

Silver Nitrate 2 %

Revision date: 24.08.2023

Product code: 11183.xxxxx

according to UK REACH Regulation

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

1.1. Product identifier

Silver Nitrate 2 %

UFI:

74YY-90JQ-600M-80WJ

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

Use of the substance/mixture

Use as laboratory reagent. The product is intended for research, analysis and scientific education.

Uses advised against

Any non-intended use.

1.3. Details of the supplier of the safety data sheet

Company name:	MORPHISTO GmbH	
Street:	Schumannstr. 142/144	
Place:	D-63069 Offenbach	
Telephone:	+49 (0) 69 / 400 3019-60	Telefax: +49 (0) 69 / 400 3019-64
E-mail:	info@morphisto.de	
Contact person:	Morphisto GmbH	
E-mail:	gefahrstoffmanagement@morphisto.de	
Internet:	http://www.morphisto.de	
1.4. Emergency telephone	Poison Information Center Mainz, Germ	any, Tel: +49(0)6131/19240

number:

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Met. Corr. 1; H290 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Aquatic Acute 1; H400 Aquatic Chronic 1; H410

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Signal	word:
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Pictograms:



Hazard statements

H290	May be corrosive to metals.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

P234	Keep only in original packaging.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P332+P313	If skin irritation occurs: Get medical advice/attention.

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P337+P313	If eye irritation persists: Get medical advice/attention.				
P391	Collect spillage.				
Labelling of packages Signal word:	where the contents do not exceed 125 ml Warning				
Pictograms:	\wedge				
0	¥ a				

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulating and toxic (PBT) or very persistent and very bioaccumulating (vPvB) at levels of 0.1% or higher. Ecological information: The substance/mixture does not contain any components that are considered to be hazardous according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in amounts of 0.1% or more have endocrine disrupting properties. Toxicological information: The substance/mixture does not contain any components that are to be classified according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in quantities of 0.1% or more have endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

aqueous solution

Hazardous components

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

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

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

Further Information

This product contains no substances of very high concern (SVHC) (>0,1%) which are included in the Candidate List according to Article 59 of REACH.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

First aider: Pay attention to self-protection! Take off immediately all contaminated clothing. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

Provide fresh air. In case of inhaling spray mist, consult a doctor immediately and show him packing or label.



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After contact with skin

After contact with skin, wash immediately with plenty of water and soap. If skin irritation occurs: Get medical advice/attention. Take off immediately all contaminated clothing and wash it before reuse.

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.

After ingestion

Rinse mouth immediately and drink 1 glass of of water. Observe risk of aspiration if vomiting occurs. Let water be drunken in little sips (dilution effect). Do NOT induce vomiting.

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

Irritation gastro-intestinal ailment.

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

Co-ordinate fire-fighting measures to the fire surroundings. Co-ordinate fire-fighting measures to the fire surroundings. Water spray. alcohol resistant foam.

dry extinguishing powder.

The product itself does not burn.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Non-flammable. Vapours can form explosive mixtures with air. Vapours can form explosive mixtures with air. In case of fire may be liberated: Nitrogen oxides (NOx).

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. (See section 8.)

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Discharge into the environment must be avoided. Cover drains. Prevent spread over a wide area (e.g. by containment or oil barriers).

6.3. Methods and material for containment and cleaning up

For cleaning up

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

Other information

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Rinse with water. Clean contaminated



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objects and areas thoroughly observing environmental regulations.

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

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Wear suitable protective clothing. (See section 8.) Provide adequate ventilation as well as local exhaustion at critical locations. Use extractor hood (laboratory).

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff. Always close containers tightly after the removal of product.

Further information on handling

Avoid contact with skin, eyes and clothes.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. May cause decomposition by long-term light influence. Unsuitable container/equipment material: Metal.

Hints on joint storage

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Radioactive substances. Infectious substances.

Further information on storage conditions

Keep container tightly closed in a cool, well-ventilated place. Protect against: UV-radiation/sunlight. storage temperature: 15-25°C.

7.3. Specific end use(s)

Use as laboratory reagent. The product is intended for research, analysis and scientific education.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
-	Silver (soluble compounds as Ag)	-	0.01		TWA (8 h)	WEL

DNEL/DMEL values

CAS No	Substance				
DNEL type		Exposure route	Effect	Value	
7761-88-8	silver nitrate				
Worker DNEL, long-term		inhalation	systemic	0,016 mg/m³	



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PNEC values

CAS No	Substance			
Environment	al compartment	Value		
7761-88-8				
Freshwater	0,000004 mg/l			
Freshwater (mg/l			
Marine water	r	0,000086 mg/l		
Freshwater s	438,1 mg/kg			
Marine sedin	438,1 mg/kg			
Micro-organi	0,000025 mg/l			
Soil 1				

8.2. Exposure controls





Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Use extractor hood (laboratory).

Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection: goggles. Suitable eye protection: Tightly sealed safety glasses. EN 166

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Pull-over gloves of rubber. EN ISO 374

Breakthrough time >480 min

PVC (Polyvinyl chloride). 0,5 mm

Butyl rubber. 0,5 mm

NBR (Nitrile rubber) >0,11mm

Before using check leak tightness / impermeability. In the case of wanting to use the gloves again, clean them before taking off and air them well.

Skin protection

Use of protective clothing. Lab apron. Protective apron.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. With correct and proper use, and under normal conditions, breathing protection is not required.

Respiratory protection necessary at:

generation/formation of aerosols

Generation/formation of mist

Suitable respiratory protective equipment:

Combination filtering device (EN 14387) Type : ABEK

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Environmental exposure controls

Do not allow uncontrolled discharge of product into the environment.Do not allow to enter into surface water or



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drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

9.1	. mormation on basic physical and cher		
	Physical state:	liquid	
	Colour:	clear	
	Odour:	characteristic	
	Melting point/freezing point:		~0 °C
	Boiling point or initial boiling point and		~100 °C
	boiling range:		
	Flammability:		not applicable
	Lower explosion limits:		not determined
	Upper explosion limits:		not determined
	Flash point:		not determined
	Auto-ignition temperature:		not determined
	Decomposition temperature:		not determined
	pH-Value (at 20 °C):		7-8
	Viscosity / kinematic:		not determined
	Water solubility:		miscible.
	(at 20 °C)		
	Solubility in other solvents		
	not determined		
	Partition coefficient n-octanol/water:		not determined
	Vapour pressure:		23 hPa
	(at 20 °C)		
	Density (at 20 °C):		1,02 g/cm ³
	Relative vapour density:		not determined
	Particle characteristics:		not applicable
<u>9.2</u>	2. Other information		
	Information with regard to physical haza	ard classes	
	Explosive properties		
	The product is not: Explosive. The pro	duct is not: Explosive.	
	Self-ignition temperature		
	Solid:		not applicable
	Gas:		not applicable
	Oxidizing properties		
	Not oxidising.		
	Other safety characteristics		
	Evaporation rate:		not determined
	Solid content:		not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

Corrosive to metals.

10.2. Chemical stability

Stable under normal storage and handling conditions.

10.3. Possibility of hazardous reactions

No information available.

10.4. Conditions to avoid

Protect against:UV-radiation/sunlight. Keep away from heat. Protect from moisture.



Method

according to UK REACH Regulation

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10.5. Incompatible materials

Keep away from: Metal. Reducing agents.

10.6. Hazardous decomposition products

In case of fire may be liberated: Nitrogen oxides (NOx).

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Acute toxicity

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

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No Chemical name Exposure route Dose Species Source 7761-88-8 silver nitrate LD50 oral >2000 Rat MSDS external mg/kg dermal LD50 >2000 Rat MSDS external

Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

Sensitising effects

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

mg/kg

Carcinogenic/mutagenic/toxic effects for reproduction

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.

11.2. Information on other hazards

Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

Other information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity

Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.



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CAS No	Chemical name							
	Aquatic toxicity	Dose Dose			Species	Source	Method	
7761-88-8	silver nitrate							
	Acute fish toxicity	Acute fish toxicity LC50 0,0012 96 h Pimephales promelas mg/l		Pimephales promelas	ECHA Dossier			
	Acute crustacea toxicity	EC50 mg/l	0,00022	48 h	Daphnia magna	ECHA Dossier		
	Fish toxicity	NOEC mg/l	0,00037	28 d	Pimephales promelas	MSDS external		

12.2. Persistence and degradability

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

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

highly hazardous to water

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation. Consult the local waste disposal expert about waste disposal. Non-contaminated packages may be recycled.

List of Wastes Code - 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

List of Wastes Code - used product

160507 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded inorganic chemicals consisting of or containing hazardous substances; hazardous waste

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information



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Land transport (ADR/RID) <u>14.1. UN number or ID number:</u> <u>14.2. UN proper shipping name:</u> <u>14.3. Transport hazard class(es):</u> <u>14.4. Packing group:</u> Hazard label:	UN 1760 CORROSIVE LIQUID, N.O.S. (silver nitrate) 8 III 8			
Classification code: Special Provisions: Limited quantity: Excepted quantity: Transport category: Hazard No: Tunnel restriction code:	C9 274 5 L E1 3 80 E			
Inland waterways transport (ADN) <u>14.1. UN number or ID number:</u> <u>14.2. UN proper shipping name:</u> <u>14.3. Transport hazard class(es):</u> <u>14.4. Packing group:</u> Hazard label:	UN 1760 CORROSIVE LIQUID, N.O.S. (silver nitrate) 8 III 8			
Classification code: Special Provisions: Limited quantity: Excepted quantity:	C9 274 5 L E1			
Marine transport (IMDG) <u>14.1. UN number or ID number:</u> <u>14.2. UN proper shipping name:</u> <u>14.3. Transport hazard class(es):</u> <u>14.4. Packing group:</u> Hazard label:	UN 1760 CORROSIVE LIQUID, N.O.S. (·Silver nitrate·) 8 III 8			
Special Provisions: Limited quantity: Excepted quantity: EmS: Air transport (ICAO-TI/IATA-DGR) <u>14.1. UN number or ID number:</u> <u>14.2. UN proper shipping name:</u> <u>14.3. Transport hazard class(es):</u> <u>14.4. Packing group:</u> Hazard label:	223 274 5 L E1 F-A, S-B UN 1760 CORROSIVE LIQUID, N.O.S. (·Silver nitrate·) 8 III 8			



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Special Provisions: Limited quantity Passenger: Passenger LQ:	A3 A803 1 L Y841			
Excepted quantity: IATA-packing instructions - Passenger: IATA-max. quantity - Passenger: IATA-packing instructions - Cargo:	E1 852 5 L 856	5		
IATA-max. quantity - Cargo: 14.5. Environmental hazards	60 L	L		
ENVIRONMENTALLY HAZARDOUS:	Yes	¥2		
Danger releasing substance:	(silver nitrate)	\sim		
14.7. Maritime transport in bulk according to not relevant SECTION 15: Regulatory information 15.1. Safety, health and environmental regulatory information EU regulatory information Restrictions on use (REACH, annex XVII): Entry 3, Entry 75 Information according to 2012/18/EU (SEVESO III):	lations/legislation specific			
Additional information				
This preparation is hazardous in the s	ense of regulation (EC) No	1272/2008 [GHS].		
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 w	ater		
15.2. Chemical safety assessment For the following substances of this mi silver nitrate	xture a chemical safety asse	essment has been carried out:		
SECTION 16: Other information				
Changes This data sheet contains changes from Rev. 2,0; 06.12.22; Individual safety da Rev. 2,1; 10.08.2023; general adjustm Rev. 3,0; 24.08.2023; Change of class	ata sheet based on 11183_c ent(s)	collect		

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the



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Relevant H and EUH statements (number and full text) H272

May intensify fire; oxidiser.

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Silver Nitrate 2 % Revision date: 24.08.2023 Product code: 11183.xxxxx Page 12 of 12 May be corrosive to metals. H290 H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H319 Causes serious eye irritation. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects. **Further Information** 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. 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. 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 data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)