

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Multielement-Standardlösung " Spuren 9" 17 Elemente in Salpetersäure 2 mol/l/l

Revision date: 23.04.2024

Product code: 31596

Page 1 of 16

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

##### 1.1. Product identifier

Multielement-Standardlösung " Spuren 9" 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.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Multielement-Standardlösung " Spuren 9" 17 Elemente in Salpetersäure 2 mol/l/l**

Revision date: 23.04.2024

Product code: 31596

Page 2 of 16

**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 ... %   |              |                  | < 0.1 %    |
|           | 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   |              |                  | < 0.1 %    |
|           | 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                 |              |                  |            |

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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Multielement-Standardlösung " Spuren 9" 17 Elemente in Salpetersäure 2 mol/l/l

Revision date: 23.04.2024

Product code: 31596

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  |            |
| 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 ... %  | < 0.1 %    |
|           |           | 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; oral: 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  | < 0.1 %    |
|           |           | 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   |            |

## 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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Multielement-Standardlösung " Spuren 9" 17 Elemente in Salpetersäure 2 mol/l/l

Revision date: 23.04.2024

Product code: 31596

Page 4 of 16

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.

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

### Multiement-Standardlösung " Spuren 9" 17 Elemente in Salpetersäure 2 mol/l/l

Revision date: 23.04.2024

Product code: 31596

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.

#### **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**

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Multielement-Standardlösung " Spurenen 9" 17 Elemente in Salpetersäure 2 mol/l/l**

Revision date: 23.04.2024

Product code: 31596

Page 6 of 16

**Occupational exposure limits**

| CAS No     | Substance                              | ppm | mg/m <sup>3</sup> | fib/cm <sup>3</sup> | Category      | Origin |
|------------|--|-----|-------------------|---------------------|---------------|--------|
| 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)     |        |
| 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) |        |
| 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 |

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Multielement-Standardlösung "Spuren 9" 17 Elemente in Salpetersäure 2 mol/l/l**

Revision date: 23.04.2024

Product code: 31596

Page 7 of 16

**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       |

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Multielement-Standardlösung " Spuren 9" 17 Elemente in Salpetersäure 2 mol/l/l

Revision date: 23.04.2024

Product code: 31596

Page 8 of 16

|                          |     |            |          |                      |
|--------------------------|-----|------------|----------|----------------------|
| 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       |

#### 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.

#### 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):



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Multielement-Standardlösung " Spuren 9" 17 Elemente in Salpetersäure 2 mol/l/l

Revision date: 23.04.2024

Product code: 31596

Page 9 of 16

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).

#### 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   |
| 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   |

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Multielement-Standardlösung " Spuren 9" 17 Elemente in Salpetersäure 2 mol/l/l

Revision date: 23.04.2024

Product code: 31596

Page 10 of 16

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  
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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Multielement-Standardlösung " Spure 9" 17 Elemente in Salpetersäure 2 mol/l/l**

Revision date: 23.04.2024

Product code: 31596

Page 11 of 16

**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 |  |

**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.

**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.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Multiement-Standardlösung " Spuren 9" 17 Elemente in Salpetersäure 2 mol/l/l

Revision date: 23.04.2024

Product code: 31596

Page 12 of 16

#### 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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Multielement-Standardlösung " Spure 9" 17 Elemente in Salpetersäure 2 mol/l/l**

Revision date: 23.04.2024

Product code: 31596

Page 13 of 16

| CAS No    | Chemical name            |              |                 |         |  |   |
|-----------|--------------------------|--------------|-----------------|---------|--|---|
|           | Aquatic toxicity         | Dose         | [h]   [d]       | Species | Source   | Method  |
| 7697-37-2 | nitric acid              |              |                 |         |  |   |
|           | Acute fish toxicity      | LC50<br>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         | > 1000 mg/l ( ) | 3 h     | Activated sludge                                   | Study report (2008) OECD Guideline 209  |
| 7631-99-4 | sodium nitrate           |              |                 |         |  |   |
|           | Acute fish toxicity      | LC50         | > 100 mg/l      | 96 h    | Oncorhynchus mykiss                                | Study report (2000) OECD Guideline 203  |
|           | Acute crustacea toxicity | EC50         | 3581 mg/l       | 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         | 2930 mg/l ( )   | 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                              |

**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.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Multielement-Standardlösung " Spuren 9" 17 Elemente in Salpetersäure 2 mol/l/l

Revision date: 23.04.2024

Product code: 31596

Page 14 of 16

## 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          |
| Tunnel restriction code:                 | E           |

**Inland waterways transport (ADN)**

|  |             |
|--|-------------|
| <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          |

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Multielement-Standardlösung " Spuren 9" 17 Elemente in Salpetersäure 2 mol/l/l**

Revision date: 23.04.2024

Product code: 31596

Page 15 of 16

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**

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Multielement-Standardlösung " Spuren 9" 17 Elemente in Salpetersäure 2 mol/l/l**

Revision date: 23.04.2024

Product code: 31596

Page 16 of 16

**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
- 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.
- 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.)*