

## Safety Data Sheet

according to UK REACH Regulation

### Silbernitrat 99,9 %, p.a.

Revision date: 01.12.2023

Product code: 14020.xxxxx

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

### 1.1. Product identifier

Silbernitrat 99,9 %, p.a.

Substance name: silver nitrate  
REACH Registration Number: 01-2119513705-43-xxxx  
CAS No: 7761-88-8  
Index No: 047-001-00-2  
EC No: 231-853-9  
UFI: VPT7-61QX-400K-WH3K

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

#### Use of the substance/mixture

Use as laboratory reagent.

#### 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 number:

Poison Information Center Mainz, Germany, Tel: +49(0)6131/19240

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### GB CLP Regulation

Ox. Sol. 2; H272  
Met. Corr. 1; H290  
Skin Corr. 1B; H314  
Aquatic Acute 1; H400 (M-Factor (self-classification) = 100)  
Aquatic Chronic 1; H410 (M-Factor (self-classification) = 100)

Full text of hazard statements: see SECTION 16.

### 2.2. Label elements

#### GB CLP Regulation

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.

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H410 Very toxic to aquatic life with long lasting effects.

#### Precautionary statements

P260 Do not breathe dusts or mists.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTER/doctor.

#### Labelling of packages where the contents do not exceed 125 ml

Signal word: Danger

Pictograms:



#### Hazard statements

H314

#### Precautionary statements

P260-P280-P303+P361+P353-P305+P351+P338-P310

#### 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

#### 3.1. Substances

Sum formula: AgNO<sub>3</sub>  
Molecular weight: 169,88 g/mol

#### Hazardous components

CAS No	Chemical name	Quantity
	EC No	
	Index No	
	REACH No	
	Classification (GB CLP Regulation)	
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, Aquatic Acute 1, Aquatic Chronic 1; H272 H290 H314 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 = >2000 mg/kg; oral: LD50 = >2000 mg/kg Aquatic Acute 1; H400: M=100 Aquatic Chronic 1; H410: M=100	

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**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! Remove affected person from the danger area and lay down. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Remove contaminated, saturated clothing immediately.

**After inhalation**

Provide fresh air. In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of respiratory tract irritation, consult a physician.

**After contact with skin**

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

**After contact with eyes**

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an ophthalmologist.

**After ingestion**

Adverse human health effects and symptoms: Gastric perforation. Do not allow a neutralisation agent to be drunk. Do NOT induce vomiting. Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Observe risk of aspiration if vomiting occurs. Never give anything by mouth to an unconscious person or a person with cramps. Call a physician immediately.

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

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

**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. Sand. Foam. Carbon dioxide (CO<sub>2</sub>). Extinguishing powder.

In case of major fire and large quantities: Water spray jet. Water mist.

**Unsuitable extinguishing media**

Full water jet

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

Non-flammable. In case of fire may be liberated: Nitrogen oxides (NO<sub>x</sub>)

**5.3. Advice for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit. In case of fire and/or explosion do not breathe fumes. In case of fire: Wear self-contained breathing apparatus.

**Additional information**

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Co-ordinate fire-fighting measures to the fire surroundings.

**SECTION 6: Accidental release measures**

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**6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Ventilate affected area. Avoid generation of dust.

Do not breathe dust. Avoid contact with skin, eyes and clothes.

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains. Prevent spread over a wide area (e.g. by containment or oil barriers). Do not allow to enter into soil/subsoil. If required, notify relevant authorities according to all applicable regulations.

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

Soak up inert absorbent and dispose as waste requiring special attention. Unsuitable material for taking up: Flammable solids.

**Other information**

Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal. Avoid generation of dust.

Treat the recovered material as prescribed in the section on waste disposal.

Clean contaminated 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. Provide adequate ventilation as well as local exhaust at critical locations.

Use extractor hood (laboratory).

Wear suitable protective clothing. ( See section 8. )

Avoid generation of dust.

**Advice on protection against fire and explosion**

Keep away from sources of ignition - No smoking. 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. The usual precautions for handling chemicals should be considered.

Always close containers tightly after the removal of product.

**Further information on handling**

Do not breathe dust. Avoid contact with skin, eyes and clothes.

General protection and hygiene measures: See section 8.

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

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaust at critical locations. Keep cool. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Unsuitable container/equipment material: Metal. Only use containers specifically approved for the substance/product.

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#### Hints on joint storage

Keep away from clothing and other combustible materials. Do not store together with: Gas. Aerosol dispensers. Explosives. Pyrophoric liquids and solids. Self-heating substances and mixtures. Substances or mixtures which, in contact with water, emit flammable gases. Organic peroxides. Self-reactive substances and mixtures. Radioactive substances. Infectious substances.

#### Further information on storage conditions

Recommended storage temperature: 15-25 °C  
Protect against: frost. UV-radiation/sunlight. heat. Humidity

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

See section 1.

### 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

##### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
7761-88-8	silver nitrate			
Worker DNEL, long-term		inhalation	systemic	0,016 mg/m <sup>3</sup>

##### PNEC values

CAS No	Substance	Value
7761-88-8	silver nitrate	
Freshwater		0,000004 mg/l
Freshwater (intermittent releases)		mg/l
Marine water		0,000086 mg/l
Freshwater sediment		438,1 mg/kg
Marine sediment		438,1 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,000025 mg/l
Soil		1,41 mg/kg

#### 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. Provide adequate ventilation as well as local exhaustion at critical locations. Use extractor hood (laboratory).

##### Individual protection measures, such as personal protective equipment

##### Eye/face protection

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

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**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. Wear suitable gloves.

Suitable material:

FKM (fluororubber). - Thickness of glove material: 0,4 mm

Breakthrough time  $\geq$  8 h

Butyl rubber. - Thickness of glove material: 0,5 mm

Breakthrough time  $\geq$  8 h

CR (polychloroprenes, Chloroprene rubber). - Thickness of glove material: 0,5 mm

Breakthrough time  $\geq$  8 h

NBR (Nitrile rubber). - Thickness of glove material: 0,35 mm

Breakthrough time  $\geq$  8 h

PVC (Polyvinyl chloride). - Thickness of glove material: 0,5 mm

Breakthrough time  $\geq$  8 h

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

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. Suitable protective clothing: Lab apron.

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500 (D).

**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:

exceeding exposure limit values

Insufficient ventilation.

dust formation

Suitable respiratory protective equipment: particulates filter device (DIN EN 143). Type: P2/3

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. Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).

**Environmental exposure controls**

Do not empty into drains.

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

Physical state:	solid
Colour:	colourless
Odour:	characteristic
Melting point/freezing point:	212 °C
Boiling point or initial boiling point and boiling range:	444 °C
Flammability:	No information available.
Lower explosion limits:	No information available.
Upper explosion limits:	No information available.
Flash point:	No information available.
Auto-ignition temperature:	No information available.

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Decomposition temperature:	444 °C
pH-Value (at 20 °C):	5,5-6,4 (100 g/l)
Viscosity / kinematic:	No information available.
Water solubility: (at 20 °C)	2160 g/L
Solubility in other solvents	No information available.
Partition coefficient n-octanol/water:	No information available.
Vapour pressure:	No information available.
Density (at 20 °C):	4,35 g/cm <sup>3</sup>
Relative density:	No information available.
Bulk density:	2350 kg/m <sup>3</sup>
Relative vapour density:	No information available.
Particle characteristics:	not applicable

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

The product is not: Explosive.

**Sustaining combustion:**

No data available

**Self-ignition temperature**

Solid:

No information available.

Gas:

No information available.

**Oxidizing properties**

May intensify fire; oxidiser.

**Other safety characteristics**
**Evaporation rate:**

No information available.

**Solvent separation test:**

No information available.

**Solvent content:**

No information available.

**Solid content:**

No information available.

**Sublimation point:**

No information available.

**Softening point:**

No information available.

**Pour point:**

No information available.

**Viscosity / dynamic:**

No information available.

**Flow time:**

No information available.

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

Corrosive to metals. Oxidising. No information available.

**10.2. Chemical stability**

The product is chemically stable under recommended conditions of storage, use and temperature.

Decomposition temperature: 444 °C

**10.3. Possibility of hazardous reactions**

Exothermic reaction with: Combustible substance, Alkali metals, Alkaline earth metal, Heavy metals, Metal powder, Acid, Base. Reacts with : Alkali (lye), Metal, Light metal, Acid

**10.4. Conditions to avoid**

Handle with care - avoid bumps, friction and impact. Explosive. Remove all sources of ignition. Keep away from: Heat. Ignition. Protect against: UV-radiation/sunlight. heat.

**10.5. Incompatible materials**

Keep away from: Metal. Keep away from clothing and other combustible materials. Materials to avoid:

Reducing agents, strong., Alkali (lye), Metal, Light metal, Acid

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**10.6. Hazardous decomposition products**

Resulting from the use of the product: Oxygen. 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.

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

**Irritation and corrosivity**

Causes severe skin burns and eye damage.

Causes serious eye damage.

**Sensitising effects**

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

**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**

This substance is classified as hazardous according to Regulation (EC) No 1272 (2008).

**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 mg/l	0,0012	96 h	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



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**12.2. Persistence and degradability**

The product has not been tested.

**12.3. Bioaccumulative potential**

No indication of bioaccumulation potential.

**12.4. Mobility in soil**

No information 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**

No information available.

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

**List of Wastes Code - residues/unused products**

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 - 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****Land transport (ADR/RID)**

<b><u>14.1. UN number or ID number:</u></b>	UN 1493
<b><u>14.2. UN proper shipping name:</u></b>	SILVER NITRATE
<b><u>14.3. Transport hazard class(es):</u></b>	5.1
<b><u>14.4. Packing group:</u></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)**

<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
Segregation group:	7 - heavy metals and their salts (including their organometallic compounds)

**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
<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**

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ENVIRONMENTALLY HAZARDOUS: Yes



Danger releasing substance: silver nitrate

#### **14.6. Special precautions for user**

Warning: Oxidising substances. Informations for safe handling see chapter 7.  
Informations for personal protective equipment see chapter 8.

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

not relevant

### 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 3, Entry 75

Information according to 2012/18/EU (SEVESO III): P8 OXIDISING LIQUIDS AND SOLIDS

Additional information: E1

##### **Additional information**

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

##### **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

#### **15.2. Chemical safety assessment**

For the following substances of this mixture a chemical safety assessment has been carried out:  
silver nitrate

### SECTION 16: Other information

#### **Changes**

This data sheet contains changes from the previous version in section(s):

1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16.

Rev.: 1,0; 26.08.2016, Initial release

Rev. 2,0; 01.12.2023; general adjustment(s)

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**Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route

CAS Chemical Abstracts Service

DNEL: Derived No Effect Level

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

LOAEL: Lowest observed adverse effect level

LOAEC: Lowest observed adverse effect concentration

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NOAEL: No observed adverse effect level

NOAEC: No observed adverse effect level

NTP: National Toxicology Program

N/A: not applicable

OSHA: Occupational Safety and Health Administration

PNEC: predicted no effect concentration

PBT: Persistent bioaccumulative toxic

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail )

SARA: Superfund Amendments and Reauthorization Act

SVHC: substance of very high concern

TRGS Technische Regeln fuerGefahrstoffe

TSCA: Toxic Substances Control Act

VOC: Volatile Organic Compounds

VwVwS: Verwaltungsvorschrift wassergefaehrdender Stoffe

WGK: Wassergefaehrdungsklasse

CLP: Classification, labelling and Packaging

REACH: Registration, Evaluation and Authorization of Chemicals

GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals

UN: United Nations

CAS: Chemical Abstracts Service

DNEL: Derived No Effect Level

DMEL: Derived Minimal Effect Level

PNEC: Predicted No Effect Concentration

ATE: Acute toxicity estimate

LL50: Lethal loading, 50%

EL50: Effect loading, 50%

EC50: Effective Concentration 50%

ErC50: Effective Concentration 50%, growth rate

NOEC: No Observed Effect Concentration

BCF: Bio-concentration factor

PBT: persistent, bioaccumulative, toxic

vPvB: very persistent, very bioaccumulative

ADR: Accord européen sur le transport des marchandises dangereuses par Route

(European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Regulations concerning the international carriage of dangerous goods by rail

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)

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Product code: 14020.xxxxx

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EmS: Emergency Schedules

MFAG: Medical First Aid Guide

MARPOL: International Convention for the Prevention of Marine Pollution from Ships

IBC: Intermediate Bulk Container

For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

Ox. Sol: Oxidising solids

Met. Corr: Corrosive to metals

Skin Corr: Skin corrosion

Eye Dam: Eye damage

Aquatic Acute: Acute aquatic hazard

Aquatic Chronic: Chronic aquatic hazard

**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 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. Classification according EC regulation 1272/2008 (CLP): -

Classification procedure:

Health hazards: Calculation method.

Environmental hazards: Calculation method.

Physical hazards: On basis of test data and / or calculated and / or estimated.

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.