

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Multielement-Standardlösung " Spuren 8" 17 Elemente in Salpetersäure 2 mol/l/l

Revision date: 23.04.2024

Product code: 31597

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

##### 1.1. Product identifier

Multielement-Standardlösung " Spuren 8" 17 Elemente in Salpetersäure 2 mol/l/l

##### 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.

H314

Causes severe skin burns and eye damage.

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**Precautionary statements**

- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing 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.

**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			
7631-99-4	sodium nitrate			5 - < 10 %
	231-554-3		01-2119488221-41	
	Ox. Sol. 3, Eye Irrit. 2; H272 H319			
7664-39-3	hydrofluoric acid ... %			< 0.01 %
	231-634-8	009-003-00-1		
	Acute Tox. 1, Acute Tox. 2, Acute Tox. 2, Skin Corr. 1A; H310 H330 H300 H314			
7647-01-0	Hydrochloric acid			< 0.01 %
	231-595-7	017-002-01-X	01-2119484862-27	
	Skin Corr. 1B, STOT SE 3; H314 H335			
1336-21-6	Ammonia			< 0.01 %
	215-647-6	007-001-01-2	01-2119488876-14	
	Skin Corr. 1B, Aquatic Acute 1, Aquatic Chronic 2; H314 H400 H411			
7664-38-2	phosphoric acid			< 0.0001 %
	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			

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

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## 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	
7631-99-4	231-554-3	sodium nitrate	5 - < 10 %
		dermal: LD50 = > 5000 mg/kg; oral: LD50 = ca. 3430 mg/kg	
7664-39-3	231-634-8	hydrofluoric acid ... %	< 0.01 %
		inhalation: ATE = 0,5 mg/l (vapours); inhalation: ATE = 0,05 mg/l (dusts or mists); inhalation: LC50 = 2240 ppm (gases); dermal: ATE = 5 mg/kg Skin Corr. 1A; H314: >= 7 - 100 Skin Corr. 1B; H314: >= 1 - < 7 Eye Irrit. 2; H319: >= 0,1 - < 1	
7647-01-0	231-595-7	Hydrochloric acid	< 0.01 %
		Skin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25 STOT SE 3; H335: >= 10 - 100	
1336-21-6	215-647-6	Ammonia	< 0.01 %
		inhalation: LC50 = 4230 mg/l (vapours); oral: LD50 = 350 mg/kg STOT SE 3; H335: >= 5 - 100 Aquatic Acute 1; H400: M=10	
7664-38-2	231-633-2	phosphoric acid	< 0.0001 %
		oral: ATE = 500 mg/kg Skin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25	

## 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

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Risk of serious damage to eyes.

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

No data available

### **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.

##### **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.

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Do not breathe dust/fume/gas/mist/vapours/spray.  
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

#### **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.

#### **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**

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**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)	
7664-41-7	Ammonia, anhydrous	20	14		TWA (8 h)	
		50	36		STEL (15 min)	
10043-35-3	Borate compounds inorganic: boric acid	-	2		TWA (8 h)	
7440-50-8	Copper, dusts and mists	-	1		TWA (8 h)	
7647-01-0	Hydrogen chloride	5	8		TWA (8 h)	
		10	15		STEL (15 min)	
7664-39-3	Hydrogen fluoride (as F)	1.8	1.5		TWA (8 h)	
		3	2.5		STEL (15 min)	
1309-48-4	Magnesium oxide, fume	-	5		TWA (8 h)	
		-	10		STEL (15 min)	
7697-37-2	Nitric acid	1	2.6		STEL (15 min)	
7664-38-2	Orthophosphoric acid	-	1		TWA (8 h)	
		-	2		STEL (15 min)	
7440-31-5	Tin (Metal)	-	2		TWA (8 h)	

**Biological limit values**

CAS No	Substance	Parameter	Value	Test material	Sampling time
7664-39-3	Hydrogen fluoride	Fluoride	2 mg/L	Urine	Prior to shift

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**DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
7664-39-3	hydrofluoric acid ... %			
Worker DNEL, long-term		inhalation	systemic	1,5 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	systemic	2,5 mg/m <sup>3</sup>
Worker DNEL, long-term		inhalation	local	1,5 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	local	2,5 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	systemic	0,03 mg/m <sup>3</sup>
Consumer DNEL, acute		inhalation	systemic	0,03 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	local	0,2 mg/m <sup>3</sup>
Consumer DNEL, acute		inhalation	local	1,25 mg/m <sup>3</sup>
Consumer DNEL, long-term		oral	systemic	0,01 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	0,01 mg/kg bw/day
7647-01-0	Hydrochloric acid			
Worker DNEL, long-term		inhalation	local	8 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	local	15 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	local	8 mg/m <sup>3</sup>
Consumer DNEL, acute		inhalation	local	15 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
1336-21-6	Ammonia			
Worker DNEL, long-term		inhalation	systemic	47,6 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	systemic	47,6 mg/m <sup>3</sup>
Worker DNEL, long-term		inhalation	local	14 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	local	36 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	6,8 mg/kg bw/day
Worker DNEL, acute		dermal	systemic	6,8 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	23,8 mg/m <sup>3</sup>
Consumer DNEL, acute		inhalation	systemic	23,8 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	local	2,8 mg/m <sup>3</sup>
Consumer DNEL, acute		inhalation	local	7,2 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	68 mg/kg bw/day
Consumer DNEL, acute		dermal	systemic	68 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	6,8 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	6,8 mg/kg bw/day

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7440-31-5	tin			
Worker DNEL, long-term		inhalation	systemic	71 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	10 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	17 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	80 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	5 mg/kg bw/day
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>

#### PNEC values

CAS No	Substance	Value
	Environmental compartment	
7631-99-4	sodium nitrate	
	Micro-organisms in sewage treatment plants (STP)	18 mg/l
7664-39-3	hydrofluoric acid ... %	
	Freshwater	0,89 mg/l
	Marine water	0,089 mg/l
	Freshwater sediment	3,38 mg/kg
	Marine sediment	0,338 mg/kg
	Micro-organisms in sewage treatment plants (STP)	51 mg/l
	Soil	10,6 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
1336-21-6	Ammonia	
	Freshwater	0,001 mg/l
	Freshwater (intermittent releases)	0,007 mg/l
	Marine water	0,001 mg/l

#### 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.



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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.

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

Trade name/designation: KCL 741 Dermatril® L  
Recommended material: NBR (Nitrile rubber) 0,11 mm  
Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation: KCL 741 Dermatril® L  
Recommended material: NBR (Nitrile rubber) 0,11 mm  
Wearing time with occasional contact (splashes): > 480 min

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](http://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**

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

**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:	clear	
Odour:	like: Nitric acid	
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

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pH-Value:	acidic
Viscosity / kinematic:	No data available
Water solubility:	completely miscible
Solubility in other solvents	
No data available	
Partition coefficient n-octanol/water:	No data available
Vapour pressure:	No data available
Vapour pressure:	No data available
Density:	No data available
Bulk density:	No data available
Relative vapour density:	No data available

#### 9.2. Other information

##### 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	
Oxidizing	

##### 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

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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**

**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			
7631-99-4	sodium nitrate				
	oral	LD50 ca. 3430 mg/kg	Rat	Study report (1980)	OECD Guideline 401
	dermal	LD50 > 5000 mg/kg	Rat	Study report (2000)	OECD Guideline 402
7664-39-3	hydrofluoric acid ... %				
	oral	ATE 5 mg/kg			
	dermal	ATE 5 mg/kg			
	inhalation vapour	ATE 0,5 mg/l			
	inhalation dust/mist	ATE 0,05 mg/l			
	inhalation (1 h) gas	LC50 2240 ppm	Rat	Study report (1990)	OECD Guideline 403
1336-21-6	Ammonia				
	oral	LD50 350 mg/kg	Rat	Journal of Industrial Hygiene and Toxicology	OECD Guideline 401
	inhalation (1 h) vapour	LC50 4230 mg/l	Mouse	Bull. Environm. Contam. Toxicol, 1982, 2	Assessment of acute inhalation toxicity
7664-38-2	phosphoric acid				
	oral	ATE 500 mg/kg			

**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

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#### Sensitising effects

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

#### 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.

#### 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

##### 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

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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	> 419 mg/l	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
7631-99-4	sodium nitrate					
	Acute fish toxicity	LC50 mg/l	> 100	96 h	Oncorhynchus mykiss	Study report (2000) OECD Guideline 203
	Acute crustacea toxicity	EC50 mg/l	3581	48 h	Daphnia magna	J. Water Pollut. Control Fed. 37(9):1308 no data
	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
7664-39-3	hydrofluoric acid ... %					
	Acute fish toxicity	LC50	299 mg/l	96 h	Salmo trutta	REACH Registration Dossier other: U.S Environmental Protection Agen
	Acute algae toxicity	ErC50	43 mg/l	96 h	various algae species	REACH Registration Dossier Methods not detailed in the review.
	Crustacea toxicity	NOEC	3,7 mg/l	21 d	Daphnia magna	REACH Registration Dossier The publication is a review article of v
	Acute bacteria toxicity	EC50 mg/l ( )	2930	3 h	Activated sludge	REACH Registration Dossier ISO 8192
7647-01-0	Hydrochloric acid					
	Acute fish toxicity	LC50	862 mg/l	96 h	Leuciscus idus	
1336-21-6	Ammonia					
	Acute fish toxicity	LC50	0,75 - 3,4 mg/l	96 h	Pimephales promelas	Trans Amer Fish Soc; 112 (5). 1983. 705- Assessment of acute toxicity in the fath
	Acute crustacea toxicity	EC50	101 mg/l	48 h	Daphnia magna	Environ. Toxicol. Chem. 5: 443-447 (1986) other: ASTM E729-80
	Fish toxicity	NOEC	1,2 mg/l	61 d	Oncorhynchus gorbuscha	Fish. Bull. 78(3): 641-648 (1980) OECD Guideline 210
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

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Acute bacteria toxicity	EC50 > 1000 mg/l ( )	3 h	activated sludge of a predominantly domestic sewage	Study report (2010)	OECD Guideline 209
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**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.

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
1336-21-6	Ammonia	-1,38

**BCF**

CAS No	Chemical name	BCF	Species	Source
7664-39-3	hydrofluoric acid ... %	53 - 58	not specified	REACH Registration D

**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.

There are no data available on the mixture itself.

**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.

**Further information**

Do not allow to enter into surface water or drains.

Discharge into the environment must be avoided.

**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.

**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.

Dispose of waste according to "Kreislaufwirtschafts- und Abfallgesetz (KrW-/AbfG)".

**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
Excepted quantity:	E2
Transport category:	2
Hazard No:	80

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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

#### 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

## 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 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

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

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#### Abbreviations and acronyms

Pyr. Sol: Pyrophoric solid  
 Water-react: Substance and mixture which, in contact with water, emits flammable gas  
 Ox. Liq: Oxidising liquid  
 Ox. Sol: Oxidising solid  
 Met. Corr: Substance or mixture corrosive to metals  
 Flam. Sol: Flammable solid  
 Acute Tox: Acute toxicity  
 Skin Corr: Skin corrosion  
 Eye Dam: Eye damage  
 Eye Irrit: Eye irritation  
 Repr: Reproductive toxicity  
 STOT SE: Specific target organ toxicity - single 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.
H300	Fatal if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
EUH071	Corrosive to the respiratory tract.

#### Further Information

Provide appropriate information, instructions and training to users  
 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 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 data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*