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

1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>: Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade name</td>
<td>: TYLOSIN CRS</td>
</tr>
<tr>
<td>EC no</td>
<td>: 215-754-8</td>
</tr>
<tr>
<td>CAS No</td>
<td>: 1401-69-0</td>
</tr>
<tr>
<td>Product code</td>
<td>: T2880000</td>
</tr>
<tr>
<td>Other means of identification</td>
<td>: RTECS No : YP0350000</td>
</tr>
</tbody>
</table>

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

1.2.1. Relevant identified uses

Main use category : The product is intended for research, analysis and scientific education.
Use of the substance/mixture : For professional use only
Function or use category : Laboratory chemicals

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

European Directorate for the Quality of Medicines & Healthcare
EDQM, Council of Europe
F-67081 Strasbourg
T +33(0)388412035 - F +33(0)388412771

1.4. Emergency telephone number

Emergency number : +44(0)1235239670

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

| Resp. Sens. 2          | H334 |
| Eye Irrit. 2           | H319 |
| Skin Sens. 1           | H317 |
| Aquatic Acute 1        | H400 |
| Aquatic Chronic 1      | H410 |

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC

Xn; R42
Xi; R36
Xi; R43
N; R50/53

Full text of R-phrases: 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):

- GHS08
- GHS07
- GHS09

Signal word (CLP): Danger

Hazard statements (CLP):
- H317 - May cause an allergic skin reaction
- H319 - Causes serious eye irritation
- H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (CLP):
- P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
- P264 - Wash hands and other exposed areas thoroughly after handling
- P272 - Contaminated work clothing should not be allowed out of the workplace
- P273 - Avoid release to the environment
- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P285 - In case of inadequate ventilation wear respiratory protection
- P302+P352 - IF ON SKIN: Wash with plenty of soap and water
- P304+P341 - IF INHALED: if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
- P337+P313 - If eye irritation persists: Get medical advice/attention
- P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
- P391 - Collect spillage
- P501 - Dispose of contents/container to: Hazardous waste. Comply with applicable regulations

2.3. Other hazards

Other hazards not contributing to the classification:
- Exposure may produce an allergic reaction.

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Directive 67/548/EEC</th>
</tr>
</thead>
</table>
| TYLOSIN (Main constituent) | (CAS No)1401-69-0  
(EC no)215-754-8 | ≤ 100 | Xi; R42  
N; R50/53 |

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
</table>
| TYLOSIN (Main constituent) | (CAS No)1401-69-0  
(EC no)215-754-8 | ≤ 100 | Resp. Sens. 1, H334  
Skin Sens. 1, H319  
Aquatic Acute 1, H400  
Aquatic Chronic 1, H410 |

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

3.2. Mixture

Not applicable
**SECTION 4: First aid measures**

4.1. **Description of first aid measures**

First-aid measures general: If you feel unwell, seek medical advice (show the label where possible). Delayed adverse effects possible.

First-aid measures after inhalation: Move to fresh air in case of accidental inhalation. Assure fresh air breathing. Obtain medical attention if breathing difficulty persists.

First-aid measures after skin contact: Rinse skin with water/shower. Wash with plenty of soap and water.

First-aid measures after eye contact: Rinse with water while holding the eyes wide open. Contact lenses should be removed. Obtain medical attention if pain, blinking or redness persist.

First-aid measures after ingestion: Rinse mouth out with water. The following symptoms may occur: (see section(s) : 2, 4.2). If you feel unwell, seek medical advice. Prolonged medical observation may be indicated. (see section(s) : 4.3).

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

Symptoms/injuries: See Heading 2.

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

In all cases of doubt, or when symptoms persist, seek medical attention. If possible show this sheet, if not available show packaging or label. If the occupational exposure limit is exceeded: Specific medical surveillance.

**SECTION 5: Firefighting measures**

5.1. **Extinguishing media**


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

No additional information available

5.3. **Advice for firefighters**

Precautionary measures fire: Small amounts: Use normal individual fire protective equipment. Large amounts: Not applicable.

Firefighting instructions: Dilute with water.

**SECTION 6: Accidental release measures**

6.1. **Personal precautions, protective equipment and emergency procedures**

General measures: Avoid raising dust. Wear suitable protective clothing, gloves and eye or face protection. Avoid any direct contact with the product. Evacuate unnecessary personnel. Large amounts: Not applicable.

6.1.1. **For non-emergency personnel**

Protective equipment: See Headings 7 and 8.

Emergency procedures: Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection. Wear suitable protective clothing and gloves.

6.1.2. **For emergency responders**

No additional information available

6.2. **Environmental precautions**

No additional information available

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

Methods for cleaning up: Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Ensure waste is collected and contained. Clean thoroughly. Clean with water. Collect all waste in suitable and labelled containers and dispose according to local legislation. Wash the non-recoverable remainder with : Sodium hypochlorite solution.

6.4. **Reference to other sections**

(see section(s) : 8, 13).
### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

**Additional hazards when processed**

Small amounts: See Heading 1. When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us. The attention of the user is drawn to the risks possibly incurred by using the product for any other purpose than that for which it was intended. Avoid contact during pregnancy/while nursing.

**Precautions for safe handling**

Handle and open container with care. See Heading 8. Do not handle until all safety precautions have been read and understood. Avoid any direct contact with the product. Obtain special instructions before use.

**Hygiene measures**

Handle in accordance with good industrial hygiene and safety procedures. Small amounts: Material should be handled in a laboratory hood whenever possible.

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

**Technical measures**

Comply with applicable regulations.

**Storage conditions**

To guarantee the quality and properties of the product, keep: dry, Keep in a cool, well-ventilated place away from heat. Store in original container. Store according to local legislation.

**Incompatible products**

Strong oxidizing agents.

#### 7.3. Specific end use(s)

See Heading 1.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Exposure controls

**Appropriate engineering controls**

Material should be handled in a laboratory hood whenever possible.

**Personal protective equipment**


**Hand protection**

Gloves. Chemical resistant PVC gloves (to European standard EN 374 or equivalent).

**Eye protection**

Wear eye protection. DIN EN 166.

**Skin and body protection**

Lab coat. Wear suitable protective clothing. DIN EN 13034.

**Respiratory protection**

Quarter mask (DIN EN 140). Wear appropriate breathing apparatus if air renewal not sufficient to maintain dust/vapour under TLV.
SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Colour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour</td>
<td>Not applicable. See Heading 2, 4.2, 8.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>8.5 - 10.5</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Self ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Ethanol. Methanol.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

No additional information available

10.3. Possibility of hazardous reactions

Small amounts: When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us. Large amounts: Not applicable.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Small amounts: None under normal use. Large amounts: Not applicable.

10.6. Hazardous decomposition products

When heated to decomposition, emits dangerous fumes. Large amounts: Not applicable.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat for Tylosin CRS(1401-69-0)</td>
<td>&gt; 5000 mg/kg</td>
</tr>
<tr>
<td>LD50 dermal rabbit for Tylosin CRS(1401-69-0)</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td>LC50 inhalation rat for Tylosin CRS(1401-69-0)</td>
<td>&gt; 2000 mg/l</td>
</tr>
<tr>
<td>Skin corrosion/irritation for Tylosin CRS(1401-69-0)</td>
<td>Not classified</td>
</tr>
<tr>
<td>pPH: 8.5 - 10.5</td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/irritation for Tylosin CRS(1401-69-0)</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>pPH: 8.5 - 10.5</td>
<td></td>
</tr>
</tbody>
</table>
**Respiratory or skin sensitisation**: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

**Germ cell mutagenicity**: Not classified

**Carcinogenicity**: Not classified

**Reproductive toxicity**: Not classified

**Specific target organ toxicity (single exposure)**: Not classified

**Specific target organ toxicity (repeated exposure)**: Not classified

**Aspiration hazard**: Not classified

**Potential Adverse human health effects and symptoms**: Avoid any direct contact with the product. Small amounts: When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us. See first aid section of this material safety data sheet. Large amounts: Not applicable.

---

### SECTION 12: Ecological information

12.1. **Toxicity**


**Ecology - water**: Soluble in water.

**TYLOSIN CRS(1401-69-0)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fishes 1</td>
<td>&gt; 300 mg/l LC50-96 Hour - fish</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>&gt; 300 mg/l EC50 - 48 Hour - Daphnia magna</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**

No additional information available

---

### SECTION 13: Disposal considerations

13.1. **Waste treatment methods**

Regional legislation (waste): Dispose in a safe manner in accordance with local/national regulations.

Waste disposal recommendations: Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.

---

### SECTION 14: Transport information

In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA

14.1. **UN number**

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN-No.(IATA)</th>
<th>UN-No. (IMDG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3077</td>
<td>3077</td>
<td>3077</td>
</tr>
</tbody>
</table>

14.2. **UN proper shipping name**

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>Transport document description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.</td>
<td>UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III, (E)</td>
</tr>
</tbody>
</table>

14.3. **Transport hazard class(es)**

<table>
<thead>
<tr>
<th>Class (UN)</th>
<th>Class (IATA)</th>
<th>Class (IMDG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

14.4. **Packing group**

<table>
<thead>
<tr>
<th>Packing group (UN)</th>
<th>Packing group (IATA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>III</td>
<td>III</td>
</tr>
</tbody>
</table>

09/08/2013

EN (English)
14.5. Environmental hazards
Dangerous for the environment

Other information : No supplementary information available.

14.6. Special precautions for user

14.6.1. Overland transport
Hazard identification number (Kemler No.) : 90
Classification code (UN) : M7
Orange plates

<table>
<thead>
<tr>
<th>Hazard Identification Number (Kemler No.)</th>
<th>UN Classification Code</th>
<th>Orange Plates</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>M7</td>
<td></td>
</tr>
</tbody>
</table>

Tunnel restriction code : E

LQ : LQ27

Excepted quantities (ADR) : E1

14.6.2. Transport by sea
Ship Safety Act : Miscellaneous dangerous substances & articles
MFAG-No : 171

14.6.3. Air transport
Civil Aeronautics Law : Miscellaneous dangerous substances & articles

14.7. Transport in bulk according to Annex II of MARPOL 73/78 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

15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
No additional information available

SECTION 16: Other information
Full text of R-, H- and EUH-phrases:

| Aquatic Acute 1 | Hazardous to the aquatic environment — Acute Hazard, Category 1 |
| Aquatic Chronic 1 | Hazardous to the aquatic environment — Chronic Hazard, Category 1 |
| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| Resp. Sens. 1 | Sensitisation — Respiratory, category 1 |
| Skin Sens. 1 | Sensitisation — Skin, category 1 |
| H317 | May cause an allergic skin reaction |
| H319 | Causes serious eye irritation |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled |
| H400 | Very toxic to aquatic life |
| H410 | Very toxic to aquatic life with long lasting effects |
| R36 | Irritating to eyes |
| R42 | May cause sensitization by inhalation |
| R43 | May cause sensitisation by skin contact |
| R50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment |
| N | Dangerous for the environment |
| Xi | Irritant |
| Xn | Harmful |

SDS EU (REACH Annex II)

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.