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

1.1. Product identifier

Product form: Substance
Trade name: Tetracycline hydrochloride
EC-No.: 200-593-8
CAS-No.: 64-75-5
Product code: T0150
Formula: C22H24N2O8 · HCl
Product group: Raw material

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

1.2.1. Relevant identified uses

Main use category: Professional use
Industrial/Professional use spec: For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier
Duchefa Biochemie B.V.
A. Hofmanweg 71
2031 BH Haarlem - The Netherlands
T +31(0)23-5319093 - F +31(0)23-5318027
info@duchefa.nl

1.4. Emergency telephone number

Emergency number: Supplier contact information:
+31(0)23-5319093 (M-F 09:00-17:00)
+31(0)6-30109355 (outside office hours)

<table>
<thead>
<tr>
<th>Organisation/Company</th>
<th>Address</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Health Organization world directory of poison centres</td>
<td><a href="http://apps.who.int/poisoncentres/">http://apps.who.int/poisoncentres/</a></td>
<td>Consult website for a local poison centre</td>
</tr>
</tbody>
</table>

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

- Skin corrosion/irritation, Category 2: H315
- Serious eye damage/eye irritation, Category 2: H319
- Reproductive toxicity, Additional category, Effects on or via lactation: H362
- Reproductive toxicity, Category 2: H361d
- Specific target organ toxicity — Single exposure, Category 3: H335
- Respiratory tract irritation

Full text of H statements: see section 16
Adverse physicochemical, human health and environmental effects
No additional information available

2.2. Label elements

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

Hazard pictograms (CLP):
- GHS07
- GHS08

Signal word (CLP): Warning

Hazard statements (CLP):
- H315 - Causes skin irritation
- H319 - Causes serious eye irritation
- H335 - May cause respiratory irritation
- H361d - Suspected of damaging the unborn child
- H362 - May cause harm to breast-fed children

Precautionary statements (CLP):
- P202 - Do not handle until all safety precautions have been read and understood
- P260 - Do not breathe vapours, gas, mist, fume, spray, dust
- P280 - Wear protective clothing, eye protection, face protection, protective gloves
- P305+P351 - IF IN EYES: Rinse cautiously with water for several minutes

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetracycline hydrochloride</td>
<td>(CAS-No.) 64-75-5 (EC-No.) 200-593-8</td>
<td>&gt; 95</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

3.2. Mixtures
Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Seek medical attention if ill effect or irritation develops.
First-aid measures after inhalation : Remove victim to fresh air
                                Seek medical attention if ill effect or irritation develops.
First-aid measures after skin contact : Wash skin with mild soap and water
                                 Seek medical attention if ill effect or irritation develops.
First-aid measures after eye contact : Rinse with water
                                 Seek medical attention if ill effect or irritation develops.
First-aid measures after ingestion

Rinse mouth
Seek medical advice.

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

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media: Alcohol resistant foam.
Dry chemical powder.
Carbon dioxide (CO2).
Water spray.

5.2. Special hazards arising from the substance or mixture
Hazardous decomposition products in case of fire:
When heated to decomposition, emits toxic fumes:
- COx
- NOx
- Hydrochloric acid fumes.

5.3. Advice for firefighters
Firefighting instructions: Prevent fire fighting water from entering the environment.
Protection during firefighting: Wear proper protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
General measures: Wear suitable protective clothing.

6.1.1. For non-emergency personnel
Measures in case of dust release: Use good housekeeping practices to avoid rendering dust airborne.

6.1.2. For emergency responders
No additional information available

6.2. Environmental precautions
Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up: Dispose in a safe manner in accordance with local/national regulations.
Sweep up dry powder and dispose properly.

6.4. Reference to other sections
No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Handle in accordance with good industrial hygiene and safety procedures.
7.2. Conditions for safe storage, including any incompatibilities

Storage conditions:
- Keep container tightly closed
- Store in dry, well-ventilated area
- Store at ambient temperature
- Light and moisture sensitive.

7.3. Specific end use(s)

For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No additional information available

8.2. Exposure controls

Hand protection:

<table>
<thead>
<tr>
<th>Type</th>
<th>Material</th>
<th>Permeation</th>
<th>Thickness (mm)</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloves</td>
<td>Nitrile rubber (NBR)</td>
<td>6 (&gt; 480 minutes)</td>
<td>0,11</td>
<td>EN 374</td>
</tr>
</tbody>
</table>

Eye protection:
Safety glasses (to European standard EN 166 or equivalent)

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
Wear appropriate mask. Filter type P3 (EN 143)

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Solid
Appearance: Powder.
Molecular mass: 480,9 g/mol
Colour: Yellow.
Odour: Odourless.
Odour threshold: No data available
pH: 1,8 - 2,8 (10 g/l, 20 °C)
Relative evaporation rate (butylacetate=1): No data available
Melting point: 220 - 223 °C
Freezing point: No data available
Boiling point: No data available
Flash point: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Flammability (solid, gas): No data available
Vapour pressure: No data available
Relative vapour density at 20 °C: No data available
Tetracycline hydrochloride

SECTION 10: Stability and reactivity

10.1. Reactivity
Stable under normal conditions.

10.2. Chemical stability
Stable under normal conditions of storage, handling and use.

10.3. Possibility of hazardous reactions
No additional information available

10.4. Conditions to avoid
- Heat
- Moisture
- Light (daylight).

10.5. Incompatible materials
- Strong oxidizers.

10.6. Hazardous decomposition products
When heated to decomposition, emits dangerous fumes.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity : Not classified

<table>
<thead>
<tr>
<th>Tetracycline hydrochloride (64-75-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation : Causes skin irritation.
   pH: 1,8 - 2,8 (10 g/l, 20 °C)

Serious eye damage/irritation : Causes serious eye irritation.
   pH: 1,8 - 2,8 (10 g/l, 20 °C)

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : May cause harm to breast-fed children. Suspected of damaging the unborn child.

STOT-single exposure : May cause respiratory irritation.
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified
Other information : See actual entry in RTECS for complete information: QI9100000.

SECTION 12: Ecological information

12.1. Toxicity

<table>
<thead>
<tr>
<th>Tetracycline hydrochloride (64-75-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment
No additional information available

12.6. Other adverse effects
Additional information : Prevent entry to sewers and public waters. Avoid release to the environment

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste treatment methods : When not empty dispose of this container at hazardous or special waste collection point.

SECTION 14: Transport information

In accordance with ADR / IATA / IMDG

<table>
<thead>
<tr>
<th>ADR</th>
<th>IMDG</th>
<th>IATA</th>
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</thead>
<tbody>
<tr>
<td>14.1. UN number</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.2. UN proper shipping name</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es)</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td>Not applicable</td>
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<tr>
<td>14.4. Packing group</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.5. Environmental hazards</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td>Not applicable</td>
<td>No supplementary information available</td>
</tr>
</tbody>
</table>
14.6. Special precautions for user
- Overland transport
  Not applicable
- Transport by sea
  Not applicable
- Air transport
  Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
15.1.1. EU-Regulations
No REACH Annex XVII restrictions
Tetracycline hydrochloride is not on the REACH Candidate List
Tetracycline hydrochloride is not on the REACH Annex XIV List

15.1.2. National regulations
Ensure all national/local regulations are observed.

Germany
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV
Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands
SZW-lijst van kankerverwekkende stoffen
The substance is not listed
SZW-lijst van mutagene stoffen
The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding
The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid
The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling
The substance is not listed

Denmark
Recommendations Danish Regulation
Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

15.2. Chemical safety assessment
No additional information available

SECTION 16: Other information
Tetracycline hydrochloride
Safety Data Sheet
according to Regulation (EU) 2015/830

Indication of changes:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1.4</td>
<td>Emergency number</td>
<td>Modified</td>
</tr>
<tr>
<td>8.2</td>
<td>Hand protection</td>
<td>Modified</td>
</tr>
<tr>
<td>9.1</td>
<td>Melting point</td>
<td>Modified</td>
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</table>

Abbreviations and acronyms:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE</td>
<td>Acute Toxicity Estimate</td>
</tr>
<tr>
<td>ADR</td>
<td>European Agreement concerning the International Carriage of Dangerous Goods by Road</td>
</tr>
<tr>
<td>BCF</td>
<td>Bioconcentration factor</td>
</tr>
<tr>
<td>CLP</td>
<td>Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008</td>
</tr>
<tr>
<td>DPD</td>
<td>Dangerous Preparations Directive 1999/45/EC</td>
</tr>
<tr>
<td>DSD</td>
<td>Dangerous Substances Directive 67/548/EEC</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods</td>
</tr>
<tr>
<td>LC50</td>
<td>Median lethal concentration</td>
</tr>
<tr>
<td>LD50</td>
<td>Median lethal dose</td>
</tr>
<tr>
<td>LOAEL</td>
<td>Lowest Observed Adverse Effect Level</td>
</tr>
<tr>
<td>NOAEC</td>
<td>No-Observed Adverse Effect Concentration</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent Bioaccumulative Toxic</td>
</tr>
<tr>
<td>SDS</td>
<td>Safety Data Sheet</td>
</tr>
</tbody>
</table>


Full text of H- and EUH-statements:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit. 2</td>
<td>Serious eye damage/eye irritation, Category 2</td>
</tr>
<tr>
<td>Lact.</td>
<td>Reproductive toxicity, Additional category, Effects on or via lactation</td>
</tr>
<tr>
<td>Repr. 2</td>
<td>Reproductive toxicity, Category 2</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation, Category 2</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>H361d</td>
<td>Suspected of damaging the unborn child.</td>
</tr>
<tr>
<td>H362</td>
<td>May cause harm to breast-fed children.</td>
</tr>
</tbody>
</table>

SDS Biochemicals version 2017

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.