



# British Pharmacopoeia Reagent - Silver Nitrate Solution R1

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Date of issue: 31/08/2013

Revision date: 12/02/2018

Version: 1.2

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

#### 1.1. Product identifier

Product form : Mixture  
Product name : British Pharmacopoeia Reagent - Silver Nitrate Solution R1  
Product code : BPR299

#### 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 use  
Use of the substance/mixture : Laboratory chemical  
Function or use category : Laboratory chemicals

##### 1.2.2. Uses advised against

No additional information available

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

##### Spectracer UK Ltd.

Second Floor,  
27 Gloucester Place,  
London,  
W1U 8HU,  
United Kingdom.

Tel: +44 (0) 207 193 9114

Fax: +44 (0) 203 432 4686

Email: [contact@spectracer.co.uk](mailto:contact@spectracer.co.uk)

Web: [www.spectracer.com](http://www.spectracer.com)

#### 1.4. Emergency telephone number

Emergency number : Tel: +44(0)1933 445260 Option 1. Language: English only.  
For Chemical Emergencies Only  
Llewellyn (Safety Advisors) Europe Ltd

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	: +353 1 8379964	
United Kingdom	National Poisons Information Service (NHS Direct)	<a href="http://www.npis.org">http://www.npis.org</a>	111 (England & Wales only) or 112 (EU) or 08454 24 24 24 (Scotland)	

### SECTION 2: Hazards identification

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

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

Skin corrosion/irritation, Category 2 H315  
Serious eye damage/eye irritation, Category 1 H318  
Hazardous to the aquatic environment — Acute Hazard, Category 1 H400  
Hazardous to the aquatic environment — Chronic Hazard, Category 2 H411

Full text of H statements : see section 16

##### Adverse physicochemical, human health and environmental effects

Causes skin irritation. Causes serious eye damage. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

## 2.2. Label elements

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

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazardous ingredients :

silver nitrate

Hazard statements (CLP) :

H315 - Causes skin irritation.  
H318 - Causes serious eye damage.  
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements (CLP) :

P273 - Avoid release to the environment.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.. Immediately call a POISON CENTER or doctor.  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
P362+P364 - Take off contaminated clothing and wash it before reuse.  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

## 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
silver nitrate	(CAS-No.) 7761-88-8 (EC-No.) 231-853-9 (EC Index-No.) 047-001-00-2	1 - 5	Ox. Sol. 2, H272 Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Aquatic Acute 1, H400 (M=1000) Aquatic Chronic 1, H410

Full text of H-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash with plenty of water/.... Wash contaminated clothing before reuse. Get medical advice/attention. If skin irritation occurs: Wash immediately with lots of water (15 minutes)/shower. Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after skin contact : Irritation.

Symptoms/effects after eye contact : Serious damage to eyes.

### 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 : Water spray. Dry powder. Foam. Carbon dioxide.

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

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

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

For containment : Collect spillage.  
 Methods for cleaning up : Take up liquid spill into absorbent material.  
 Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment.  
 Hygiene measures : Wash Skin thoroughly after handling. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Direct sunlight, Heat and ignition sources. Store in a well-ventilated place. Keep cool.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

silver nitrate (7761-88-8)		
EU	IOELV TWA (mg/m <sup>3</sup> )	0,01 mg/m <sup>3</sup> (Silver (soluble compounds as Ag); EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
Belgium	Limit value (mg/m <sup>3</sup> )	0,01 mg/m <sup>3</sup> (Argent (composés solubles) (en Ag); Belgium; Time-weighted average exposure limit 8 h)
Finland	Local name	Hopeanitraatti
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	0,01 mg/m <sup>3</sup> Ag
Finland	HTP-arvo (15 min)	0,03 mg/m <sup>3</sup> Ag
France	VME (mg/m <sup>3</sup> )	0,01 mg/m <sup>3</sup> (Argent (composés solubles), en Ag; France; Time-weighted average exposure limit 8 h; VRI: Valeur réglementaire indicative)
Ireland	Local name	Silver (soluble compounds as Ag)
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	0,01 mg/m <sup>3</sup>

silver nitrate (7761-88-8)		
Ireland	Notes (IE)	IOELV
Netherlands	Grenswaarde TGG 8H (mg/m <sup>3</sup> )	0,01 mg/m <sup>3</sup> (Zilver, oplosbare verbindingen (als Ag); Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value; als Ag)
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	0,01 mg/m <sup>3</sup> Silver (soluble compounds as Ag); United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
USA - ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0,01 mg/m <sup>3</sup> (Silver Soluble compounds, as Ag; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)

### 8.2. Exposure controls

Appropriate engineering controls	: Provide adequate general and local exhaust ventilation. Ensure good ventilation of the work station.
Personal protective equipment	: Protective clothing. Protective goggles. Gloves.
Hand protection	: Protective gloves
Eye protection	: Safety glasses
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: In case of insufficient ventilation, wear suitable respiratory equipment



Environmental exposure controls	: Avoid release to the environment.
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## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: No data available
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
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

The product is non-reactive under normal conditions of use, storage and transport.

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Not classified

silver nitrate (7761-88-8)	
LD50 oral rat	1173 mg/kg (Rat)
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye damage.
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

Ecology - general : Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

silver nitrate (7761-88-8)	
LC50 fish 2	0,006 mg/l (LC50; 96 h; Salmo gairdneri)
EC50 Daphnia 1	0,0006 mg/l (EC50; 48 h)

#### 12.2. Persistence and degradability

silver nitrate (7761-88-8)	
Persistence and degradability	Biodegradability: Not applicable. May cause long-term adverse effects in the environment.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

#### 12.3. Bioaccumulative potential

silver nitrate (7761-88-8)	
BCF fish 1	11 - 19 (BCF)
BCF fish 2	15 - 150 (BCF)
Log Pow	0,19 (Estimated value)

<b>silver nitrate (7761-88-8)</b>	
Bioaccumulative potential	Low bioaccumulation potential (BCF < 500). Not established.

#### 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

No additional information available




### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Dispose of contents/container to a licensed waste centre in accordance with local/regional/national/international regulations.
European List of Waste (LoW) code	: 16 05 06* - laboratory chemicals consisting of or containing dangerous substances including mixtures of laboratory chemicals

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA
<b>14.1. UN number</b> 3082	3082	3082
<b>14.2. UN proper shipping name</b> ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (silver nitrate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (silver nitrate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (silver nitrate)
<b>Transport document description</b> UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (silver nitrate), 9, III, (-)	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (silver nitrate), 9, III, MARINE POLLUTANT	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (silver nitrate), 9, III
<b>14.3. Transport hazard class(es)</b> 9	9	9
		
<b>14.4. Packing group</b> III	III	III
<b>14.5. Environmental hazards</b> Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes
No supplementary information available		

#### 14.6. Special precautions for user

##### - Overland transport

Classification code (ADR)	: M6
Special provisions (ADR)	: 274, 335, 375, 601
Limited quantities (ADR)	: 5I
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P001, IBC03, LP01, R001
Special packing provisions (ADR)	: PP1
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T4
Portable tank and bulk container special provisions (ADR)	: TP1, TP29
Tank code (ADR)	: LGBV

Vehicle for tank carriage : AT  
 Transport category (ADR) : 3  
 Special provisions for carriage - Packages (ADR) : V12  
 Special provisions for carriage - Loading, unloading and handling (ADR) : CV13  
 Hazard identification number (Kemler No.) : 90  
 Orange plates :



Tunnel restriction code (ADR) : -  
 EAC code : •3Z

### - Transport by sea

Special provisions (IMDG) : 274, 335, 969  
 Packing instructions (IMDG) : P001, LP01  
 Special packing provisions (IMDG) : PP1  
 IBC packing instructions (IMDG) : IBC03  
 Tank instructions (IMDG) : T4  
 Tank special provisions (IMDG) : TP2, TP29  
 EmS-No. (Fire) : F-A  
 EmS-No. (Spillage) : S-F  
 Stowage category (IMDG) : A

### - Air transport

PCA Excepted quantities (IATA) : E1  
 PCA Limited quantities (IATA) : Y964  
 PCA limited quantity max net quantity (IATA) : 30kgG  
 PCA packing instructions (IATA) : 964  
 PCA max net quantity (IATA) : 450L  
 CAO packing instructions (IATA) : 964  
 CAO max net quantity (IATA) : 450L  
 Special provisions (IATA) : A97, A158, A197  
 ERG code (IATA) : 9L

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 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

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

3. Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008	British Pharmacopoeia Reagent - Silver Nitrate Solution R1
3(b) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10	British Pharmacopoeia Reagent - Silver Nitrate Solution R1
3(c) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1	British Pharmacopoeia Reagent - Silver Nitrate Solution R1

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

### 15.1.2. National regulations

#### Germany

Reference to AwSV	: Water hazard class (WGK) 3, severe hazard to waters (Classification according to AwSV, Annex 1)
Storage class (LGK)	: LGK 12 - Non-combustible liquids
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	: None of the components are listed
SZW-lijst van mutagene stoffen	: None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding	: None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid	: None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling	: None of the components are listed

#### Denmark

Recommendations Danish Regulation	: Young people below the age of 18 years are not allowed to use the product
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### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Ox. Sol. 2	Oxidising Solids, Category 2
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

SDS EU Mod H F (REACH ANNEX II)

*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.*