

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Multielement-Standardlösung 8 Elemente je 1g/l in HNO<sub>3</sub> etwa 2 mol/l**

Revision: 23.05.2024

Product code: AC18.01422

Page 1 of 17

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**Multielement-Standardlösung 8 Elemente je 1g/l in HNO<sub>3</sub> etwa 2 mol/l

UFI: 9DX8-P1K1-7007-45RS

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

Reagents and laboratory chemicals

Only for laboratory and analysis purposes.

**Uses advised against**

Do not use for private purposes (household).

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

Company name: AnalytiChem Services, Unipessoal, Lda

Street: Rua de Júlio Dinis 676 7º

Place: P-4050-320 Porto

Telephone: +351 226002917

E-mail: info@analytichem.com

Contact person: SDS service department

E-mail: SDS@analytichem.com

Internet: www.analytichem.com

Responsible Department: SDS service department

**Supplier or manufacturer details**

Company name: AnalytiChem GmbH

Street: Stempelstraße 6

Place: D-47167 Duisburg

Telephone: 0203/5194-0

Telefax: 0203/5194-290

E-mail: info@analytichem.de

Contact person: SDS service department

E-mail: SDS@analytichem.com

Internet: www.analytichem.de

Responsible Department: AnalytiChem:

EU-Belgium: AnalytiChem Belgium, Industriezone "De Arend" 2, 8210 Zedelgem, Belgium, +32 50 28 83 20

EU-Germany: AnalytiChem Germany, Stempelstrasse 6, 47167 Duisburg, Germany, +49 203 51 94 – 200

EU-Netherlands: AnalytiChem Netherlands, Communicatieweg 7, 3641 SG Mijdrecht, The Netherlands, +31 297 286848

UK: AnalytiChem UK, Unit 7 Launton Business Center, Murdock Road, Bicester, OX26 4XB, England, +44 1869 355 500

USA: AnalytiChem USA, 227 China Road, Winslow, Maine, 04901, United States, +1 800-244-8378

Canada: AnalytiChem Canada, 21800 Clark Graham Avenue, Baie d'Urfe, H9X 4B6, Canada, +1 514-457-0701

Australia: ORE Research &amp; Exploration Pty Ltd, 37A Hosie Street, Bayswater North, 3153, Australia, +61 3 9729 0333

**1.4. Emergency telephone number:**

+353 1 901 4670 (CHEMTREC)

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

Multielement-Standardlösung 8 Elemente je 1g/l in HNO<sub>3</sub> etwa 2 mol/l

Revision: 23.05.2024

Product code: AC18.01422

Page 2 of 17

## 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  
Carc. 1A; H350  
Acute Tox. 4; H332  
Skin Corr. 1B; H314  
Eye Dam. 1; H318  
Skin Sens. 1; H317  
STOT RE 2; H373  
Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

## 2.2. Label elements

## Regulation (EC) No 1272/2008

## Hazard components for labelling

beryllium nitrate  
nitric acid  
arsenic acid and its salts with the exception of those specified elsewhere in this Annex

Signal word: Danger

## Pictograms:



## Hazard statements

H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H332 Harmful if inhaled.  
H350 May cause cancer.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H412 Harmful to aquatic life with long lasting effects.

## 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.  
Restricted to professional users.

## 2.3. Other hazards

No data available

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

Multielement-Standardlösung 8 Elemente je 1g/l in HNO<sub>3</sub> etwa 2 mol/l

Revision: 23.05.2024

Product code: AC18.01422

Page 3 of 17

## 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, Eye Dam. 1; H272 H290 H331 H314 H318 EUH071			
13597-99-4	beryllium nitrate			1 - < 5 %
	237-062-5	004-002-00-2		
	Carc. 1B, Acute Tox. 2, Acute Tox. 3, Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, STOT SE 3, STOT RE 1, Aquatic Chronic 2; H350i H330 H301 H315 H319 H317 H335 H372 H411			
16919-19-0	ammonium hexafluorosilicate			< 1 %
	240-968-3	009-012-00-0		
	Acute Tox. 3, Acute Tox. 3, Acute Tox. 3; H331 H311 H301			
-	arsenic acid and it salts with the exception of those specified elsewhere in this Annex			< 1 %
	-	033-005-00-1		
	Carc. 1A, Acute Tox. 3, Acute Tox. 3, Aquatic Acute 1, Aquatic Chronic 1; H350 H331 H301 H400 H410			
7803-55-6	ammonium trioxovanadate			< 1 %
	232-261-3			
	Repr. 2, Acute Tox. 3, Acute Tox. 4, Eye Irrit. 2, STOT RE 1, Aquatic Chronic 2; H361d H301 H332 H319 H372 H411			
7446-08-4	selenium dioxide			< 1 %
	231-194-7	034-002-00-8		
	Acute Tox. 3, Acute Tox. 3, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1; H331 H301 H373 H400 H410			

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

**Multielement-Standardlösung 8 Elemente je 1g/l in HNO<sub>3</sub> etwa 2 mol/l**

Revision: 23.05.2024

Product code: AC18.01422

Page 4 of 17

**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	
13597-99-4	237-062-5	beryllium nitrate	1 - < 5 %
		inhalation: ATE = 0,5 mg/l (vapours); inhalation: ATE = 0,05 mg/l (dusts or mists); oral: ATE = 100 mg/kg	
16919-19-0	240-968-3	ammonium hexafluorosilicate	< 1 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = 300 mg/kg; oral: ATE = 100 mg/kg	
-	-	arsenic acid and it salts with the exception of those specified elsewhere in this Annex	< 1 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); oral: ATE = 100 mg/kg	
7803-55-6	232-261-3	ammonium trioxovanadate	< 1 %
		inhalation: ATE = 11 mg/l (vapours); inhalation: LC50 = 2,61 mg/l (dusts or mists); dermal: LD50 = > 2500 mg/kg; oral: LD50 = 218,1 mg/kg	
7446-08-4	231-194-7	selenium dioxide	< 1 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); oral: LD50 = 68,1 mg/kg	

**Further Information**

No data available

**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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Multiement-Standardlösung 8 Elemente je 1g/l in HNO<sub>3</sub> etwa 2 mol/l

Revision: 23.05.2024

Product code: AC18.01422

Page 5 of 17

Dyspnoea  
Vomiting  
Methaemoglobinaemia  
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).

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Multielement-Standardlösung 8 Elemente je 1g/l in HNO<sub>3</sub> etwa 2 mol/l**

Revision: 23.05.2024

Product code: AC18.01422

Page 6 of 17

**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.

**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.

**Hints on joint storage**

national regulations

**Further information on storage conditions**

Keep container tightly closed.

Store in a place accessible by authorized persons only.

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

Laboratory chemicals

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters**

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

Multielement-Standardlösung 8 Elemente je 1g/l in HNO<sub>3</sub> etwa 2 mol/l

Revision: 23.05.2024

Product code: AC18.01422

Page 7 of 17

## Occupational exposure limits

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
7697-37-2	Nitric acid	1	2.6		STEL (15 min)	

## DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
7803-55-6	ammonium trioxovanadate			
Worker DNEL, long-term		inhalation	systemic	0,64 mg/m³
Worker DNEL, long-term		inhalation	local	0,18 mg/m³
Worker DNEL, acute		inhalation	local	0,92 mg/m³
Consumer DNEL, long-term		inhalation	systemic	0,18 mg/m³
Consumer DNEL, long-term		inhalation	local	0,11 mg/m³
Consumer DNEL, acute		inhalation	local	0,57 mg/m³
Consumer DNEL, long-term		oral	systemic	0,18 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	0,92 mg/kg bw/day
7446-08-4	selenium dioxide			
Worker DNEL, long-term		inhalation	systemic	0,07 mg/m³
Worker DNEL, long-term		dermal	systemic	9,8 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,021 mg/m³
Consumer DNEL, long-term		dermal	systemic	6,02 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,00602 mg/kg bw/day

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

Multielement-Standardlösung 8 Elemente je 1g/l in HNO<sub>3</sub> etwa 2 mol/l

Revision: 23.05.2024

Product code: AC18.01422

Page 8 of 17

## PNEC values

CAS No	Substance	
Environmental compartment		Value
7803-55-6	ammonium trioxovanadate	
Freshwater		0,0076 mg/l
Freshwater (intermittent releases)		0,00693 mg/l
Marine water		0,0025 mg/l
Freshwater sediment		240 mg/kg
Marine sediment		79 mg/kg
Secondary poisoning		0,167 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,45 mg/l
Soil		7,2 mg/kg
7446-08-4	selenium dioxide	
Freshwater		0,00374 mg/l
Freshwater (intermittent releases)		0,0077 mg/l
Marine water		0,0028 mg/l
Freshwater sediment		11,48 mg/kg
Marine sediment		8,68 mg/kg
Secondary poisoning		1,4 mg/kg
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		0,06 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

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



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Multiement-Standardlösung 8 Elemente je 1g/l in HNO<sub>3</sub> etwa 2 mol/l

Revision: 23.05.2024

Product code: AC18.01422

Page 9 of 17

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

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.

#### 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
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

Sustained combustibility:

No data available

Self-ignition temperature

Solid:

No data available

Gas:

No data available

Oxidizing properties

Oxidizing

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Multielement-Standardlösung 8 Elemente je 1g/l in HNO<sub>3</sub> etwa 2 mol/l**

Revision: 23.05.2024

Product code: AC18.01422

Page 10 of 17

**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****Toxicocinetics, metabolism and distribution**

There are no data available on the mixture itself.

**Acute toxicity**

Harmful if inhaled.

**ATEmix calculated**

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) 18,08 mg/l; ATE (inhalation dust/mist) 2,259 mg/l

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

Multielement-Standardlösung 8 Elemente je 1g/l in HNO<sub>3</sub> etwa 2 mol/l

Revision: 23.05.2024

Product code: AC18.01422

Page 11 of 17

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7697-37-2	nitric acid				
	inhalation vapour	ATE 2,65 mg/l			
13597-99-4	beryllium nitrate				
	oral	ATE 100 mg/kg			
	inhalation vapour	ATE 0,5 mg/l			
	inhalation dust/mist	ATE 0,05 mg/l			
16919-19-0	ammonium hexafluorosilicate				
	oral	ATE 100 mg/kg			
	dermal	ATE 300 mg/kg			
	inhalation vapour	ATE 3 mg/l			
	inhalation dust/mist	ATE 0,5 mg/l			
-	arsenic acid and its salts with the exception of those specified elsewhere in this Annex				
	oral	ATE 100 mg/kg			
	inhalation vapour	ATE 3 mg/l			
	inhalation dust/mist	ATE 0,5 mg/l			
7803-55-6	ammonium trioxovanadate				
	oral	LD50 218,1 mg/kg	Rat	Study report (1992)	OECD Guideline 401
	dermal	LD50 > 2500 mg/kg	Rat	Study report (1992)	OECD Guideline 402
	inhalation vapour	ATE 11 mg/l			
	inhalation (4 h) dust/mist	LC50 2,61 mg/l	Rat	Study report (1992)	OECD Guideline 403
7446-08-4	selenium dioxide				
	oral	LD50 68,1 mg/kg	Rat	Indian Journal of Pharmacology 23(3):153	Method not specified GLP compliance: not
	inhalation vapour	ATE 3 mg/l			
	inhalation dust/mist	ATE 0,5 mg/l			

**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

Mucous membrane irritation in the mouth, throat, esophagus and gastrointestinal tract.

Irritating to respiratory system.

Pulmonary oedema

see also Section 4

**Sensitising effects**

May cause an allergic skin reaction. (beryllium nitrate)

**Carcinogenic/mutagenic/toxic effects for reproduction**

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

**Multielement-Standardlösung 8 Elemente je 1g/l in HNO<sub>3</sub> etwa 2 mol/l**

Revision: 23.05.2024

Product code: AC18.01422

Page 12 of 17

May cause cancer. (beryllium nitrate; arsenic acid and its salts with the exception of those specified elsewhere in this Annex)

Germ cell mutagenicity: 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**

May cause damage to organs through prolonged or repeated exposure. (beryllium nitrate)

**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 mixture itself.

**Additional information on tests**

There are no data available on the mixture itself.

**Practical experience**

There are no data available on the mixture itself.

**11.2. Information on other hazards****Other information**

There are no data available on the mixture itself.

**Further information**

There are no data available on the mixture itself.

**SECTION 12: Ecological information****12.1. Toxicity**

Harmful to aquatic life with long lasting effects.

**Multielement-Standardlösung 8 Elemente je 1g/l in HNO<sub>3</sub> etwa 2 mol/l**

Revision: 23.05.2024

Product code: AC18.01422

Page 13 of 17

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
7697-37-2	nitric acid					
	Acute fish toxicity	LC50 1559 mg/l	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 > 1000 mg/l ( )	3 h	Activated sludge	Study report (2008)	OECD Guideline 209
7803-55-6	ammonium trioxovanadate					
	Acute fish toxicity	LC50 3,17 mg/l	96 h	Gasterosteus aculeatus	Environmental Toxicology 20:18-22. (2005)	EPA OPPTS 850.1075
	Acute algae toxicity	ErC50 2,907 mg/l	72 h	Desmodesmus subspicatus	Study report (1999)	OECD Guideline 201
	Acute crustacea toxicity	EC50 1,52 mg/l	48 h	Daphnia magna	Study report (1978)	48h mortality test with daphnids
	Fish toxicity	NOEC >= 0,48 mg/l	28 d	Jordanella floridae	Water Research 13:905-910. (1979)	Different groups of fish were continuous
	Crustacea toxicity	NOEC 1,344 mg/l	23 d	Daphnia magna	Bulletin of Environmental Contamination	other: 84/449/EEC: given by the Commissi
	Acute bacteria toxicity	EC50 > 100 mg/l ( )	3 h	activated sludge of a predominantly domestic sewage	Study report (2010)	OECD Guideline 209
7446-08-4	selenium dioxide					
	Acute fish toxicity	LC50 3,3 mg/l	96 h	Morone saxatilis	Publication (1992)	other: ASTM methods for acute testing
	Acute algae toxicity	ErC50 44,24 mg/l	72 h	Pseudokirchneriella subcapitata	Study report (1992)	OECD Guideline 201
	Acute crustacea toxicity	EC50 0,55 mg/l	48 h	Daphnia magna	Environmental Toxicology and Chemistry 1	other: EPA-660/3-75-00 9: Methods for Acu
	Fish toxicity	NOEC 0,01 mg/l	258 d	Lepomis macrochirus	Environmental Toxicology and Chemistry 1	Year long study investigating the effect
	Algae toxicity	NOEC 0,995 mg/l	10 d	Anabaena flos-aquae	Archives of Environmental Contamination	10-d experiment on the toxicity of selen
	Crustacea toxicity	NOEC 0,07 mg/l	28 d	Daphnia magna	Department of Entomology, Fisheries and	OECD Guideline 211

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

Multielement-Standardlösung 8 Elemente je 1g/l in HNO<sub>3</sub> etwa 2 mol/l

Revision: 23.05.2024

Product code: AC18.01422

Page 14 of 17

	Acute bacteria toxicity	EC50 > 3200 mg/l ( )	3 h	activated sludge of a predominantly domestic sewage	Study report (2012)	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.

**BCF**

CAS No	Chemical name	BCF	Species	Source
7803-55-6	ammonium trioxovanadate	< 0,036	Lactuca sativa	Study report (2003)
7446-08-4	selenium dioxide	755	periphyton	Environmental Pollut

**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.

Harmful effect due to pH shift.

Forms corrosive mixtures with water even if diluted.

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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Multiement-Standardlösung 8 Elemente je 1g/l in HNO<sub>3</sub> etwa 2 mol/l

Revision: 23.05.2024

Product code: AC18.01422

Page 15 of 17

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

Authorisations (REACH, annex XIV):

arsenic acid and its salts with the exception of those specified elsewhere in this Annex

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 65, Entry 75

Information according to Directive 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

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

Multielement-Standardlösung 8 Elemente je 1g/l in HNO<sub>3</sub> etwa 2 mol/l

Revision: 23.05.2024

Product code: AC18.01422

Page 16 of 17

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

## SECTION 16: Other information

## Changes

This data sheet contains changes from the previous version in section(s): 1,3,7,9,12.

## Abbreviations and acronyms

Ox. Liq. 3: Oxidising liquids, hazard category 3  
Met. Corr. 1: Corrosive to metals, hazard category 1  
Acute Tox. 2: Acute toxicity, hazard category 2  
Skin Corr. 1A: Skin corrosion, sub-category 1A  
Skin Irrit. 2: Skin irritation, hazard category 2  
Eye Dam. 1: Serious eye damage, hazard category 1  
Eye Irrit. 2: Eye irritation, hazard category 2  
Skin Sens. 1: Skin sensitisation, hazard category 1  
Carc. 1A: Carcinogenicity, hazard category 1A  
Repr. 2: Reproductive toxicity, hazard category 2  
STOT SE 3: Specific target organ toxicity - single exposure, hazard category 3  
STOT RE 1: Specific target organ toxicity - repeated exposure, hazard category 1  
Aquatic Acute 1: Hazardous to the aquatic environment, hazard category: Acute 1  
Aquatic Chronic 1: Hazardous to the aquatic environment, long-term hazard category: Chronic 1

## 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
Carc. 1A; H350	Calculation method
Acute Tox. 4; H332	Calculation method
Skin Corr. 1B; H314	Calculation method
Eye Dam. 1; H318	Calculation method
Skin Sens. 1; H317	Calculation method
STOT RE 2; H373	Calculation method
Aquatic Chronic 3; H412	Calculation method

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

H272 May intensify fire; oxidiser.  
H290 May be corrosive to metals.  
H301 Toxic if swallowed.  
H311 Toxic in contact with skin.  
H314 Causes severe skin burns and eye damage.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H319 Causes serious eye irritation.  
H330 Fatal if inhaled.  
H331 Toxic if inhaled.  
H332 Harmful if inhaled.  
H335 May cause respiratory irritation.  
H350 May cause cancer.  
H350i May cause cancer by inhalation.  
H361d Suspected of damaging the unborn child.  
H372 Causes damage to organs through prolonged or repeated exposure.



**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Multielement-Standardlösung 8 Elemente je 1g/l in HNO<sub>3</sub> etwa 2 mol/l**

Revision: 23.05.2024

Product code: AC18.01422

Page 17 of 17

H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH071	Corrosive to the respiratory tract.

**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 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.)*