

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Standard solution for the KMnO<sub>4</sub> test according to ASTM**

Revision: 13.04.2026

Product code: AC18.23269

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**Standard solution for the KMnO<sub>4</sub> test according to ASTM

UFI: GDT4-23J0-U00F-M53U

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**Reagents and laboratory chemicals  
Only for laboratory and analysis purposes.**Uses advised against**

Do not use for private purposes (household).

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

Company name: AnalytiChem Services, Unipessoal, Lda  
Street: Rua de Júlio Dinis 676 7º  
Place: P-4050-320 Porto  
Telephone: +351 226002917  
E-mail: info@analytichem.com  
Contact person: SDS service department  
E-mail: SDS@analytichem.com  
Internet: www.analytichem.com  
Responsible Department: SDS service department

**Supplier or manufacturer details**

Company name: AnalytiChem GmbH  
Street: Stempelstraße 6  
Place: D-47167 Duisburg  
Telephone: 0203/5194-0  
E-mail: info@analytichem.de  
Contact person: SDS service department  
E-mail: SDS@analytichem.com  
Internet: www.analytichem.de  
Responsible Department: AnalytiChem:  
EU-Belgium: AnalytiChem Belgium, Industriezone "De Arend" 2, 8210 Zedelgem, Belgium, +32 50 28 83 20  
EU-Germany: AnalytiChem Germany, Stempelstrasse 6, 47167 Duisburg, Germany, +49 203 51 94 – 200  
EU-Netherlands: AnalytiChem Netherlands, Communicatieweg 7, 3641 SG Mijdrecht, The Netherlands, +31 297 286848  
UK: AnalytiChem UK, Unit 7 Launton Business Center, Murdock Road, Bicester, OX26 4XB, England, +44 1869 355 500  
USA: AnalytiChem USA, 227 China Road, Winslow, Maine, 04901, United States, +1 800-244-8378  
Canada: AnalytiChem Canada, 21800 Clark Graham Avenue, Baie d'Urfe, H9X 4B6, Canada, +1 514-457-0701  
Australia: ORE Research & Exploration Pty Ltd, 37A Hosie Street, Bayswater North, 3153, Australia, +61 3 9729 0333  
+353 1 901 4670 (CHEMTREC)

Telefax: 0203/5194-290

**1.4. Emergency telephone number:**

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**Further Information**

This product is a mixture. REACH Registration Number see section 3.

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Met. Corr. 1; H290

Carc. 1B; H350i

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**

Cobalt(II) chloride hexahydrate

**Signal word:** Danger**Pictograms:****Hazard statements**

|       |  |
|-------|--|
| H290  | May be corrosive to metals.                        |
| H350i | May cause cancer by inhalation.                    |
| H412  | Harmful to aquatic life with long lasting effects. |

**Precautionary statements**

|           |   |
|-----------|---|
| P201      | Obtain special instructions before use.   |
| P273      | Avoid release to the environment.   |
| P280      | Wear protective gloves/protective clothing and eye protection/face protection.  |
| P308+P313 | IF exposed or concerned: Get medical advice/attention.                          |
| P390      | Absorb spillage to prevent material damage.                                     |
| P501      | Dispose of contents/container to an appropriate recycling or disposal facility. |

**2.3. Other hazards**

No data available

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****Chemical characterization**

Mixtures in aqueous solution

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## Relevant ingredients

| CAS No    | Chemical name   | Quantity     |                  |           |
|-----------|---|--------------|------------------|-----------|
|           | EC No   | Index No     | REACH No         |           |
|           | Classification (Regulation (EC) No 1272/2008)   |              |                  |           |
| 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 H314 H318 H335   |              |                  |           |
| 7791-13-1 | Cobalt(II) chloride hexahydrate   |              |                  | < 0.1 %   |
|           | 231-589-4   | 027-004-00-5 | 01-2119517584-37 |           |
|           | Carc. 1B, Muta. 2, Repr. 1B, Acute Tox. 4, Resp. Sens. 1, Skin Sens. 1, Aquatic Acute 1, Aquatic Chronic 1; H350i H341 H360F H302 H334 H317 H400 H410 |              |                  |           |

Full text of H and EUH statements: see section 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               | 1 - < 5 % |
|           | Skin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25 STOT SE 3; H335: >= 10 - 100                   |                                 |           |
| 7791-13-1 | 231-589-4  | Cobalt(II) chloride hexahydrate | < 0.1 %   |
|           | dermal: LD50 = > 2000 mg/kg; oral: LD50 = 537 mg/kg Carc. 1B; H350i: >= 0,01 - 100<br>Aquatic Acute 1; H400: M=10<br>Aquatic Chronic 1; H410: M=10 |                                 |           |

## Further Information

CAS 7791-13-1: Substance with harmonized classification and labelling according to Regulation (EC) No. 1272/2008, Annex VI. (Note 1)

## SECTION 4: First aid measures

## 4.1. Description of first aid measures

## General information

Self-protection of the first aider

## 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

Irritant

Allergic reactions

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

No data available

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

**Unsuitable extinguishing media**

no restriction

**5.2. Special hazards arising from the substance or mixture**

Non-combustible liquids

Hazardous combustion products

In case of fire may be liberated:

Hydrochloric gas

Metal oxide smoke, toxic

**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.

**For non-emergency personnel**

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

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

**For emergency responders**

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

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

**6.3. Methods and material for containment and cleaning up****For containment**

Cover drains.

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

Collect in closed and suitable containers for disposal.

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

**For cleaning up**

Clean contaminated articles and floor according to the environmental legislation.

**Other information**

Provide adequate ventilation.

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

**6.4. Reference to other sections**

Safe handling: see section 7  
Personal protection equipment: see section 8  
Disposal: see section 13

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

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. Do not inhale fog/steam/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.  
Store in a place accessible by authorized persons only.

**Hints on joint storage**

Take national regulations into account.

**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) |        |

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## 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> |
| 7791-13-1                | Cobalt(II) chloride hexahydrate |                |          |                      |
| Consumer DNEL, long-term |                                 | oral           | systemic | 0,12 mg/kg bw/day    |

## PNEC values

| CAS No  | Substance                       | Value        |
|---|---------------------------------|--------------|
| 7791-13-1                                       | Cobalt(II) chloride hexahydrate |              |
| Freshwater                                      |                                 | 0,0006 mg/l  |
| Marine water                                    |                                 | 0,00236 mg/l |
| Freshwater sediment                             |                                 | 9,5 mg/kg    |
| Marine sediment                                 |                                 | 9,5 mg/kg    |
| Microorganisms in sewage treatment plants (STP) |                                 | 0,37 mg/l    |
| Soil  |                                 | 10,9 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  
Recommended glove articles: KCL 741 Dermatril® L  
Recommended material: NBR (Nitrile rubber) 0,11 mm  
Wearing time with permanent contact: > 480 min

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By short-term hand contact  
Recommended glove articles: 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.  
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:   | light orange, clear |                          |
| Odour:  | odourless           |                          |
| 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:   |                     | 0                        |
| Viscosity / kinematic:                                    |                     | No data available        |
| Water solubility:   |                     | No data available        |
| Solubility in other solvents                              |                     |                          |
| not determined  |                     |                          |
| 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        |
| Density:  |                     | 1,0072 g/cm <sup>3</sup> |
| Relative density:   |                     | No data available        |
| Bulk density:   |                     | No data available        |

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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

Sustained combustibility:

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.

**10.3. Possibility of hazardous reactions**

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**

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**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.

**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             |
| 7791-13-1 | Cobalt(II) chloride hexahydrate |                   |         |   |                    |
|           | oral                            | LD50 537 mg/kg    | Rat     | Revista Española de Fisiología, 39: 291 | OECD Guideline 401 |
|           | dermal                          | LD50 > 2000 mg/kg | Rat     | Study report (2007)                     | OECD Guideline 402 |

**Irritation and corrosivity**

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation: Based on available data, the classification criteria are not met. slightly irritant but not relevant for classification.

**Sensitising effects**

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

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

May cause cancer by inhalation. (Cobalt(II) chloride hexahydrate)

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

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

**STOT-single exposure**

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

**STOT-repeated exposure**

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**

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

**Other information**

There are no data available on the mixture itself.

**Further information**

There are no data available on the mixture itself.

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## SECTION 12: Ecological information

**12.1. Toxicity**

Harmful to aquatic life with long lasting effects.

| 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         |  |  |
| 7791-13-1 | Cobalt(II) chloride hexahydrate |                   |           |                        |  |  |
|           | Acute fish toxicity             | LC50 54,1 mg/l    | 96 h      | Pimephales promelas    | Study report (2009)                      | other: ASTM guideline                    |
|           | Acute algae toxicity            | ErC50 71,314 mg/l | 96 h      | Dunaliella tertiolecta | Study report (2010)                      | other: American Society for Testing and  |
|           | Acute crustacea toxicity        | EC50 42,7 mg/l    | 48 h      | Aeolosoma sp.          | Study report (2008)                      | Newman, J.P., Jr. 1975. The effects of h |
|           | Fish toxicity                   | NOEC 0,21 mg/l    | 34 d      | Pimephales promelas    | Study report (2009)                      | other: This study was conducted accordin |
|           | Algae toxicity                  | NOEC 0,0018 mg/l  | 7 d       | Champia parvula        | Study report - model refit from original | other: EPA 821-R-02-014, Method 1009.0   |
|           | Crustacea toxicity              | NOEC 0,1697 mg/l  | 14 d      | Aeolosoma sp.          | Study report (2008)                      | other: Newman, J.P., Jr. 1975. The effec |
|           | Acute bacteria toxicity         | EC50 120 mg/l ( ) | 0,5 h     | Activated sludge       | Study report (2010)                      | OECD Guideline 209                       |

**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               |
|-----------|---------------------------------|-----|-----------------|----------------------|
| 7791-13-1 | Cobalt(II) chloride hexahydrate | 23  | Asterias rubens | Marine Pollution Bul |

**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.

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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.

Waste codes/waste designations according to EWC/AVV

## 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>              | III               |
| Hazard label:                            | 8                 |
| Classification code:                     | C1                |
| Special Provisions:                      | 520               |
| Limited quantity:                        | 5 L               |
| Excepted quantity:                       | E1                |
| Transport category:                      | 3                 |
| Hazard No:                               | 80                |
| Tunnel restriction code:                 | E                 |

## 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>              | III               |
| Hazard label:                            | 8                 |
| Classification code:                     | C1                |
| Special Provisions:                      | 520               |
| Limited quantity:                        | 5 L               |
| Excepted quantity:                       | E1                |

## 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>              | III               |
| Hazard label:                            | 8                 |
| Special Provisions:                      | 223               |
| Limited quantity:                        | 5 L               |
| Excepted quantity:                       | E1                |
| EmS:                                     | F-A, S-B          |
| Segregation group:                       | 1 - acids         |

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

|                                      |         |
|--------------------------------------|---------|
| <b>14.1. UN number or ID number:</b> | UN 1789 |
|--------------------------------------|---------|

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|  |                   |
|--|-------------------|
| <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>              | III               |
| Hazard label:                            | 8                 |
| Special Provisions:                      | A3 A803           |
| Limited quantity Passenger:              | 1 L               |
| Passenger LQ:                            | Y841              |
| Excepted quantity:                       | E1                |
| IATA-packing instructions - Passenger:   | 852               |
| IATA-max. quantity - Passenger:          | 5 L               |
| IATA-packing instructions - Cargo:       | 856               |
| IATA-max. quantity - Cargo:              | 60 L              |

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

No data available

**14.7. Maritime transport in bulk according to IMO instruments**

No data available

**Other applicable information**

No data available

**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 75

Information according to Directive 2012/18/EU (SEVESO III):

Not subject to 2012/18/EU (SEVESO III)

**National regulatory information**

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.

Water hazard class (D):

3 - highly hazardous to water

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 1,2,3,8,9,11,14,15.

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## Abbreviations and acronyms

Met. Corr. 1: Corrosive to metals, hazard category 1  
Acute Tox. 4: Acute toxicity, hazard category 4  
Skin Corr. 1B: Skin corrosion, sub-category 1B  
Eye Dam. 1: Serious eye damage, hazard category 1  
Resp. Sens. 1: Respiratory sensitisation, hazard category 1  
Skin Sens. 1: Skin sensitisation, hazard category 1  
Muta. 2: Germ cell mutagenicity, hazard category 2  
Carc. 1B: Carcinogenicity, hazard category 1B  
Repr. 1B: Reproductive toxicity, hazard category 1B  
STOT SE 3: Specific target organ toxicity - single exposure, hazard category 3  
Aquatic Acute 1: Hazardous to the aquatic environment, hazard category: Acute 1  
Aquatic Chronic 1: Hazardous to the aquatic environment, long-term hazard category: Chronic 1  
Aquatic Chronic 3: Hazardous to the aquatic environment, long-term hazard category: Chronic 3  
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    |
| Carc. 1B; H350i         | Calculation method       |
| Aquatic Chronic 3; H412 | Calculation method       |

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

H290 May be corrosive to metals.  
H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
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.  
H360F May damage fertility.  
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.

## 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

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