



**Safety Data Sheet**

according to UK REACH Regulation

**Titan(IV)-chlorid-Lösung 10 g/l**

Revision date: 27.06.2022

Product code: 24806

Page 2 of 9

P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**2.3. Other hazards**

No information available.

**SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**

**Hazardous components**

| CAS No    | Chemical name   |              |                  | Quantity    |
|-----------|---|--------------|------------------|-------------|
|           | EC No   | Index No     | REACH No         |             |
|           | Classification (GB CLP Regulation)                      |              |                  |             |
| 7664-93-9 | sulphuric acid  |              |                  | 50 - < 55 % |
|           | 231-639-5   | 016-020-00-8 | 01-2119458838-20 |             |
|           | Met. Corr. 1, Skin Corr. 1A, Eye Dam. 1; H290 H314 H318 |              |                  |             |

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   |                |             |
| 7664-93-9 | 231-639-5  | sulphuric acid | 50 - < 55 % |
|           | oral: LD50 = 2140 mg/kg Skin Corr. 1A; H314: >= 15 - 100 Skin Irrit. 2; H315: >= 5 - < 15<br>Eye Irrit. 2; H319: >= 5 - < 15 |                |             |

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**General information**

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down.

**After inhalation**

Provide fresh air. Medical treatment necessary.

**After contact with skin**

After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.

**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.

**After ingestion**

Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Adverse human health effects and symptoms: Gastric perforation. Call a physician immediately. Do not allow a neutralisation agent to be drunk.

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

No information available.

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

Treat symptomatically.

**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

**Titan(IV)-chlorid-Lösung 10 g/l**

Revision date: 27.06.2022

Product code: 24806

Page 3 of 9

**Suitable extinguishing media**

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

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

Non-flammable.

**5.3. Advice for firefighters**

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

**Additional information**

Suppress gases/vapours/mists with water spray jet.

**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**

No special environmental measures are necessary. Clean contaminated articles and floor according to the environmental legislation.

**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**

**7.1. Precautions for safe handling**

**Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

**Titan(IV)-chlorid-Lösung 10 g/l**

Revision date: 27.06.2022

Product code: 24806

Page 4 of 9

**Advice on protection against fire and explosion**

No special fire protection measures are necessary.

**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.

**7.2. Conditions for safe storage, including any incompatibilities**

**Requirements for storage rooms and vessels**

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaust at critical locations. Unsuitable container/equipment material: Metal.

**Hints on joint storage**

No special measures are necessary.

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

**8.1. Control parameters**

**Exposure limits (EH40)**

| CAS No    | Substance             | ppm | mg/m <sup>3</sup> | fibres/ml | Category  | Origin |
|-----------|-----------------------|-----|-------------------|-----------|-----------|--------|
| 7664-93-9 | Sulphuric acid (mist) | -   | 0.05              |           | TWA (8 h) | WEL    |

**DNEL/DMEL values**

| CAS No                 | Substance      | Exposure route | Effect | Value                  |
|------------------------|----------------|----------------|--------|------------------------|
| 7664-93-9              | sulphuric acid |                |        |                        |
| Worker DNEL, long-term |                | inhalation     | local  | 0,05 mg/m <sup>3</sup> |
| Worker DNEL, acute     |                | inhalation     | local  | 0,1 mg/m <sup>3</sup>  |

**PNEC values**

| CAS No   | Substance      | Value       |
|--|----------------|-------------|
| 7664-93-9  | sulphuric acid |             |
| Freshwater                                       |                | 0,003 mg/l  |
| Marine water                                     |                | 0 mg/l      |
| Freshwater sediment                              |                | 0,002 mg/kg |
| Marine sediment                                  |                | 0,002 mg/kg |
| Micro-organisms in sewage treatment plants (STP) |                | 8,8 mg/l    |

**8.2. Exposure controls**

**Appropriate engineering controls**

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: 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

**Titan(IV)-chlorid-Lösung 10 g/l**

Revision date: 27.06.2022

Product code: 24806

Page 5 of 9

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.

**Skin protection**

Wear suitable protective clothing.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection.

**SECTION 9: Physical and chemical properties**

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

Physical state: Liquid  
 Colour: colourless  
 Odour: odourless

**Changes in the physical state**

Melting point/freezing point: not determined  
 Boiling point or initial boiling point and boiling range: ?  
 Flash point: ?

**Flammability**

Solid/liquid: not applicable  
 Gas: not applicable  
 Lower explosion limits: not determined  
 Upper explosion limits: not determined

**Self-ignition temperature**

Solid: not applicable  
 Gas: not applicable  
 Decomposition temperature: not determined  
 pH-Value: acidic

**Solubility in other solvents**

not determined  
 Partition coefficient n-octanol/water: not determined  
 Vapour pressure: <=1100 hPa  
 (at 50 °C)  
 Density: 1,44200 g/cm<sup>3</sup>  
 Relative vapour density: not determined

**9.2. Other information**

**Information with regard to physical hazard classes**

Oxidizing properties  
 Not oxidising.

**Other safety characteristics**

Solid content: not determined  
 Evaporation rate: not determined

**SECTION 10: Stability and reactivity**

**Titan(IV)-chlorid-Lösung 10 g/l**

Revision date: 27.06.2022

Product code: 24806

Page 6 of 9

**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**

No known hazardous reactions.

**10.4. Conditions to avoid**

none

**10.5. Incompatible materials**

Keep away from: Metal.

**10.6. Hazardous decomposition products**

No known hazardous decomposition products.

**SECTION 11: Toxicological information**

**11.1. Information on hazard classes as defined in GB CLP Regulation**

**Acute toxicity**

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

| CAS No    | Chemical name  |                 |         |  |  |
|-----------|----------------|-----------------|---------|--|--|
|           | Exposure route | Dose            | Species | Source                                   | Method                                   |
| 7664-93-9 | sulphuric acid |                 |         |  |  |
|           | oral           | LD50 2140 mg/kg | Rat     | Am Ind Hyg Assoc J. 1969 Sep-Oct; 30(5): | The study was performed as part of a ser |

**Irritation and corrosivity**

Causes severe skin burns and eye damage.

Causes serious eye damage.

**Sensitising effects**

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

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

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.

**SECTION 12: Ecological information**

**12.1. Toxicity**

The product is not: Ecotoxic.

**Titan(IV)-chlorid-Lösung 10 g/l**

Revision date: 27.06.2022

Product code: 24806

Page 7 of 9

| CAS No    | Chemical name               |               |           |         |                            |   |
|-----------|-----------------------------|---------------|-----------|---------|----------------------------|---|
|           | Aquatic toxicity            | Dose          | [h]   [d] | Species | Source                     | Method  |
| 7664-93-9 | sulphuric acid              |               |           |         |                            |   |
|           | Acute algae toxicity        | ErC50<br>mg/l | > 100     | 72 h    | Desmodesmus<br>subspicatus | Study report<br>(2009)<br>OECD Guideline<br>201   |
|           | Acute crustacea<br>toxicity | EC50<br>mg/l  | > 100     | 48 h    | Daphnia magna              | Study report<br>(2009)<br>OECD Guideline<br>202   |
|           | Fish toxicity               | NOEC<br>mg/l  | 0,025     | 65 d    | Jordanella floridae        | Water Research<br>Vol. 11, 612 - 626,<br>1977<br>Groups of<br>sexually mature<br>flagfish |

**12.2. Persistence and degradability**

The product has not been tested.

**12.3. Bioaccumulative potential**

The product has not been tested.

**12.4. Mobility in soil**

The product has not been tested.

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

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

The product has not been tested.

**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**

No information available.

**Further information**

Avoid release to the environment.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

**Disposal recommendations**

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

**Contaminated packaging**

Wash with plenty of water. Completely emptied packages can be recycled.

**SECTION 14: Transport information**

**Land transport (ADR/RID)**

|  |  |
|--|--|
| <b>14.1. UN number or ID number:</b>     | UN 3264  |
| <b>14.2. UN proper shipping name:</b>    | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (sulphuric 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:                      | 274  |
| Limited quantity:                        | 1 L  |
| Excepted quantity:                       | E2   |
| Transport category:                      | 2  |
| Hazard No:                               | 80   |
| Tunnel restriction code:                 | E  |

**Titan(IV)-chlorid-Lösung 10 g/l**

Revision date: 27.06.2022

Product code: 24806

Page 8 of 9

**Inland waterways transport (ADN)**

|  |  |
|--|--|
| <b>14.1. UN number or ID number:</b>     | UN 3264  |
| <b>14.2. UN proper shipping name:</b>    | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (sulphuric 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:                      | 274  |
| Limited quantity:                        | 1 L  |
| Excepted quantity:                       | E2   |

**Marine transport (IMDG)**

|  |  |
|--|--|
| <b>14.1. UN number or ID number:</b>     | UN 3264  |
| <b>14.2. UN proper shipping name:</b>    | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (sulphuric acid) |
| <b>14.3. Transport hazard class(es):</b> | 8  |
| <b>14.4. Packing group:</b>              | II   |
| Hazard label:                            | 8  |
| Special Provisions:                      | 274  |
| Limited quantity:                        | 1 L  |
| Excepted quantity:                       | E2   |
| 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 3264  |
| <b>14.2. UN proper shipping name:</b>    | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (sulphuric 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

**14.6. Special precautions for user**

Warning: strongly corrosive.

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

not applicable

**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

**National regulatory information**

## Safety Data Sheet

according to UK REACH Regulation

### Titan(IV)-chlorid-Lösung 10 g/l

Revision date: 27.06.2022

Product code: 24806

Page 9 of 9

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).  
Water hazard class (D): 1 - slightly hazardous to water

#### **15.2. Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

### **SECTION 16: Other information**

#### **Abbreviations and acronyms**

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%

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

H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.

#### **Further Information**

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

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