

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Multielement-Standardlösung 22 Elemente in Salzsäure 15 % mit Dichtebestimmung

Revision date: 21.05.2024

Product code: 34113

Page 1 of 16

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

##### 1.1. Product identifier

Multielement-Standardlösung 22 Elemente in Salzsäure 15 % mit Dichtebestimmung

UFI: USF1-03E3-P00Y-6K21

##### 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 Irrit. 2; H315  
Eye Dam. 1; H318  
STOT SE 3; H335  
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

Hydrochloric acid  
nitric acid

Signal word: Danger

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Multielement-Standardlösung 22 Elemente in Salzsäure 15 % mit Dichtebestimmung

Revision date: 21.05.2024

Product code: 34113

Page 2 of 16

#### Pictograms:



#### Hazard statements

|      |  |
|------|--|
| H290 | May be corrosive to metals.                        |
| H315 | Causes skin irritation.                            |
| H318 | Causes serious eye damage.                         |
| H335 | May cause respiratory irritation.                  |
| H412 | Harmful to aquatic life with long lasting effects. |

#### Precautionary statements

|                |  |
|----------------|--|
| P280           | Wear protective gloves/protective clothing and eye protection/face protection.   |
| P302+P352      | IF ON SKIN: Wash with plenty of water and soap.  |
| 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.   |
| P390           | Absorb spillage to prevent material damage.  |

#### Special labelling of certain mixtures

|        |   |
|--------|---|
| EUH208 | Contains nickel dichloride. May produce an allergic reaction. |
|--------|---|

#### 2.3. Other hazards

No data available

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### Chemical characterization

Mixtures in aqueous solution

#### Relevant ingredients

| CAS No    | Chemical name  |              |                  | Quantity    |
|-----------|--|--------------|------------------|-------------|
|           | EC No  | Index No     | REACH No         |             |
|           | Classification (Regulation (EC) No 1272/2008)  |              |                  |             |
| 7647-01-0 | Hydrochloric acid  |              |                  | 15 - < 20 % |
|           | 231-595-7  | 017-002-01-X | 01-2119484862-27 |             |
|           | Skin Corr. 1B, STOT SE 3; H314 H335  |              |                  |             |
| 7697-37-2 | nitric acid  |              |                  | 1 - < 5 %   |
|           | 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  |              |                  |             |
| 7761-88-8 | silver nitrate   |              |                  | < 0.01 %    |
|           | 231-853-9  | 047-001-00-2 | 01-2119513705-43 |             |
|           | Ox. Sol. 2, Met. Corr. 1, Skin Corr. 1B, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1; H272 H290 H314 H318 H400 H410   |              |                  |             |
| 7718-54-9 | nickel dichloride  |              |                  | < 0.01 %    |
|           | 231-743-0  | 028-011-00-6 |                  |             |
|           | Carc. 1A, Muta. 2, Repr. 1B, Acute Tox. 3, Acute Tox. 3, Skin Irrit. 2, Resp. Sens. 1, Skin Sens. 1, STOT RE 1, Aquatic Acute 1, Aquatic Chronic 1; H350i H341 H360D H331 H301 H315 H334 H317 H372 H400 H410 |              |                  |             |

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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Multielement-Standardlösung 22 Elemente in Salzsäure 15 % mit Dichtebestimmung**

Revision date: 21.05.2024

Product code: 34113

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   |             |
| 7647-01-0 | 231-595-7 | Hydrochloric acid  | 15 - < 20 % |
|           |           | Skin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25 STOT SE 3; H335: >= 10 - 100   |             |
| 7697-37-2 | 231-714-2 | nitric acid  | 1 - < 5 %   |
|           |           | 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  |             |
| 7761-88-8 | 231-853-9 | silver nitrate   | < 0.01 %    |
|           |           | dermal: LD50 = > 348 mg/kg; oral: LD50 = > 2000 mg/kg Aquatic Acute 1; H400: M=1000 Aquatic Chronic 1; H410: M=100   |             |
| 7718-54-9 | 231-743-0 | nickel dichloride  | < 0.01 %    |
|           |           | inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); oral: LD50 = 500 mg/kg Skin Irrit. 2; H315: >= 20 - 100 Skin Sens. 1; H317: >= 0,01 - 100 STOT RE 1; H372: >= 1 - 100 STOT RE 2; H373: >= 0,1 - < 1 Aquatic Acute 1; H400: M=1 Aquatic Chronic 1; H410: M=1 |             |

**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**

No data available

**After inhalation**

Provide fresh air.  
Call a doctor if you feel unwell.

**After contact with skin**

Wash immediately with: Water  
Take off immediately all contaminated clothing and wash it before reuse.  
In case of skin irritation, consult a physician.

**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.

**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**

Irritant — skin irritation and eye damage  
Cough  
Dyspnoea  
Allergic reactions

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

No data available

**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Multiement-Standardlösung 22 Elemente in Salzsäure 15 % mit Dichtebestimmung

Revision date: 21.05.2024

Product code: 34113

Page 4 of 16

#### 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:

Hydrochloric gas

#### 5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Avoid contact with skin, eyes and clothes.

#### Additional information

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

Use water spray jet to protect personnel and to cool endangered containers.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### General advice

Corrosive to metals.

Do not breathe vapour/aerosol.

##### For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

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

##### For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

#### 6.2. Environmental precautions

Do not allow to enter into surface water or drains.

#### 6.3. Methods and material for containment and cleaning up

##### For containment

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

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

##### For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

##### Other information

Provide adequate ventilation.

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

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

#### 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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Multielement-Standardlösung 22 Elemente in Salzsäure 15 % mit Dichtebestimmung**

Revision date: 21.05.2024

Product code: 34113

Page 5 of 16

**7.1. Precautions for safe handling**

**Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used.  
Read label before use. Handle and open container with care.  
When using do not eat, drink, smoke, sniff. Keep container tightly closed.  
Use personal protection equipment. Use extractor hood (laboratory).  
Provide adequate ventilation.  
Avoid contact with skin, eyes and clothes.

**Advice on protection against fire and explosion**

Usual measures for fire prevention.

**Advice on general occupational hygiene**

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.  
Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink. 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.

**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**

Keep container tightly closed.  
Provide adequate ventilation as well as local exhaustion at critical locations.  
Keep in a cool place.

**Further information on storage conditions**

Unsuitable container/equipment material: Metal

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

Laboratory chemicals

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

**8.1. Control parameters**

**Occupational exposure limits**

| CAS No    | Substance  | ppm | mg/m <sup>3</sup> | fib/cm <sup>3</sup> | Category      | Origin |
|-----------|--|-----|-------------------|---------------------|---------------|--------|
| 7647-01-0 | Hydrogen chloride                                      | 5   | 8                 |                     | TWA (8 h)     |        |
|           |  | 10  | 15                |                     | STEL (15 min) |        |
| -         | Nickel, inorganic compounds (as Ni), soluble compounds | -   | 0.1               |                     | TWA (8 h)     |        |
| 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                            |
|--------|------------------|-----------|--------|---------------|--|
| -      | Nickel compounds | Ni        | 3 µg/L | Urine         | After several consecutive working shifts |

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Multielement-Standardlösung 22 Elemente in Salzsäure 15 % mit Dichtebestimmung**

Revision date: 21.05.2024

Product code: 34113

Page 6 of 16

**DNEL/DMEL values**

| CAS No                   | Substance         | Exposure route | Effect   | Value                   |
|--------------------------|-------------------|----------------|----------|-------------------------|
| 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>    |
| 7761-88-8                | silver nitrate    |                |          |                         |
| Consumer DNEL, long-term |                   | oral           | systemic | 0,02 mg/kg bw/day       |
| Worker DNEL, long-term   |                   | inhalation     | systemic | 0,016 mg/m <sup>3</sup> |
| Consumer DNEL, long-term |                   | inhalation     | systemic | 0,006 mg/m <sup>3</sup> |
| 7718-54-9                | nickel dichloride |                |          |                         |
| Worker DNEL, acute       |                   | inhalation     | local    | 1,6 mg/m <sup>3</sup>   |
| Consumer DNEL, acute     |                   | inhalation     | systemic | 8,8 mg/m <sup>3</sup>   |
| Consumer DNEL, acute     |                   | inhalation     | local    | 0,1 mg/m <sup>3</sup>   |
| Worker DNEL, acute       |                   | inhalation     | systemic | 104 mg/m <sup>3</sup>   |
| Consumer DNEL, long-term |                   | oral           | systemic | 0,02 mg/kg bw/day       |
| Consumer DNEL, acute     |                   | oral           | systemic | 0,012 mg/kg bw/day      |
| 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          |

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Multielement-Standardlösung 22 Elemente in Salzsäure 15 % mit Dichtebestimmung

Revision date: 21.05.2024

Product code: 34113

Page 7 of 16

#### PNEC values

| CAS No   | Substance         | Value        |
|--|-------------------|--------------|
| Environmental compartment                        |                   |              |
| 7761-88-8  | silver nitrate    |              |
| Freshwater                                       |                   | 0,00004 mg/l |
| Marine water                                     |                   | 0,00086 mg/l |
| Freshwater sediment                              |                   | 438,13 mg/kg |
| Marine sediment                                  |                   | 438,13 mg/kg |
| Micro-organisms in sewage treatment plants (STP) |                   | 0,025 mg/l   |
| Soil   |                   | 1,41 mg/kg   |
| 7718-54-9  | nickel dichloride |              |
| Freshwater                                       |                   | 0,0071 mg/l  |
| Freshwater (intermittent releases)               |                   | 0 mg/l       |
| Marine water                                     |                   | 0,0086 mg/l  |
| Freshwater sediment                              |                   | 109 mg/kg    |
| Marine sediment                                  |                   | 109 mg/kg    |
| Secondary poisoning                              |                   | 0,12 mg/kg   |
| Micro-organisms in sewage treatment plants (STP) |                   | 0,33 mg/l    |
| Soil   |                   | 29,9 mg/kg   |

#### 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. Do not breathe gas/fumes/vapour/spray.

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

##### Eye/face protection

Suitable eye protection:  
Face protection shield  
goggles.

##### 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 730 Camatril® Velours

Suitable material: NBR (Nitrile rubber) 0,4 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation: KCL 741 Dermatril® L

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

Wearing time with occasional contact (splashes): > 120 min

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Multielement-Standardlösung 22 Elemente in Salzsäure 15 % mit Dichtebestimmung

Revision date: 21.05.2024

Product code: 34113

Page 8 of 16

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet (>,<) supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

#### Skin protection

Wear suitable protective clothing.  
Protective clothing acid-resistant

#### Respiratory protection

Respiratory protection necessary at: aerosol or mist formation  
The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

#### Thermal hazards

No data available

#### Environmental exposure controls

Do not allow to enter into surface water or drains.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|   |                   |                   |
|---|-------------------|-------------------|
| Physical state:   | Liquid            |                   |
| Colour:   |                   |                   |
| Odour:  | stinging          |                   |
| 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:   |                   | not applicable    |
| Lower explosion limits:                                   |                   | No data available |
| Upper explosion limits:                                   |                   | No data available |
| Flash point:  |                   | X                 |
| Auto-ignition temperature:                                |                   | No data available |
| Decomposition temperature:                                |                   | No data available |
| pH-Value (at 20 °C):                                      |                   | 0                 |
| Viscosity / kinematic:                                    |                   | No data available |
| Water solubility:   |                   | easily soluble    |
| Solubility in other solvents                              |                   |                   |
| No data available   |                   |                   |
| Dissolution rate:   |                   | No data available |
| Partition coefficient n-octanol/water:                    |                   | No data available |
| Dispersion stability:                                     |                   | No data available |
| Vapour pressure:  |                   | No data available |
| Vapour pressure:  |                   | No data available |
| Relative density:   |                   | No data available |
| Bulk density:   |                   | No data available |
| Relative vapour density:                                  |                   | No data available |
| Particle characteristics:                                 |                   | No data available |

### 9.2. Other information

#### Information with regard to physical hazard classes

Explosive properties  
No data available



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Multielement-Standardlösung 22 Elemente in Salzsäure 15 % mit Dichtebestimmung

Revision date: 21.05.2024

Product code: 34113

Page 9 of 16

|                           |                   |
|---------------------------|-------------------|
| Sustaining combustion:    | No data available |
| Self-ignition temperature |                   |
| Solid:                    | not applicable    |
| Gas:                      | not applicable    |
| Oxidizing properties      |                   |
| No data available         |                   |

#### Other safety characteristics

|                          |                   |
|--------------------------|-------------------|
| Evaporation rate:        | No data available |
| Solvent separation test: | No data available |
| Solvent content:         | 0%                |
| Solid content:           | 0                 |
| Sublimation point:       | No data available |
| Softening point:         | No data available |
| Pour point:              | No data available |
| No data available:       |                   |
| Viscosity / dynamic:     | No data available |
| Flow time:               | No data available |

#### Further Information

Corrosive to metals

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Corrosive to metals.

### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

### 10.4. Conditions to avoid

Heat

### 10.5. Incompatible materials

Keep away from: 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

#### Toxicokinetics, metabolism and distribution

There are no data available on the mixture itself.

#### Acute toxicity

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

Pulmonary oedema

#### ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 50 mg/l; ATE (inhalation dust/mist) > 5 mg/l

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Multielement-Standardlösung 22 Elemente in Salzsäure 15 % mit Dichtebestimmung**

Revision date: 21.05.2024

Product code: 34113

Page 10 of 16

| CAS No    | Chemical name        |                   |            |  |                    |
|-----------|----------------------|-------------------|------------|--|--------------------|
|           | Exposure route       | Dose              | Species    | Source                                   | Method             |
| 7697-37-2 | nitric acid          |                   |            |  |                    |
|           | inhalation vapour    | ATE 2,65 mg/l     |            |  |                    |
| 7761-88-8 | silver nitrate       |                   |            |  |                    |
|           | oral                 | LD50 > 2000 mg/kg | Rat        | Study report (1993)                      | OECD Guideline 401 |
|           | dermal               | LD50 > 348 mg/kg  | Guinea pig | J. Vet. Med. Sci.73: 1417 - 1423. (2011) | OECD Guideline 434 |
| 7718-54-9 | nickel dichloride    |                   |            |  |                    |
|           | oral                 | LD50 500 mg/kg    | Rat        | Regul Toxicol and Pharmacol (doi.org/10. | OECD Guideline 425 |
|           | inhalation vapour    | ATE 3 mg/l        |            |  |                    |
|           | inhalation dust/mist | ATE 0,5 mg/l      |            |  |                    |

**Irritation and corrosivity**

Skin corrosion/irritation: Causes skin irritation.  
Serious eye damage/eye irritation: Causes serious eye damage.

**Sensitising effects**

Based on available data, the classification criteria are not met.  
Contains nickel dichloride. May produce an allergic reaction.

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

Germ cell mutagenicity: Based on available data, the classification criteria are not met.  
Carcinogenicity: Based on available data, the classification criteria are not met.  
Reproductive toxicity: Based on available data, the classification criteria are not met.

**STOT-single exposure**

May cause respiratory irritation. (Hydrochloric acid)

**STOT-repeated exposure**

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

**Aspiration hazard**

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

**Information on likely routes of exposure**

There are no data available on the mixture itself.

**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**

**Endocrine disrupting properties**

There are no data available on the mixture itself.

**Other information**

There are no data available on the mixture itself.

**Further information**

Irritant — skin irritation and eye damage  
Cough  
Dyspnoea

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### **Multielement-Standardlösung 22 Elemente in Salzsäure 15 % mit Dichtebestimmung**

Revision date: 21.05.2024

Product code: 34113

Page 11 of 16

## **SECTION 12: Ecological information**

### **12.1. Toxicity**

Harmful to aquatic life with long lasting effects.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Multielement-Standardlösung 22 Elemente in Salzsäure 15 % mit Dichtebestimmung**

Revision date: 21.05.2024

Product code: 34113

Page 12 of 16

| CAS No    | Chemical name            |       |                 |         |  |  |
|-----------|--------------------------|-------|-----------------|---------|--|--|
|           | Aquatic toxicity         | Dose  | [h]   [d]       | Species | Source   | Method   |
| 7647-01-0 | Hydrochloric acid        |       |                 |         |  |  |
|           | Acute fish toxicity      | LC50  | 862 mg/l        | 96 h    | Leuciscus idus                                     |  |
| 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   |
| 7761-88-8 | silver nitrate           |       |                 |         |  |  |
|           | Acute fish toxicity      | LC50  | 0,0012 mg/l     | 96 h    | Pimephales promelas                                | Environmental Toxicology and Chemistry. A guideline was not specified. The test    |
|           | Acute algae toxicity     | ErC50 | 0,0099 mg/l     | 96 h    | Pseudokirchneriella subcapitata                    | Environmental Science and Technology. 44 eline: U.S. Environmental Protection Age  |
|           | Acute crustacea toxicity | EC50  | 0,00022 mg/l    | 48 h    | Daphnia magna                                      | Environmental Toxicology and Chemistry. The protective effect of reactive sulphi   |
|           | Fish toxicity            | NOEC  | > 0,00125 mg/l  | 73 d    | Oncorhynchus mykiss                                | Environmental Toxicology and Chemistry 2 other: ASTM 1241-98                       |
|           | Algae toxicity           | NOEC  | 0,0012 mg/l     | 14 d    | Champia parvula                                    | in Bishop WE, Cardwell RD Heidolph BB (E) The toxicity tests lasted 11 days for th |
|           | Crustacea toxicity       | NOEC  | 0,00031 mg/l    | 20 d    | Isonychia bicolor                                  | Environmental Toxicology and Chemistry. 20 day sublethal effects on representati   |
| 7718-54-9 | nickel dichloride        |       |                 |         |  |  |
|           | Acute fish toxicity      | LC50  | 15,3 mg/l       | 96 h    | Oncorhynchus mykiss                                | Aquatic Toxicology 63 (2003) 65-82 (2003) other: not reported                      |
|           | Acute algae toxicity     | ErC50 | 0,263 mg/l      | 72 h    | Spermatozopsis exsultans                           | Publication (2009) OECD Guideline 201  |
|           | Acute crustacea toxicity | EC50  | > 0,2 mg/l      | 48 h    | Ceriodaphnia dubia                                 | Environmental Toxicology and Chemistry. other: comparable to USEPA, Methods for    |
|           | Fish toxicity            | NOEC  | 0,04 mg/l       | 8 d     | Danio rerio  | Arch. Environ. Contam. Toxicol. 21:126-1 other: Swedish Standard SS 02 81 93       |
|           | Algae toxicity           | NOEC  | 0,6 mg/l        | 14 d    | Anabaena cylindrica                                | Environ. Pollut. (Series A). 25(4):241-2 other: not reported                       |
|           | Crustacea toxicity       | NOEC  | 0,09 mg/l       | 21 d    | Daphnia magna                                      | Water Res. 23(4):501-510 (1989) other: DIN 38412, Part II                          |

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Multielement-Standardlösung 22 Elemente in Salzsäure 15 % mit Dichtebestimmung

Revision date: 21.05.2024

Product code: 34113

Page 13 of 16

|  |                         |      |             |       |                  |  |          |
|--|-------------------------|------|-------------|-------|------------------|--|----------|
|  | Acute bacteria toxicity | EC50 | 33 mg/l ( ) | 0,5 h | Activated sludge | Journal of Hazardous Materials. B139:332 | ISO 8192 |
|--|-------------------------|------|-------------|-------|------------------|--|----------|

**12.2. Persistence and degradability**

There are no data available on the mixture itself.

**12.3. Bioaccumulative potential**

There are no data available on the mixture itself.

**BCF**

| CAS No    | Chemical name     | BCF | Species          | Source               |
|-----------|-------------------|-----|------------------|----------------------|
| 7761-88-8 | silver nitrate    | 70  | Cyprinus carpio  | Water, Air and Soil  |
| 7718-54-9 | nickel dichloride | 39  | Chlorella salina | J. Mar. Biol. Ass. U |

**12.4. Mobility in soil**

There are no data available on the mixture itself.

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

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

**12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**12.7. Other adverse effects**

Discharge into the environment must be avoided.

**Further information**

Do not empty into 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 1789           |
| <b>14.2. UN proper shipping name:</b>    | HYDROCHLORIC ACID |
| <b>14.3. Transport hazard class(es):</b> | 8                 |
| <b>14.4. Packing group:</b>              | II                |
| Hazard label:                            | 8                 |
| Classification code:                     | C1                |
| Special Provisions:                      | 520               |
| Limited quantity:                        | 1 L               |
| Excepted quantity:                       | E2                |
| Transport category:                      | 2                 |
| Hazard No:                               | 80                |
| Tunnel restriction code:                 | E                 |

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

**Multielement-Standardlösung 22 Elemente in Salzsäure 15 % mit Dichtebestimmung**

Revision date: 21.05.2024

Product code: 34113

Page 14 of 16

**Inland waterways transport (ADN)**

|  |                   |
|--|-------------------|
| <b>14.1. UN number or ID number:</b>     | UN 1789           |
| <b>14.2. UN proper shipping name:</b>    | HYDROCHLORIC ACID |
| <b>14.3. Transport hazard class(es):</b> | 8                 |
| <b>14.4. Packing group:</b>              | II                |
| Hazard label:                            | 8                 |
| Classification code:                     | C1                |
| Special Provisions:                      | 520               |
| Limited quantity:                        | 1 L               |
| Excepted quantity:                       | E2                |

**Marine transport (IMDG)**

|  |                   |
|--|-------------------|
| <b>14.1. UN number or ID number:</b>     | UN 1789           |
| <b>14.2. UN proper shipping name:</b>    | HYDROCHLORIC ACID |
| <b>14.3. Transport hazard class(es):</b> | 8                 |
| <b>14.4. Packing group:</b>              | II                |
| Hazard label:                            | 8                 |
| Special Provisions:                      | -                 |
| Limited quantity:                        | 1 L               |
| Excepted quantity:                       | E2                |
| EmS:                                     | F-A, S-B          |

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

|  |                   |
|--|-------------------|
| <b>14.1. UN number or ID number:</b>     | UN 1789           |
| <b>14.2. UN proper shipping name:</b>    | HYDROCHLORIC ACID |
| <b>14.3. Transport hazard class(es):</b> | 8                 |
| <b>14.4. Packing group:</b>              | II                |
| Hazard label:                            | 8                 |
| Special Provisions:                      | A3 A803           |
| Limited quantity Passenger:              | 0.5 L             |
| Passenger LQ:                            | Y840              |
| Excepted quantity:                       | E2                |
| IATA-packing instructions - Passenger:   | 851               |
| IATA-max. quantity - Passenger:          | 1 L               |
| IATA-packing instructions - Cargo:       | 855               |
| IATA-max. quantity - Cargo:              | 30 L              |

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 27, Entry 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):

This product is regulated 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): 3 - highly hazardous to water

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Multielement-Standardlösung 22 Elemente in Salzsäure 15 % mit Dichtebestimmung**

Revision date: 21.05.2024

Product code: 34113

Page 15 of 16

**SECTION 16: Other information**

**Changes**

This data sheet contains changes from the previous version in section(s): 1,2,4,6,7,8,9,10,11,12,15.

**Abbreviations and acronyms**

Ox. Liq: Oxidising liquid

Ox. Sol: Oxidising solid

Met. Corr: Substance or mixture corrosive to metals

Acute Tox: Acute toxicity

Skin Corr: Skin corrosion

Skin Irrit: Skin irritation

Eye Dam: Eye damage

Resp. Sens: Respiratory sensitisation

Skin Sens: Skin sensitisation

Muta: Germ cell mutagenicity

Carc: Carcinogenicity

Repr: Reproductive toxicity

STOT SE: Specific target organ toxicity - single exposure

STOT RE: Specific target organ toxicity - repeated exposure

Aquatic Acute: Acute aquatic hazard

Aquatic Chronic: Chronic aquatic hazard

ADR: Accord européen sur le transport des marchandises dangereuses par Route  
(European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

**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 Irrit. 2; H315     | Calculation method       |
| Eye Dam. 1; H318        | Calculation method       |
| STOT SE 3; H335         | 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.  |
| H314  | Causes severe skin burns and eye damage.                                   |
| H315  | Causes skin irritation.  |
| H317  | May cause an allergic skin reaction.                                       |
| H318  | Causes serious eye damage.   |
| H331  | Toxic if inhaled.  |
| H334  | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H335  | May cause respiratory irritation.  |
| H341  | Suspected of causing genetic defects.                                      |
| H350i | May cause cancer by inhalation.  |
| H360D | May damage the unborn child.   |

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Multiement-Standardlösung 22 Elemente in Salzsäure 15 % mit Dichtebestimmung

Revision date: 21.05.2024

Product code: 34113

Page 16 of 16

|        |   |
|--------|---|
| H372   | Causes damage to organs through prolonged or repeated exposure. |
| H400   | Very toxic to aquatic life.                                     |
| H410   | Very toxic to aquatic life with long lasting effects.           |
| H412   | Harmful to aquatic life with long lasting effects.              |
| EUH071 | Corrosive to the respiratory tract.                             |
| EUH208 | Contains nickel dichloride. May produce an allergic reaction.   |

#### Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. Provide appropriate information, instructions and training to users

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