equipment may intervene. Immediately evacuate personnel to safe areas.  
Do not breathe vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition.

For personal protection see section 8.

#### **6.2. Environmental precautions**

(contamination risk)  
Do not flush into surface water or sanitary sewer system.

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Should not be released into the environment.

Neutralization is normally necessary before waste water is discharged into water treatment plants.

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

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local/national regulations (see section 13).

Keep in suitable, closed containers for disposal.

#### 6.4. Reference to other sections

13. Disposal considerations

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

##### Advice on safe handling

Observe label precautions.

Avoid contact with skin, eyes and clothing.

##### Advice on protection against fire and explosion

See also section 5

##### Further information on handling

Wash hands before breaks and at the end of workday.

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

##### Requirements for storage rooms and vessels

Keep container tightly closed in a dry and well-ventilated place. (light protected)

Keep away from combustible materials.

##### Hints on joint storage

Do not store near acids.

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

Laboratory chemicals

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Exposure limits (EH40)

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
-	Silver (soluble compounds as Ag)	-	0.01		TWA (8 h)	WEL

##### Additional advice on limit values

None known.

#### 8.2. Exposure controls

##### Appropriate engineering controls

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

##### Protective and hygiene measures

Wash hands before breaks and after work.

General industrial hygiene practice.

Ensure that eye flushing systems and safety showers are located close to the working place.

##### Eye/face protection

Safety glasses with side-shields

Chemical resistant goggles must be worn.

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**Hand protection**

Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

In case of full contact:

Glove material : Nitrile rubber

Layer thickness: 0,11 mm

Break through time: > 480 min

In case of contact through splashing:

Glove material : Nitrile rubber

Layer thickness: 0,11 mm

Break through time: > 480 min

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves.

**Skin protection**

Avoid contact with skin, eyes and clothing.

Protective laboratory coats, gowns, or uniforms are recommended to prevent contamination of personal clothing.

**Respiratory protection**

Ensure adequate ventilation, especially in confined areas.

Breathing apparatus only if aerosol or dust is formed.

Recommended Filter type: P 2

**Environmental exposure controls**

Do not flush into surface water or sanitary sewer system.

Prevent further leakage or spillage if safe to do so.

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

Physical state:	solid
Colour:	colourless
Odour:	odourless
pH-Value (at 20 °C):	5,4 - 6,4 (100g/l)

**Changes in the physical state**

Melting point:	212 °C
Initial boiling point and boiling range:	444 °C
Sublimation point:	no data available
Softening point:	no data available
Pour point:	no data available
:	no data available
Flash point:	no data available
Sustaining combustion:	No data available

**Flammability**

Solid:	no data available
Gas:	no data available

**Explosive properties**

no data available

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Lower explosion limits:	no data available
Upper explosion limits:	no data available
Ignition temperature:	no data available
<b>Auto-ignition temperature</b>	
Solid:	no data available
Gas:	no data available
Decomposition temperature:	>444 °C
<b>Oxidizing properties</b>	
no data available	
Vapour pressure:	no data available
Vapour pressure:	no data available
Density (at 20 °C):	4,35 g/cm <sup>3</sup>
Bulk density:	no data available
Water solubility: (at 20 °C)	2,16 g/L
<b>Solubility in other solvents</b>	
no data available	
Partition coefficient:	no data available
Viscosity / dynamic:	no data available
Viscosity / kinematic:	no data available
Flow time:	no data available
Vapour density:	no data available
Evaporation rate:	no data available
Solvent separation test:	no data available
Solvent content:	no data available
<b><u>9.2. Other information</u></b>	
Solid content:	no data available

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

May be corrosive to metals.

**10.2. Chemical stability**

Sensitivity to light

**10.3. Possibility of hazardous reactions**

Reacts with the following substances:  
Alcohols, Halogenated compounds, Magnesium,  
Ammonia, Nitriles  
Acetylene Keep away from combustible material.

**10.4. Conditions to avoid**

Extremes of temperature and direct sunlight.  
Decomposes on heating.  
Exposure to light.

**10.5. Incompatible materials**

Mild steel, Light metals

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**10.6. Hazardous decomposition products**

In the event of fire the following can be released: Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), dense black smoke.

**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Toxicokinetics, metabolism and distribution**

No toxicology information is available.

**Acute toxicity**

LD50/oral/rat = 1.173 mg/kg (RTECS)

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7761-88-8	silver nitrate				
	oral	LD50 mg/kg	1173	rat	RTECS

**Irritation and corrosivity**

The product causes burns of eyes, skin and mucous membranes.

**Sensitising effects**

No sensitisation responses were observed.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Contains no ingredient listed as a carcinogen

**STOT-single exposure**

The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

**STOT-repeated exposure**

H373 - May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard**

No aspiration toxicity classification

**Specific effects in experiment on an animal**

No toxicology information is available.

**Additional information on tests**

None known.

**Practical experience****Observations relevant to classification**

May cause allergic skin reaction. May cause allergic respiratory reaction.

**Other observations**

None known.

**Further information**

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

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

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
7761-88-8	silver nitrate					
	Acute fish toxicity	LC50 mg/l	0,006	96 h	Oncorhynchus mykiss (rainbow trout)	
	Acute crustacea toxicity	EC50 mg/l	0,00156	48 h	Daphnia magna (Water flea)	

**12.2. Persistence and degradability**

The methods for determining biodegradability are not applicable to inorganic substances.

**12.3. Bioaccumulative potential**

No data is available on the product itself.

**12.4. Mobility in soil**

no data available

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

no data available

**12.6. Other adverse effects**

No known effect.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Advice on disposal**

In accordance with local and national regulations.

**Waste disposal number of waste from residues/unused products**

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

**Waste disposal number of used product**

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

**Waste disposal number of contaminated packaging**

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

**Contaminated packaging**

Dispose of as unused product.

The hazard and precautionary statements displayed on the label also apply to any residues left in the container.

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

<b>14.1. UN 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



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Classification code: O2  
Limited quantity: 1 kg  
Excepted quantity: E2  
Transport category: 2  
Hazard No: 50  
Tunnel restriction code: E

#### Inland waterways transport (ADN)

##### Other applicable information (inland waterways transport)

Not tested

#### Marine transport (IMDG)

**14.1. UN number:** UN 1493  
**14.2. UN proper shipping name:** SILVER NITRATE  
**14.3. Transport hazard class(es):** 5.1  
**14.4. Packing group:** II  
Hazard label: 5.1



Special Provisions: -  
Limited quantity: 1 kg  
Excepted quantity: E2  
EmS: F-A, S-Q

##### Other applicable information (marine transport)

Not subject to transport regulations.

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

**14.1. UN number:** UN 1493  
**14.2. UN proper shipping name:** SILVER NITRATE  
**14.3. Transport hazard class(es):** 5.1  
**14.4. Packing group:** 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

##### Other applicable information (air transport)

Not subject to transport regulations.

#### 14.5. Environmental hazards

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ENVIRONMENTALLY HAZARDOUS: yes



Danger releasing substance: silver nitrate

**14.6. Special precautions for user**

no data available

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

Not relevant

**Other applicable information**

Additional Information: This product may be shipped as part of a chemical kit composed of various compatible dangerous goods for analytical or testing purposes. This kit would have the following classification: Proper Shipping Name: Chemical Kit, Hazard Class: 9, UN Number 3316, Package group II, EMS Code: F-A, S-P

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

Water contaminating class (D): 3 - highly water contaminating

**Additional information**

ACHTUNG Polnische Sätze vorhanden!!

**15.2. Chemical safety assessment**

For this substance a chemical safety assessment has not been carried out.

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

Revision: 17.05.2016

Safety datasheet sections which have been updated: 2

Revision: 16.07.2015

Safety datasheet sections which have been updated: 1-16

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

H271	May cause fire or explosion; strong oxidiser.
H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

**Further Information**

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