

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Misch Standard "SM Medizinprodukt" 25 Elemente in Salpetersäure 7 %

Revision date: 13.05.2024

Product code: 34095

Page 1 of 16

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

##### 1.1. Product identifier

Misch Standard "SM Medizinprodukt" 25 Elemente in Salpetersäure 7 %

UFI: T7E1-V3YY-6002-8EJV

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

###### Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

###### Uses advised against

Do not use for private purposes (household).

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

Company name: AnalytiChem GmbH  
ACD  
Street: Stempelstraße 6  
Place: D-47167 Duisburg  
Telephone: 0203/5194-0  
Telefax: 0203/5194-290  
E-mail: info@analytichem.de  
Contact person: Abteilung Produktsicherheit  
Telephone: 0203/5194-107/117  
E-mail: produktsicherheit@analytichem.de  
Internet: www.analytichem.de  
Responsible Department: Abteilung Produktsicherheit

##### 1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

##### Further Information

This product is a mixture. REACH Registration Number see section 3.

#### SECTION 2: Hazards identification

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

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

Met. Corr. 1; H290

Skin Corr. 1B; H314

Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

##### 2.2. Label elements

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

###### Hazard components for labelling

nitric acid

Signal word: Danger

###### Pictograms:



###### Hazard statements

H290

May be corrosive to metals.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Misch Standard "SM Medizinprodukt" 25 Elemente in Salpetersäure 7 %**

Revision date: 13.05.2024

Product code: 34095

Page 2 of 16

H314 Causes severe skin burns and eye damage.

**Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
 P280 Wear protective gloves/protective clothing and 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.

**Special labelling of certain mixtures**

EUH071 Corrosive to the respiratory tract.  
 EUH208 Contains nickel dinitrate. May produce an allergic reaction.

**2.3. Other hazards**

No data available

**SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**

**Chemical characterization**

Mixtures in aqueous solution

**Relevant ingredients**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7697-37-2	nitric acid			5 - < 10 %
	231-714-2	007-030-00-3	01-2119487297-23	
	Ox. Liq. 3, Met. Corr. 1, Acute Tox. 3, Skin Corr. 1A; H272 H290 H331 H314 EUH071			
7664-38-2	phosphoric acid			< 0.01 %
	231-633-2	015-011-00-6	01-2119485924-24	
	Met. Corr. 1, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1; H290 H302 H314 H318			
13138-45-9	nickel dinitrate			< 0.01 %
	236-068-5	028-012-00-1	01-2119492333-38	
	Ox. Sol. 2, Carc. 1A, Muta. 2, Repr. 1B, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, Resp. Sens. 1, Skin Sens. 1, STOT RE 1, Aquatic Acute 1, Aquatic Chronic 1; H272 H350i H341 H360D H332 H302 H315 H318 H334 H317 H372 H400 H410			
7761-88-8	silver nitrate			< 0.001 %
	231-853-9	047-001-00-2	01-2119513705-43	
	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.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Misch Standard "SM Medizinprodukt" 25 Elemente in Salpetersäure 7 %**

Revision date: 13.05.2024

Product code: 34095

Page 3 of 16

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

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
7697-37-2	231-714-2	nitric acid	5 - < 10 %
		inhalation: ATE 2,65 mg/l (vapours) Ox. Liq. 3; H272: >= 65 - 100 Skin Corr. 1A; H314: >= 20 - 100 Skin Corr. 1B; H314: >= 5 - < 20	
7664-38-2	231-633-2	phosphoric acid	< 0.01 %
		oral: ATE = 500 mg/kg Skin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25	
13138-45-9	236-068-5	nickel dinitrate	< 0.01 %
		inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); oral: LD50 = 361,9 mg/kg Skin Irrit. 2; H315: >= 20 - 100 Skin Sens. 1; H317: >= 0,01 - 100 STOT RE 1; H372: >= 1 - 100 STOT RE 2; H373: >= 0,1 - < 1 Aquatic Acute 1; H400: M=1 Aquatic Chronic 1; H410: M=1	
7761-88-8	231-853-9	silver nitrate	< 0.001 %
		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**

First aider: Pay attention to self-protection!

**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**

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.

Protect uninjured eye.

**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**

Causes burns.

Irritant

Cough

Dyspnoea

Vomiting

Methaemoglobinaemia

Risk of serious damage to eyes.

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

No data available

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Misch Standard "SM Medizinprodukt" 25 Elemente in Salpetersäure 7 %

Revision date: 13.05.2024

Product code: 34095

Page 4 of 16

#### 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 liquids

Hazardous combustion products

In case of fire may be liberated:

Nitrogen oxides (NO<sub>x</sub>)

##### 5.3. Advice for firefighters

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

In case of fire and/or explosion do not breathe fumes.

Avoid contact with skin, eyes and clothes.

##### **Additional information**

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

Move undamaged containers from immediate hazard area if it can be done safely.

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. Do not breathe vapour/aerosol.

###### **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.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

###### **For cleaning up**

Clean contaminated articles and floor according to the environmental legislation.

###### **Other information**

Provide adequate ventilation.

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

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Misch Standard "SM Medizinprodukt" 25 Elemente in Salpetersäure 7 %**

Revision date: 13.05.2024

Product code: 34095

Page 5 of 16

**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**

Read label before use. Handle and open container with care.  
When using do not eat, drink, smoke, sniff. Use personal protection equipment.  
Provide adequate ventilation. Avoid contact with skin, eyes and clothes.  
Do not breathe vapour/aerosol. Use extractor hood (laboratory).

**Advice on protection against fire and explosion**

Usual measures for fire prevention.

**Advice on general occupational hygiene**

Keep away from food, drink and animal feedingstuffs. 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 or drink. Avoid: aerosol or mist formation Do not breathe vapour/aerosol.

**Further information on handling**

Draw up and observe skin protection programme.  
Wash hands and face before breaks and after work and take a shower if necessary.  
Take off immediately all contaminated clothing and wash it before reuse.

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

**Requirements for storage rooms and vessels**

Corrosive to metals.  
Unsuitable container/equipment material: Metal  
The product develops hydrogen in an aqueous solution in contact with metals.

**Further information on storage conditions**

Keep container tightly closed.

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

Laboratory chemicals

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Occupational exposure limits**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
7429-90-5	Aluminium metal (Respirable Fraction)	-	1		TWA (8 h)	
10043-35-3	Borate compounds inorganic: boric acid	-	2		TWA (8 h)	
7440-50-8	Copper, dusts and mists	-	1		TWA (8 h)	
7697-37-2	Nitric acid	1	2.6		STEL (15 min)	
7664-38-2	Orthophosphoric acid	-	1		TWA (8 h)	
		-	2		STEL (15 min)	

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Misch Standard "SM Medizinprodukt" 25 Elemente in Salpetersäure 7 %**

Revision date: 13.05.2024

Product code: 34095

Page 6 of 16

**DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
7664-38-2	phosphoric acid			
Worker DNEL, acute		inhalation	local	2 mg/m <sup>3</sup>
Worker DNEL, long-term		inhalation	local	2,92 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	systemic	4,57 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	local	0,36 mg/m <sup>3</sup>
Consumer DNEL, long-term		oral	systemic	0,1 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	10,7 mg/m <sup>3</sup>
13138-45-9	nickel dinitrate			
Consumer DNEL, acute		oral	systemic	0,012 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,02 mg/kg bw/day
Worker DNEL, acute		inhalation	systemic	104 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	local	1,6 mg/m <sup>3</sup>
Consumer DNEL, acute		inhalation	systemic	8,8 mg/m <sup>3</sup>
Consumer DNEL, acute		inhalation	local	0,1 mg/m <sup>3</sup>
10043-35-3	boric acid			
Worker DNEL, long-term		inhalation	systemic	8,3 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	392 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	4,15 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	196 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,98 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	0,98 mg/kg bw/day
7761-88-8	silver nitrate			
Consumer DNEL, long-term		oral	systemic	0,02 mg/kg bw/day
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>

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Misch Standard "SM Medizinprodukt" 25 Elemente in Salpetersäure 7 %**

Revision date: 13.05.2024

Product code: 34095

Page 7 of 16

**PNEC values**

CAS No	Substance	Value
Environmental compartment		
13138-45-9	nickel dinitrate	
Freshwater		0,0071 mg/l
Freshwater (intermittent releases)		0 mg/l
Marine water		0,0086 mg/l
Freshwater sediment		109 mg/kg
Marine sediment		109 mg/kg
Secondary poisoning		0,12 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,33 mg/l
Soil		29,9 mg/kg
10043-35-3	boric acid	
Freshwater		2,9 mg/l
Freshwater (intermittent releases)		13,7 mg/l
Marine water		2,9 mg/l
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		5,7 mg/kg
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**

goggles

Wear eye/face protection.

**Hand protection**

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) With specification (test according to EN374):

By long-term hand contact

Recommended glove articles: KCL 741 Dermatril® L

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

Wearing time with permanent contact: > 480 min

By short-term hand contact

Recommended glove articles: KCL 741 Dermatril® L

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

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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Misch Standard "SM Medizinprodukt" 25 Elemente in Salpetersäure 7 %

Revision date: 13.05.2024

Product code: 34095

Page 8 of 16

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).

#### Skin protection

Wear suitable protective clothing. 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: aerosol or mist formation

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:	Liquid	
Colour:	colourless	
Odour:	like: Nitric acid	
Odour threshold:	No data available	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
Flammability:		No data available
Lower explosion limits:		No data available
Upper explosion limits:		No data available
Flash point:		No data available
Auto-ignition temperature:		No data available
Decomposition temperature:		No data available
pH-Value:		<1
Viscosity / kinematic:		No data available
Water solubility:		completely miscible
Solubility in other solvents		
No data available		
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:		No data available
Relative density:		No data available
Bulk density:		No data available
Relative vapour density:		No data available
Particle characteristics:		No data available

### 9.2. Other information



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Misch Standard "SM Medizinprodukt" 25 Elemente in Salpetersäure 7 %

Revision date: 13.05.2024

Product code: 34095

Page 9 of 16

#### Information with regard to physical hazard classes

Explosive properties

No data available

Sustaining combustion:

No data available

Self-ignition temperature

Solid:

No data available

Gas:

No data available

Oxidizing properties

No data available

#### Other safety characteristics

Evaporation rate:

No data available

Solvent separation test:

No data available

Solvent content:

0

Solid content:

0

Sublimation point:

No data available

Softening point:

No data available

Pour point:

No data available

No data available:

Viscosity / dynamic:

No data available

Flow time:

No data available

#### Further Information

Corrosive to metals.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Corrosive to metals.

Oxidising agent

### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

Alkali (lye)

The product develops hydrogen in an aqueous solution in contact with metals.

Amines, Ammonia, Alcohols, Alkali metals, Hydrogen peroxide

Copper, Combustible solids, Solvent, Alkaline earth metal, mercury (Hg).

### 10.4. Conditions to avoid

No data available

### 10.5. Incompatible materials

Cellulose

Metal

The product develops hydrogen in an aqueous solution in contact with metals.

### 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 as defined in Regulation (EC) No 1272/2008

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Misch Standard "SM Medizinprodukt" 25 Elemente in Salpetersäure 7 %**

Revision date: 13.05.2024

Product code: 34095

Page 10 of 16

**Toxicokinetics, metabolism and distribution**

There are no data available on the preparation/mixture itself.

**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	Method
7697-37-2	nitric acid				
	inhalation vapour	ATE 2,65 mg/l			
7664-38-2	phosphoric acid				
	oral	ATE 500 mg/kg			
13138-45-9	nickel dinitrate				
	oral	LD50 361,9 mg/kg	Rat	Regul Toxicol and Pharmacol (doi.org/10.	OECD Guideline 425
	inhalation vapour	ATE 11 mg/l			
	inhalation dust/mist	ATE 1,5 mg/l			
7761-88-8	silver nitrate				
	oral	LD50 > 2000 mg/kg	Rat	Study report (1993)	OECD Guideline 401
	dermal	LD50 > 348 mg/kg	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.

Corrosive to the respiratory tract.

Following ingestion Gastric perforation

Irritating to respiratory system.

Pulmonary oedema

see also Section 4

**Sensitising effects**

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

Contains nickel dinitrate. May produce an allergic reaction.

**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**

There are no data available on the preparation/mixture itself.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Misch Standard "SM Medizinprodukt" 25 Elemente in Salpetersäure 7 %

Revision date: 13.05.2024

Product code: 34095

Page 11 of 16

#### Specific effects in experiment on an animal

There are no data available on the preparation/mixture itself.

#### Additional information on tests

There are no data available on the preparation/mixture itself.

#### Practical experience

There are no data available on the preparation/mixture itself.

#### 11.2. Information on other hazards

##### Endocrine disrupting properties

There are no data available on the preparation/mixture itself.

##### Other information

There are no data available on the preparation/mixture itself.

##### Further information

There are no data available on the preparation/mixture itself.

## SECTION 12: Ecological information

### 12.1. Toxicity

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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Misch Standard "SM Medizinprodukt" 25 Elemente in Salpetersäure 7 %**

Revision date: 13.05.2024

Product code: 34095

Page 12 of 16

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
7697-37-2	nitric acid					
	Acute fish toxicity	LC50 mg/l	1559	96 h	Topeka shiner	Environmental Toxicology and Chemistry, other: ASTM E729-26
	Fish toxicity	NOEC	268 mg/l	30 d	juvenile Topeka shiner and with juvenile Fathead m	Study report (2009) Growth tests estimated the test chemical
	Algae toxicity	NOEC mg/l	> 419	10 d	several benthic diatoms; see results	Marine Biology 43:307-315 (1977) Ten cultures of benthic diatoms were iso
	Acute bacteria toxicity	EC50 mg/l ( )	> 1000	3 h	Activated sludge	Study report (2008) OECD Guideline 209
7664-38-2	phosphoric acid					
	Acute algae toxicity	ErC50 mg/l	> 100	72 h	Desmodesmus subspicatus	Study report (2010) EU Method C.3
	Acute crustacea toxicity	EC50 mg/l	> 100	48 h	Daphnia magna	Study report (2010) OECD Guideline 202
	Acute bacteria toxicity	EC50 mg/l ( )	> 1000	3 h	activated sludge of a predominantly domestic sewage	Study report (2010) OECD Guideline 209
13138-45-9	nickel dinitrate					
	Acute fish toxicity	LC50 mg/l	15,3	96 h	Oncorhynchus mykiss	Aquatic Toxicology 63 (2003) 65-82 (2003) other: not reported
	Acute algae toxicity	ErC50 mg/l	0,237	72 h	Ankistrodesmus falcatus	Publication (2009) OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	0,2663	48 h	Ceriodaphnia dubia	Study report (2004) other: American society of testing and m
	Fish toxicity	NOEC mg/l	0,057	32 d	Pimephales promelas	Water Resources Research Institute. Kent other: ASTM 1980, E-729
	Algae toxicity	NOEC	0,6 mg/l	14 d	Anabaena cylindrica	Environ. Pollut. (Series A). 25(4):241-2 other: not reported
	Crustacea toxicity	NOEC mg/l	0,04	42 d	Daphnia magna	Wat. Res. 24(7):845-852 (1990) Chronic exposure to sublethal concentrat
	Acute bacteria toxicity	EC50 ( )	33 mg/l ( )	0,5 h	Activated sludge	Journal of Hazardous Materials. B139:332 ISO 8192
7761-88-8	silver nitrate					
	Acute fish toxicity	LC50 mg/l	0,0012	96 h	Pimephales promelas	Environmental Toxicology and Chemistry. A guideline was not specified. The test
	Acute algae toxicity	ErC50 mg/l	0,0099	96 h	Pseudokirchneriella subcapitata	Environmental Science and Technology. 44 eline: U.S. Environmental Protection Age
	Acute crustacea toxicity	EC50 mg/l	0,00022	48 h	Daphnia magna	Environmental Toxicology and Chemistry. The protective effect of reactive sulphi

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Misch Standard "SM Medizinprodukt" 25 Elemente in Salpetersäure 7 %**

Revision date: 13.05.2024

Product code: 34095

Page 13 of 16

	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 bicolor	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**

There are no data available on the mixture itself.

**BCF**

CAS No	Chemical name	BCF	Species	Source
13138-45-9	nickel dinitrate	23	Spirodela polyrhiza	Ecotoxicology and en
7761-88-8	silver nitrate	70	Cyprinus carpio	Water, Air and Soil

**12.4. Mobility in soil**

There are no data available on the mixture itself.

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

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

**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**

Discharge into the environment must be avoided.

**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.

**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 2031
<b>14.2. UN proper shipping name:</b>	NITRIC ACID
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	II
Hazard label:	8
Classification code:	C1
Limited quantity:	1 L

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Misch Standard "SM Medizinprodukt" 25 Elemente in Salpetersäure 7 %**

Revision date: 13.05.2024

Product code: 34095

Page 14 of 16

Excepted quantity: E2  
 Transport category: 2  
 Hazard No: 80  
 Tunnel restriction code: E

**Inland waterways transport (ADN)**

**14.1. UN number or ID number:** UN 2031  
**14.2. UN proper shipping name:** NITRIC ACID  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
 Hazard label: 8  
 Classification code: C1  
 Limited quantity: 1 L  
 Excepted quantity: E2

**Marine transport (IMDG)**

**14.1. UN number or ID number:** UN 2031  
**14.2. UN proper shipping name:** NITRIC ACID  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
 Hazard label: 8  
 Special Provisions: -  
 Limited quantity: 1 L  
 Excepted quantity: E2  
 EmS: F-A, S-B  
 Segregation group: 1 - acids

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

**14.1. UN number or ID number:** UN 2031  
**14.2. UN proper shipping name:** NITRIC ACID  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
 Hazard label: 8  
 Special Provisions: A212  
 Limited quantity Passenger: Forbidden  
 Passenger LQ: Forbidden  
 Excepted quantity: E0  
 IATA-packing instructions - Passenger: Forbidden  
 IATA-max. quantity - Passenger: Forbidden  
 IATA-packing instructions - Cargo: 855  
 IATA-max. quantity - Cargo: 30 L

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**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 27, Entry 30, Entry 75

Marketing and use of explosives precursors (Regulation (EU) 2019/1148):

Acquisition, introduction, possession or use of this product by the general public is restricted by Regulation (EU) 2019/1148. All suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.

**National regulatory information**

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Misch Standard "SM Medizinprodukt" 25 Elemente in Salpetersäure 7 %**

Revision date: 13.05.2024

Product code: 34095

Page 15 of 16

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).  
Water hazard class (D): 1 - slightly hazardous to water

**SECTION 16: Other information**

**Changes**

This data sheet contains changes from the previous version in section(s): 1,2,6,8,9,11,12,14,15.

**Abbreviations and acronyms**

Ox. Liq: Oxidising liquid  
Ox. Sol: Oxidising solid  
Met. Corr: Substance or mixture corrosive to metals  
Acute Tox: Acute toxicity  
Skin Corr: Skin corrosion  
Skin Irrit: Skin irritation  
Eye Dam: Eye damage  
Resp. Sens: Respiratory sensitisation  
Skin Sens: Skin sensitisation  
Muta: Germ cell mutagenicity  
Carc: Carcinogenicity  
Repr: Reproductive toxicity  
STOT RE: Specific target organ toxicity - repeated exposure  
Aquatic Acute: Acute aquatic hazard  
Aquatic Chronic: Chronic aquatic hazard

**Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]**

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data
Skin Corr. 1B; H314	Calculation method
Eye Dam. 1; H318	Calculation method

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

H272 May intensify fire; oxidiser.  
H290 May be corrosive to metals.  
H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H331 Toxic if inhaled.  
H332 Harmful if inhaled.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H341 Suspected of causing genetic defects.  
H350i May cause cancer by inhalation.  
H360D May damage the unborn child.  
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.  
EUH071 Corrosive to the respiratory tract.  
EUH208 Contains nickel dinitrate. May produce an allergic reaction.

**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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Misch Standard "SM Medizinprodukt" 25 Elemente in Salpetersäure 7 %

Revision date: 13.05.2024

Product code: 34095

Page 16 of 16

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

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*(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*