



Be Right™

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Issue Date 25-03-2008

Revision Date 05-Aug-2024

Version 3.4

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Code(s) LCW843
Product Name LCW 843 TOCTAX Standard Lösung/Standard solution 100 mg/l

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Standard solution. Analytical reagent.

Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Supplier

HACH LANGE GmbH
Willstätterstr. 11
D-40549 Düsseldorf
Tel: +49 (0)211 5288-383
sds@hach.com

Responsible country contact:

HACH UK
Laser House
Ground Floor, Suite B
Waterfront Quay, Salford Quays
GB - Manchester, M50 3XW
Tel. +44 (0) 161 872 1487
info-uk@hach.com

HACH Ireland
Unit 34 GB Business Park
Little Island
IRL-Co. Cork
T45 H681
Tel. +353 (0)146 02 522
info-ie@hach.com

1.4. Emergency telephone number

UK: Chemtrec: +44 20 3807 3798
IE: National Poisons Information Centre (NPIC) 01 809 2566 (24/7)

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.2. Label elements

Classification according to Regulation (EC) No. 1272/2008 [CLP]

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

Hazard statements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.3. Other hazards

No information available.

PBT & vPvB

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT)

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB)

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

The product contains no substances which at their given concentration, are considered to be hazardous to health

| Chemical name | CAS No. EC No. Index No. | Weight-% | Classification according to Regulation (EC) No. 1272/2008 [CLP] | Specific concentration limit (SCL) | M-Factor | M-Factor (long-term) |
|---------------------------------|--|-----------|--|--|----------|-------------------------|
| Water | 7732-18-5 231-791-2 - | 90 - 100% | Not classified | | - | - |
| Hydrochloric acid | 7647-01-0 231-595-7 017-002-01-X | <0.1% | Met. Corr. 1 - H290 Skin Corr. 1B - H314 Eye Dam. 1 - H318 STOT SE 3 - H335 | Eye Irrit. 2 :H319: 10%<=C<25% Skin Corr. 1B :H314: C>=25% Skin Irrit. 2 :H315: 10%<=C<25% STOT SE 3 :H335: C>=10% | - | - |
| Potassium hydrogen phthalate | 877-24-7 212-889-4 | <0.1% | Not classified | | - | - |

| Chemical name | CAS No. EC No. Index No. | Weight-% | Classification according to Regulation (EC) No. 1272/2008 [CLP] | Specific concentration limit (SCL) | M-Factor | M-Factor (long-term) |
|---------------|--------------------------------|----------|---|--|----------|-------------------------|
| | - | | | | | |

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate No information available

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 - 4 hour - dust/mist - mg/L | Inhalation LC50 - 4 hour - vapour - mg/L | Inhalation LC50 - 4 hour - gas - ppm |
|---|--------------|---------------|---|--|---|
| Potassium hydrogen phthalate 877-24-7 | > 3200 mg/kg | None reported | None reported | None reported | None reported |

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

| | |
|---|--|
| General advice | Take off contaminated clothing and shoes immediately. Show this safety data sheet to the doctor in attendance. |
| Inhalation | Remove to fresh air. If symptoms persist, call a doctor. |
| Eye contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a doctor. |
| Skin contact | Wash skin with soap and water. In the case of skin irritation or allergic reactions see a doctor. |
| Ingestion | Rinse mouth. |
| Self-protection of the first aider | Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. |

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

Symptoms No information available.

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

Note to doctors Treat symptomatically.

Section 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the

surrounding environment. Product itself does not burn.

Unsuitable extinguishing media No information available.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical Thermal decomposition can lead to release of irritating and toxic gases and vapours.

Hazardous combustion products No information available.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Additional information Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Evacuate personnel to safe areas.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Place in appropriate chemical waste container. Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray. Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and after work. Avoid contact with skin, eyes or clothing. Barrier creams may help to protect the exposed areas of skin.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Specific use(s) Standard solution. Analytical reagent.
Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters**

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

| Chemical name | European Union | United Kingdom | Ireland |
|--------------------------------|--|--|--|
| Hydrochloric acid 7647-01-0 | TWA: 5 ppm TWA: 8 mg/m ³ STEL: 10 ppm STEL: 15 mg/m ³ | TWA: 1 ppm TWA: 2 mg/m ³ STEL: 5 ppm STEL: 8 mg/m ³ | TWA: 8 mg/m ³ TWA: 5 ppm STEL: 10 ppm STEL: 15 mg/m ³ |

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Personal protective equipment
Eye/face protection**

Wear safety glasses with side shields (or goggles).

Hand protection

Wear suitable gloves. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374-1:2016 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III acco.

| Gloves | | | |
|----------------------|---------------------------------------|-----------------|--------------------|
| Duration of contact | PPE - Glove material | Glove thickness | Break through time |
| Short term | Wear protective nitrile rubber gloves | 0,20 mm | >30 minutes |
| Long term (repeated) | Wear protective Viton™ gloves | 0,70 mm | >480 minutes |

Skin and body protection

Avoid contact with eyes, skin and clothing. Wash contaminated clothing before reuse. Long sleeved clothing.

Respiratory protection

Ensure adequate ventilation. No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and

evacuation may be required. Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Recommended filter type: ABEK-P3.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and after work. Avoid contact with skin, eyes or clothing. Barrier creams may help to protect the exposed areas of skin.

Environmental exposure controls Do not allow into any sewer, on the ground or into any body of water.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state Liquid

Colour colourless

Odour Odourless

Odour threshold No data available

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|--|-------------------|-------------------------|
| Molecular weight | No data available | |
| pH | 3 | @ 20 °C |
| Melting point / freezing point | No data available | |
| Initial boiling point and boiling range | 100 °C / 212 °F | |
| Evaporation rate | No data available | |
| Vapour pressure | No data available | |
| Relative vapor density | No data available | |
| Partition coefficient | No data available | |
| Soil Organic Carbon-Water Partition Coefficient | No data available | |
| Autoignition temperature | No data available | |
| Decomposition temperature | No data available | |
| Dynamic viscosity | No data available | |
| Kinematic viscosity | No data available | |
| Relative density | 1.00 g/mL | @ 20 °C |

Solubility(ies)

Water solubility

| <u>Water solubility classification</u> | <u>Water solubility</u> | <u>Water Solubility Temperature</u> |
|--|-------------------------|-------------------------------------|
| Soluble | > 1000 mg/L | 25 °C / 77 °F |

Solubility in other solvents

| Chemical Name | Solubility classification | Solubility | Solubility Temperature |
|---------------|---------------------------|-------------------|--------------------------|
| None reported | No information available | No data available | No information available |

Metal Corrosivity

Steel Corrosion Rate No data available
 Aluminum Corrosion Rate No data available

Explosive properties

Upper explosion limit No data available
 Lower explosion limit No data available

Flammable properties

Flash point No data available

Flammability

Upper flammability limit: No data available
 Lower flammability limit No data available

Oxidising properties No data available.

Bulk density No data available

9.2. Other information

No information available.

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Hazardous polymerisation No information available.

10.4. Conditions to avoid

Conditions to avoid Extremes of temperature and direct sunlight.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous Decomposition Products No information available.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Based on available data, the classification criteria are not met

Mixture No data available.

Substance No data available.

Oral Exposure Route:

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|------------------------------|----------------------|---------------|---------------|-----------------------|--|
| Potassium hydrogen phthalate | Rat LD ₅₀ | > 3200 mg/kg | None reported | None reported | RTECS |

Dermal Exposure Route:

Acute Toxicity Estimate (ATE) Not applicable

Unknown acute toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Skin corrosion/irritation

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

Mixture No data available.

Substance Test data reported below.

| Chemical name | Test method | Species | Reported dose | Exposure time | Results | Key literature references and sources for data |
|------------------------------|--|---------|---------------|---------------|-------------------------------------|--|
| Hydrochloric acid | Existing human experience | Human | None reported | None reported | Corrosive to skin | RTECS |
| Potassium hydrogen phthalate | OECD Test 404: Acute Dermal Corrosion/Irritation | Rabbit | 500 mg | 4 hours | Not corrosive or irritating to skin | ECHA |

Serious eye damage/eye irritation

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

Mixture No data available.

Substance Test data reported below.

| Chemical name | Test method | Species | Reported dose | Exposure time | Results | Key literature references and sources for data |
|------------------------------|--------------------------------|---------|---------------|---------------|-------------------------------------|--|
| Hydrochloric acid | Existing human experience | Human | None reported | None reported | Corrosive to eyes | RTECS |
| Potassium hydrogen phthalate | EpiOcular™ Eye Irritation Test | Human | 50.3 mg | 6 hours | Not corrosive or irritating to eyes | ECHA |

Respiratory or skin sensitisation

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

Mixture No data available.

Substance No data available.

| Chemical name | Test method | Species | Results | Key literature references and sources for data |
|------------------------------|--|---------------|---|--|
| Potassium hydrogen phthalate | OECD Guideline 442D (In Vitro Skin Sensitisation: ARE-Nrf2 Luciferase Test Method) | None reported | No sensitisation responses were observed. | ECHA |

STOT - single exposure

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

Mixture No data available.

Substance Test data reported below.

Oral Exposure Route:

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|-------------------|-------------------------|---------------|---------------|---|--|
| Hydrochloric acid | Man LD _{Lo} | 2.857 mg/kg | None reported | Vascular BP lowering not characterized in autonomic section Lungs, Thorax, or Respiration Respiratory depression Gastrointestinal Other changes | RTECS |

Inhalation (Vapor) Exposure Route:

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|-------------------|---------------------------|---------------|---------------|---|--|
| Hydrochloric acid | Human TC _{Lo} | 0.05 mg/L | None reported | Lungs, Thorax, or Respiration Cough | RTECS |

STOT - repeated exposure

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

Mixture No data available.

Substance Test data reported below.

Inhalation (Vapor) Exposure Route:

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|-------------------|-------------------------|------------------|---------------|---|--|
| Hydrochloric acid | Rat TC _{Lo} | 0.000685 mg/L | 84 days | <p>Behavioral Muscle contraction or spasticity</p> <p>Biochemical Enzyme inhibition, induction, or change in blood or tissue levels (true cholinesterase)</p> <p>Kidney, Ureter, or Bladder Other changes in urine composition</p> | RTECS |

Germ cell mutagenicity

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

Mixture invitro **Data** No data available.

Substance invitro **Data** Test data reported below.

| Chemical name | Test | Cell Strain | Reported dose | Exposure time | Results | Key literature references and sources for data |
|------------------------------|----------------------|-------------------------------|---------------|---------------|---------------------------------------|--|
| Hydrochloric acid | Cytogenetic analysis | Hamster lung | 30 mmol/L | None reported | Positive test result for mutagenicity | RTECS |
| Potassium hydrogen phthalate | OECD 471 | <i>Salmonella typhimurium</i> | 5 mg/plate | 48 hours | Negative | ECHA |

Mixture invivo **Data** No data available.

Substance invivo **Data** No data available.

Carcinogenicity

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

Mixture No data available.

Substance No data available.

Reproductive toxicity

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

Mixture No data available.

Substance Test data reported below.

Inhalation (Dust/Mist) Exposure Route:

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|-------------------|-------------------------|---------------|---------------|---|--|
| Hydrochloric acid | Rat TC _{Lo} | 0.450 mg/L | 1 hours | <p>Effects on Embryo or Fetus Fetotoxicity (except death e.g. stunted fetus) Specific</p> <p>Developmental Abnormalities Homeostasis</p> | RTECS |

Aspiration hazard

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

11.2. Information on other hazards

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors.

11.2.2. Other information

Other adverse effects No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

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

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

Mixture

Acute aquatic toxicity: No data available.

Aquatic Chronic Toxicity: No data available.

Substance

Acute aquatic toxicity: Test data reported below.

Fish:

| Chemical name | Exposure time | Species | Endpoint type | Reported dose | Key literature references and sources for data |
|------------------------------|---------------|---------------|------------------|---------------|--|
| Potassium hydrogen phthalate | 96 hours | None reported | LC ₅₀ | 9323 mg/L | ECOSARS |

Crustacea:

| Chemical name | Exposure time | Species | Endpoint type | Reported dose | Key literature references and sources for data |
|------------------------------|---------------|---------------|------------------|---------------|--|
| Potassium hydrogen phthalate | 48 Hours | None reported | LC ₅₀ | 4859 mg/L | ECOSARS |

Algae:

| Chemical name | Exposure time | Species | Endpoint type | Reported dose | Key literature references and sources for data |
|------------------------------|---------------|---------------|------------------|---------------|--|
| Potassium hydrogen phthalate | 96 hours | None reported | EC ₅₀ | 2538 mg/L | ECOSARS |

Aquatic Chronic Toxicity: No data available.

12.2. Persistence and degradability

Mixture No data available.

12.3. Bioaccumulative potential

Mixture: No data available.

Partition coefficient No data available

12.4. Mobility in soil

Soil Organic Carbon-Water Partition Coefficient No data available

12.5. Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

| Chemical name | PBT and vPvB assessment |
|------------------------------|---------------------------------|
| Hydrochloric acid | The substance is not PBT / vPvB |
| Potassium hydrogen phthalate | The substance is not PBT / vPvB |

12.6. Endocrine disrupting properties

Endocrine Disruptor Information: This product does not contain any known or suspected endocrine disruptors

| Chemical name | EU - Endocrine Disruptors Candidate List | EU - Endocrine Disruptors - Evaluated Substances | Endocrine disrupting potential |
|------------------------------|--|--|--------------------------------|
| Potassium hydrogen phthalate | Group III Chemical | - | - |

12.7. Other adverse effects

No information available.

Ozone: Not applicable

Ozone depletion potential (ODP): No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Advice on Disposal

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Waste disposal number (residues/unused products)

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste.

Waste disposal number (used product)

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste.

Contaminated packaging Dispose of contents/containers in accordance with local regulations.

Other Information Do not reuse empty containers.

Section 14: TRANSPORT INFORMATION

ADR

| | |
|-----------------------------------|----------------|
| 14.1 UN number or ID number | Not regulated |
| 14.2 UN proper shipping name | Not regulated |
| 14.3 Transport hazard class(es) | Not regulated |
| 14.4 Packing Group | Not regulated |
| 14.5 Environmental hazards | Not applicable |
| 14.6 Special precautions for user | |
| Special Provisions | None |

IATA

| | |
|-----------------------------------|----------------|
| 14.1 UN number or ID number | Not regulated |
| 14.2 UN proper shipping name | Not regulated |
| 14.3 Transport hazard class(es) | Not regulated |
| 14.4 Packing group | Not regulated |
| 14.5 Environmental hazards | Not applicable |
| 14.6 Special precautions for user | |
| Special Provisions | None |

IMDG

| | |
|--|--------------------------|
| 14.1 UN number or ID number | Not regulated |
| 14.2 UN proper shipping name | Not regulated |
| 14.3 Transport hazard class(es) | Not regulated |
| 14.4 Packing Group | Not regulated |
| 14.5 Environmental hazards | Not applicable |
| 14.6 Special precautions for user | |
| Special Provisions | None |
| 14.7 Maritime transport in bulk according to IMO instruments | No information available |

Additional information

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**European Union**

| Chemical name | Restricted substance per REACH Annex XVII | Substance subject to authorisation per REACH Annex XIV |
|-------------------------------|---|--|
| Hydrochloric acid - 7647-01-0 | Use restricted. See entry 75. | |

Persistent Organic Pollutants Not applicable

Dangerous substance category per Seveso Directive (2012/18/EU)

• Non-controlled

| Chemical name | Lower-tier requirements (tons) | Upper-tier requirements (tons) |
|-------------------------------|--------------------------------|--------------------------------|
| Hydrochloric acid - 7647-01-0 | 25 | 250 |

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

Germany

Water hazard class (WGK) non-hazardous to water (nwg)

International Inventories

| | |
|----------------------|----------|
| EINECS/ELINCS | Complies |
| TSCA | Complies |
| DSL/NDL | Complies |
| ENCS | Complies |
| IECSC | Complies |
| KECL | Complies |
| PICCS | Complies |
| AICS | Complies |

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

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

| |
|--------------------------------------|
| Section 16: OTHER INFORMATION |
|--------------------------------------|

| | |
|----------------------|----------------------------|
| Issue Date | 25-03-2008 |
| Revision Date | 05-Aug-2024 |
| Revision Note | updated SDS sections: 8 |

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend**

| | |
|---------|--|
| ** | Hazard Designation |
| ADN | Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieure |
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| ATE | Acute Toxicity Estimate |
| CAS | Chemical Abstracts Service Number |
| Ceiling | Maximum limit value |
| CLP | Classification, Labelling and Packaging of substances and mixtures [Regulation (EC) No. 1272/2008] |

| | |
|----------|---|
| DNEL | Derived No Effect Level (DNEL) |
| EC | European Community |
| ECHA | ECHA (The European Chemicals Agency) |
| EC50 | Effective Concentration to 50% of a test population |
| EEC | European Economic Community |
| EN | European Standard |
| IMDG | International Maritime Dangerous Goods (IMDG) |
| IATA | International Air Transport Association (IATA) |
| IATA-DGR | International Air Transport Association - Dangerous Goods Regulations |
| ICAO | International Civil Aviation Organization |
| ICAO-TI | International Civil Aviation Organization - Technical Instructions |
| IUCLID | IUCLID (The International Uniform Chemical Information Database) |
| GHS | Globally Harmonized System of Classification and Labelling of Chemicals |
| LOAEL | Lowest observed adverse effect level |
| LOAEC | Lowest observed adverse effect concentration |
| LC50 | Lethal Concentration to 50% of a test population |
| LD50 | Lethal Dose to 50% of a test population (Median Lethal Dose) |
| LOLI | LOLI (List of Lists - An International Chemical Regulatory Database) |
| MAK | Maximale Arbeitsplatz-Konzentration, a German expression corresponding to threshold limit value, which relates to safe daily exposure levels to chemical substances |
| NOAEL | NOAEL (No observed adverse effect level) |
| NOAEC | No observed adverse effect concentration |
| OSHA | OSHA (Occupational Safety and Health Administration of the US Department of Labour) |
| PEC | Predicted Effect Concentration |
| PNEC | Predicted No Effect Concentration (PNEC) |
| PBT | Persistent, Bioaccumulative, and Toxic (PBT) Chemicals |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals [Regulation (EC) No. 1907/2006] |
| RTECS | RTECS (Registry of Toxic Effects of Chemical Substances) |
| TWA | TWA (time-weighted average) |
| SKN* | Skin designation |
| SKN+ | Skin sensitisation |
| STEL | STEL (Short Term Exposure Limit) |
| STOT | Specific Target Organ Toxicity |
| STOT RE | Specific target organ toxicity — repeated exposure |
| STOT SE | Specific target organ toxicity — single exposure |
| SVHC | Substances of Very High Concern |
| TLV | Threshold Limit Value |
| TRGS | Technical rules for hazardous substances, Germany |
| TSCA | Toxic Substances Control Act |
| UN | United Nations |
| vPvB | very persistent and very bioaccumulative |
| VOC | Volatile organic compounds |
| AwSV | Administrative regulation of water polluting substances, Germany |

Key literature references and sources for data

See Section 11: TOXICOLOGICAL INFORMATION

See Section 12: ECOLOGICAL INFORMATION

Classification procedure

| Classification according to Regulation (EC) No. 1272/2008 [CLP] | Method Used |
|---|--------------------|
| Acute oral toxicity | Calculation method |
| Acute dermal toxicity | Calculation method |
| Acute inhalation toxicity - gas | Calculation method |
| Acute inhalation toxicity - Vapour | Calculation method |
| Acute inhalation toxicity - dust/mist | Calculation method |
| Skin corrosion/irritation | Calculation method |
| Serious eye damage/eye irritation | Calculation method |

| | |
|--------------------------|--------------------|
| Carcinogenicity | Calculation method |
| STOT - repeated exposure | Calculation method |
| Acute aquatic toxicity | Calculation method |
| Chronic aquatic toxicity | Calculation method |
| Aspiration toxicity | Calculation method |
| Ozone | Calculation method |

Full text of H-Statements referred to under section 3

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

H335 - May cause respiratory irritation

H290 - May be corrosive to metals

Training Advice

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Restrictions on use

For Laboratory Use Only.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**End of Safety Data Sheet**