

Multielement-Standardlösung 30 Elemente in verdünnter Salzsäure/Salpetersäure- 5

Elemente gemessen -

Revision date: 19.03.2025

Product code: 34403

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

1.1. Product identifier

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UFI:

CP82-S3K7-H00G-0K1R

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 | 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 | duktsicherheit@analytichem.de | | | | | |
| Internet: | www.analytichem.de | | | | | | |
| Responsible Department: | Abteilung Produktsicherheit | | | | | | |
| 1.4. Emergency telephone | For Hazardous Materials [or Dangero | ous Goods] Incidents Spill, Leak, Fire, | | | | | |
| number: | 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 Hydrochloric acid

Signal word:

Pictograms:





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|---|---|--------------|--|--|--|--|--|--|--|
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| Hazard statements | Hazard statements | | | | | | | | |
| H290 | May be corrosive to metals. | | | | | | | | |
| H314 | Causes severe skin burns and eye damage. | | | | | | | | |
| Precautionary statemer | nts | | | | | | | | |
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. | | | | | | | | |
| P280 | Wear protective gloves and eye protection/face protection. | | | | | | | | |
| P303+P361+P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with wate or shower. | er | | | | | | | |
| 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 cert | ain mixtures | | | | | | | | |
| EUH071 | Corrosive to the respiratory tract. | | | | | | | | |
| EUH208 | Contains nickel dinitrate. May produce an allergic reaction. | | | | | | | | |
| <u>2.3. Other hazards</u> 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 7 EUH071 | | | |
| 7647-01-0 | Hydrochloric acid | | | 1 - < 5 % |
| | 231-595-7 | 017-002-01-X | 01-2119484862-27 | |
| | Met. Corr. 1, Skin Corr. 1B, Eye | Dam. 1, STOT SE 3; H290 H3 | 14 H318 H335 | |
| 16919-19-0 | ammonium hexafluorosilicate | < 1 % | | |
| | 240-968-3 | 009-012-00-0 | | |
| | Acute Tox. 3, Acute Tox. 3, Acu | te Tox. 3; H331 H311 H301 | | |
| 13138-45-9 | nickel dinitrate | < 0.01 % | | |
| | 236-068-5 | 028-012-00-1 | 01-2119492333-38 | |
| | Ox. Sol. 2, Carc. 1A, Muta. 2, R Resp. Sens. 1, Skin Sens. 1, S H360D H332 H302 H315 H318 | | | |
| 7761-88-8 | silver nitrate | < 0.001 % | | |
| | 231-853-9 | 047-001-00-2 | 01-2119513705-43 | |
| | Ox. Sol. 2, Met. Corr. 1, Skin Co H290 H314 H318 H400 H410 | | | |

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



Safety Data Sheet

according to Regulation (EC) No 1907/2006

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Specific Conc. Limits, M-factors and ATE

| CAS No | EC No | Chemical name | Quantity |
|------------|--|--|------------|
| | Specific Conc. | Limits, M-factors and ATE | |
| 7697-37-2 | 231-714-2 | nitric acid | 5 - < 10 % |
| | | E 2,65 mg/l (vapours) Ox. Liq. 3; H272: >= 65 - 100 Skin Corr. 1A; H314: >= 20 sorr. 1B; H314: >= 5 - < 20 | |
| 7647-01-0 | 231-595-7 | Hydrochloric acid | 1 - < 5 % |
| | , | H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 3; H335: >= 10 - 100 | |
| 16919-19-0 | 240-968-3 | ammonium hexafluorosilicate | < 1 % |
| | | E = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = al: ATE = 100 mg/kg | |
| 13138-45-9 | 236-068-5 | nickel dinitrate | < 0.01 % |
| | 361,9 mg/kg H372: >= 1 - 1 Aquatic Acute | E = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); oral: LD50 = Skin Irrit. 2; H315: >= 20 - 100 Skin Sens. 1; H317: >= 0,01 - 100 STOT RE 1; 00 STOT RE 2; H373: >= 0,1 - < 1 1; H400: M=1 ic 1; H410: M=1 | |
| 7761-88-8 | 231-853-9 | silver nitrate | < 0.001 % |
| | | = > 348 mg/kg; oral: LD50 = > 2000 mg/kg Aquatic Acute 1; H400: M=1000 ic 1; H410: M=100 | |

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

No data available

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.

After ingestion

Rinse mouth immediately and drink plenty of water. Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

corrosive Irritant Allergic reactions

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

No data available



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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: Hydrochloric gas Nitrogen oxides (NOx)

5.3. Advice for firefighters

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

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

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.



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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

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.

Provide adequate ventilation. Do not breathe vapour/aerosol.

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.

Hints on joint storage

national regulations

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/m³ | fib/cm³ | Category | Origin |
|-----------|-------------------|-----|-------|---------|---------------|--------|
| 7647-01-0 | Hydrogen chloride | 5 | 8 | | TWA (8 h) | |
| | | 10 | 15 | | STEL (15 min) | |
| 7697-37-2 | Nitric acid | 1 | 2.6 | | STEL (15 min) | |



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DNEL/DMEL values

| CAS No | No Substance | | | | | | | |
|--------------|-----------------------------|----------------|----------|-------------------------|--|--|--|--|
| DNEL type | | Exposure route | Effect | Value | | | | |
| 7647-01-0 | 7647-01-0 Hydrochloric acid | | | | | | | |
| Worker DNEL, | Worker DNEL, long-term | | local | 8 mg/m³ | | | | |
| Worker DNEL, | acute | inhalation | local | 15 mg/m³ | | | | |
| Consumer DN | EL, long-term | inhalation | local | 8 mg/m³ | | | | |
| Consumer DN | EL, acute | inhalation | local | 15 mg/m³ | | | | |
| 13138-45-9 | nickel dinitrate | | | | | | | |
| Consumer DN | EL, acute | oral | systemic | 0,012 mg/kg bw/day | | | | |
| Consumer DN | EL, long-term | oral | systemic | 0,02 mg/kg bw/day | | | | |
| Worker DNEL, | acute | inhalation | systemic | 104 mg/m³ | | | | |
| Worker DNEL, | acute | inhalation | local | 1,6 mg/m ³ | | | | |
| Consumer DN | EL, acute | inhalation | systemic | 8,8 mg/m³ | | | | |
| Consumer DN | EL, acute | inhalation | local | 0,1 mg/m ³ | | | | |
| 7761-88-8 | silver nitrate | | | | | | | |
| Worker DNEL, | long-term | inhalation | systemic | 0,016 mg/m³ | | | | |
| Consumer DN | EL, long-term | inhalation | systemic | 0,006 mg/m ³ | | | | |
| Consumer DN | EL, long-term | oral | systemic | 0,02 mg/kg bw/day | | | | |

PNEC values

| CAS No | Substance | | | | | | | |
|--------------|--------------------------------------|--------------|--|--|--|--|--|--|
| Environment | al compartment | Value | | | | | | |
| 13138-45-9 | nickel dinitrate | | | | | | | |
| Freshwater | | 0,0071 mg/l | | | | | | |
| Freshwater (| intermittent releases) | 0 mg/l | | | | | | |
| Marine water | r | 0,0086 mg/l | | | | | | |
| Freshwater s | sediment | 109 mg/kg | | | | | | |
| Marine sedin | nent | 109 mg/kg | | | | | | |
| Secondary p | oisoning | 0,12 mg/kg | | | | | | |
| Micro-organi | sms in sewage treatment plants (STP) | 0,33 mg/l | | | | | | |
| Soil | | 29,9 mg/kg | | | | | | |
| 7761-88-8 | silver nitrate | | | | | | | |
| Freshwater | | 0,00004 mg/l | | | | | | |
| Marine water | r | 0,00086 mg/l | | | | | | |
| Freshwater s | sediment | 438,13 mg/kg | | | | | | |
| Marine sedin | nent | 438,13 mg/kg | | | | | | |
| Micro-organi | sms in sewage treatment plants (STP) | 0,025 mg/l | | | | | | |
| Soil | | 1,41 mg/kg | | | | | | |

8.2. Exposure controls



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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 With specification (test according to EN374):

By long-term hand contact Trade name/designation: KCL 741 Dermatril® L Suitable 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 Suitable 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. Protective clothing acid-resistant

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation The entrepeneur 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: | green |



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| Odour: | odourless | | | | | | |
| Odour threshold: | No data available | | | | | | |
| Melting point/freezing point: | No data availat | ble | | | | | |
| Boiling point or initial boiling point and | No data availat | ble | | | | | |
| boiling range: | | | | | | | |
| Flammability: | No data availat | | | | | | |
| Lower explosion limits: | No data availat | ble | | | | | |
| Upper explosion limits: | No data availat | ble | | | | | |
| Flash point: | | Х | | | | | |
| Auto-ignition temperature: | No data availat | | | | | | |
| Decomposition temperature: | No data availat | | | | | | |
| pH-Value: | | 0 | | | | | |
| Viscosity / kinematic: | No data availat | | | | | | |
| Water solubility: | No data availat | ble | | | | | |
| Solubility in other solvents | | | | | | | |
| not determined | | | | | | | |
| Dissolution rate: | No data availat | | | | | | |
| Partition coefficient n-octanol/water: | No data availat | | | | | | |
| Dispersion stability: Vapour pressure: | No data availat No data availat | | | | | | |
| Vapour pressure: | No data availat No data availat | | | | | | |
| Density: | No data availat | | | | | | |
| Relative density: | No data availat | | | | | | |
| Bulk density: | No data availat | | | | | | |
| Relative vapour density: | No data availat | ble | | | | | |
| Particle characteristics: | No data availat | ble | | | | | |
| 9.2. Other information | | | | | | | |
| Information with regard to physical ha | zard classes | | | | | | |
| Explosive properties | | | | | | | |
| No data available | | | | | | | |
| Sustained combustibility: | No data availat | ble | | | | | |
| Self-ignition temperature | | | | | | | |
| Solid: | not applicat | | | | | | |
| Gas: | not applicat | Die | | | | | |
| Oxidizing properties No data available | | | | | | | |
| | | | | | | | |
| Other safety characteristics | No data availat | | | | | | |
| Evaporation rate: Solvent separation test: | No data availat No data availat | | | | | | |
| Solvent content: | NO UALA AVAIIAL | 0 | | | | | |
| Solid content: | | 0 | | | | | |
| Sublimation point: | No data availat | • | | | | | |
| Softening point: | No data availat | ble | | | | | |
| Pour point: | No data availat | ble | | | | | |
| No data available: | | | | | | | |
| Viscosity / dynamic: | No data availat | ble | | | | | |
| Flow time: | No data availat | ble | | | | | |
| Further Information | | | | | | | |
| Corrosive to metals | | | | | | | |
| CECTION 40. Otability and mostly it | | | | | | | |
| SECTION 10: Stability and reactivity | | | | | | | |



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10.1. Reactivity

Corrosive to metals.

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.

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

Toxicocinetics, metabolism and distribution

There are no data available on the mixture itself.

Acute toxicity

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

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l



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| CAS No | Chemical name | | | | | | | | |
|------------|----------------------|---------------|----------|------------|--|--------------------|--|--|--|
| | Exposure route | Dose | | Species | Source | Method | | | |
| 7697-37-2 | nitric acid | | | | | | | | |
| | inhalation vapour | ATE 2,65 | ō mg/l | | | | | | |
| 16919-19-0 | ammonium hexafluoros | silicate | | | | | | | |
| | oral | ATE mg/kg | 100 | | | | | | |
| | dermal | ATE mg/kg | 300 | | | | | | |
| | inhalation vapour | ATE | 3 mg/l | | | | | | |
| | inhalation dust/mist | ATE | 0,5 mg/l | | | | | | |
| 13138-45-9 | nickel dinitrate | | | | | | | | |
| | oral | LD50 mg/kg | 361,9 | Rat | Regul Toxicol and Pharmacol (doi.org/10. | OECD Guideline 425 | | | |
| | inhalation vapour | ATE | 11 mg/l | | | | | | |
| | inhalation dust/mist | ATE | 1,5 mg/l | | | | | | |
| 7761-88-8 | silver nitrate | | | | | | | | |
| | oral | LD50 mg/kg | > 2000 | Rat | Study report (1993) | OECD Guideline 401 | | | |
| | dermal | LD50 mg/kg | > 348 | Guinea pig | J. Vet. Med. Sci.73: 1417 - 1423. (2011) | OECD Guideline 434 | | | |

Irritation and corrosivity

Skin corrosion/irritation: Causes severe skin burns and eye damage. Serious eye damage/eye irritation: Causes serious eye damage. Corrosive to the respiratory tract.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Information on likely routes of exposure

There are no data available on the 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.



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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

corrosive Irritant Allergic reactions

SECTION 12: Ecological information

12.1. Toxicity

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



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| CAS No | Chemical name | | | | | | | | | |
|------------|--------------------------|-------------------|-----------|-----------|--|---|--|--|--|--|
| | Aquatic toxicity | Dose | | [h] [d] | Species | Source | Method | | | |
| 7697-37-2 | nitric acid | | | | | | | | | |
| | Acute fish toxicity | LC50 mg/l | 1559 | 96 h | Topeka shiner | Environmental Toxicology and Chemistry, | other: ASTM E729-26 | | | |
| | Fish toxicity | NOEC | 268 mg/l | 30 d | juvenile Topeka shiner and with juvenile Fathead m | Study report (2009) | Growth tests estimated the test chemical | | | |
| | Algae toxicity | NOEC mg/l | > 419 | 10 d | several benthic diatoms; see results | Marine Biology 43:307-315 (1977) | Ten cultures of benthic diatoms were iso | | | |
| | Acute bacteria toxicity | EC50 mg/l() | > 1000 | 3 h | Activated sludge | Study report (2008) | OECD Guideline 209 | | | |
| 7647-01-0 | Hydrochloric acid | | | | | | | | | |
| | Acute fish toxicity | LC50 | 862 mg/l | 96 h | Leuciscus idus | | | | | |
| 13138-45-9 | nickel dinitrate | | | | | | | | | |
| | Acute fish toxicity | LC50 mg/l | 15,3 | 96 h | Oncorhynchus mykiss | Aquatic Toxicology 63 (2003) 65-82 (2003 | other: not reported | | | |
| | Acute algae toxicity | ErC50 mg/l | 0,237 | 72 h | Ankistrodesmus falcatus | Publication (2009) | OECD Guideline 201 | | | |
| | Acute crustacea toxicity | EC50 mg/l | 0,2663 | 48 h | Ceriodaphnia dubia | Study report (2004) | other: American society of testing and m | | | |
| | Fish toxicity | NOEC mg/l | 0,057 | 32 d | Pimephales promelas | Water Resources Research Institute. Kent | other: ASTM 1980, E-729 | | | |
| | Algae toxicity | NOEC | 0,6 mg/l | 14 d | Anabaena cylindrica | Environ. Pollut. (Series A). 25(4):241-2 | other: not reported | | | |
| | Crustacea toxicity | NOEC mg/l | 0,04 | 42 d | Daphnia magna | Wat. Res. 24(7):845-852 (1990) | Chronic exposure to sublethal concentrat | | | |
| | Acute bacteria toxicity | EC50) | 33 mg/l (| 0,5 h | Activated sludge | Journal of Hazardous Materials. B139:332 | ISO 8192 | | | |
| 7761-88-8 | silver nitrate | | | | | | · | | | |
| | Acute fish toxicity | LC50 mg/l | 0,0012 | 96 h | Pimephales promelas | Environmental Toxicology and Chemistry. | A guideline was not specified. The test | | | |
| | Acute algae toxicity | ErC50 mg/l | 0,0099 | 96 h | Pseudokirchneriella subcapitata | Environmental Science and Technology. 44 | eline: U.S. Environmental Protection Age | | | |
| | Acute crustacea toxicity | EC50 mg/l | 0,00022 | 48 h | Daphnia magna | Environmental Toxicology and Chemistry. | The protective effect of reactive sulphi | | | |
| | Fish toxicity | NOEC 0,00125 n | > ng/l | 73 d | Oncorhynchus mykiss | Environmental Toxicology and Chemistry 2 | other: ASTM 1241-98 | | | |
| | 1 | 1 | | | | | | | | |



Multielement-Standardlösung 30 Elemente in verdünnter Salzsäure/Salpetersäure- 5

Elemente gemessen -

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| 5, | NOEC mg/l | 0,0012 | 14 d | | Cardwell RD | The toxicity tests lasted 11 days for th | |
|-----|--------------|---------|------|---|----------------|--|--|
| - 5 | NOEC mg/l | 0,00031 | 20 d | , | Toxicology and | 20 day sublethal effects on representati | |

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 |
|------------|------------------|-----|---------------------|----------------------|
| 13138-45-9 | nickel dinitrate | 23 | Spirodela polyrhiza | Ecotoxicology and en |
| 7761-88-8 | silver nitrate | 70 | Cyprinus carpio | Water, Air and Soil |

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

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

12.6. Endocrine disrupting properties

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

12.7. Other adverse effects

Discharge into the environment must be avoided.

Harmful effect due to pH shift.

Forms corrosive mixtures with water even if diluted.

Further information

There are no data available on the mixture itself.

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

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)

| 14.1. UN number or ID number: | UN 3264 | |
|--|---|--|
| 14.2. UN proper shipping name: | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid, | |
| | Hydrochloric acid) | |
| <u>14.3. Transport hazard class(es):</u> | 8 | |
| 14.4. Packing group: | I | |
| Hazard label: | 8 | |
| Classification code: | C1 | |
| Special Provisions: | 274 | |



Safety Data Sheet

according to Regulation (EC) No 1907/2006

| Multielement-Standardlösung 30 Elemente in verdünnter Salzsäure/Salpetersäure- 5 | | | |
|--|--|--|---------------|
| Elemente gemessen - | | | |
| Revision date: 19.03.2025 | Product code: 3 | 34403 | Page 14 of 16 |
| Limited quantity: | 1 L | | |
| Excepted quantity: | E2 | | |
| Transport category: | 2 | | |
| Hazard No: | 80 | | |
| Tunnel restriction code: | E | | |
| Inland waterways transport (ADN) | | | |
| 14.1. UN number or ID number: | UN 3264 | | |
| 14.2. UN proper shipping name: | CORROSIVE LIQUID, A0 Hydrochloric acid) | CIDIC, INORGANIC, N.O.S. (nitric acid, | |
| 14.3. Transport hazard class(es): | 8 | | |
| 14.4. Packing group: | II | | |
| Hazard label: | 8 | | |
| Classification code: | C1 | | |
| Special Provisions: | 274 | | |
| Limited quantity: | 1 L | | |
| Excepted quantity: | E2 | | |
| Marine transport (IMDG) | | | |
| 14.1. UN number or ID number: | UN 3264 | | |
| 14.2. UN proper shipping name: | CORROSIVE LIQUID, A0 Hydrochloric acid) | CIDIC, INORGANIC, N.O.S. (Nitric acid, | |
| 14.3. Transport hazard class(es): | 8 | | |
| <u>14.4. Packing group:</u> | II | | |
| Hazard label: | 8 | | |
| Special Provisions: | 274 | | |
| 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 3264 | | |
| 14.2. UN proper shipping name: | Hydrochloric acid) | CIDIC, INORGANIC, N.O.S. (Nitric acid, | |
| 14.3. Transport hazard class(es): | 8 | | |
| 14.4. Packing group: | II | | |
| Hazard label: | 8 | | |
| Special Provisions: | A3 A803 | | |
| Limited quantity Passenger: | 0.5 L | | |
| Passenger LQ: | Y840 | | |
| Excepted quantity: | E2 | | |
| IATA-packing instructions - Passenger: IATA-max. quantity - Passenger: | 851 1 L | | |
| IATA-max. quantity - Passenger: IATA-packing instructions - Cargo: | 855 | | |
| IATA-packing instructions - Cargo: IATA-max. quantity - Cargo: | 30 I | | |
| 14.5. Environmental hazards | 501 | - | |
| ENVIRONMENTALLY HAZARDOUS: | No | | |
| SECTION 15: Pogulatory information | | | |

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 65, Entry 75



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|---|--|-----------------------------------|--|
| Revision date: 19.03.2025 | Product code: 34403 | Page 15 of 16 | |
| 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 | | | |
| Employment restrictions: | Observe restrictions to employment for juv work protection guideline' (94/33/EC). | eniles according to the 'juvenile | |
| Water hazard class (D): | 2 - obviously hazardous to water | | |
| SECTION 16: Other information | | | |

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1.

Abbreviations and acronyms

| D | previations 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 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. |
| H301 | Toxic if swallowed. |
| H302 | Harmful if swallowed. |
| | |



Re

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Safety Data Sheet

according to Regulation (EC) No 1907/2006

Multielement-Standardlösung 30 Elemente in verdünnter Salzsäure/Salpetersäure-5

| Elemente gemessen - | | | |
|--------------------------|--|---------------|--|
| evision date: 19.03.2025 | Product code: 34403 | Page 16 of 16 | |
| 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. | | |
| H331 | Toxic if inhaled. | | |
| H332 | Harmful 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. | | |
| H372 | Causes damage to organs through prolonged or repeated exposure. | | |
| H400 | Very toxic to aquatic life. | | |
| H410 | Very toxic to aquatic life with long lasting effects. | | |
| EUH071 | Corrosive to the respiratory tract. | | |
| EUH208 | Contains nickel dinitrate. May produce an allergic reaction. | | |
| Further Information | | | |
| The above information | on describes exclusively the safety requirements of the product and is based on our | | |
| present-day knowled | lee. The information is intended to give you advice about the safe handling of the product | | |

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.)