SAFETY DATA SHEET
Seahorse XF Palmitate Oxidation Stress Test Kit, Part Number 103693-100

Section 1. Identification

Product identifier : Seahorse XF Palmitate Oxidation Stress Test Kit, Part Number 103693-100
Part no. (chemical kit) : 103693-100
Part no. : Etomoxir
L-Carnitine hydrochloride
Oligomycin
FCCP
Antimycin A/ Rotenone
Palmitate-BSA Conjugate
BSA Control

Not available.

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

Material uses : For research use only. Not for use in diagnostic procedures (RUO).

Etomoxir 3 x 0.379 mg
L-Carnitine hydrochloride 3 x 10 mg
Oligomycin 3 x 5.722 mg
FCCP 3 x 22.593 mg
Antimycin A/ Rotenone 3 x 5.725 mg
Palmitate-BSA Conjugate 3 x 2 ml
BSA Control 3 x 2 ml

Supplier/Manufacturer : Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
1800 802 402

Emergency telephone number (with hours of operation) : CHEMTREC®: +(61)-290372994

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Version : 2

Section 2. Hazard(s) identification

Classification of the substance or mixture

Etomoxir
H301 ACUTE TOXICITY (oral) - Category 3

Antimycin A/ Rotenone
H400 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
H410 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1

Palmitate-BSA Conjugate Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1.2%
BSA Control Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1.2%

GHS label elements
Section 2. Hazard(s) identification

Hazard pictograms: Etomoxir

Antimycin A/ Rotenone

Signal word:
- Etomoxir: DANGER
- L-Carnitine hydrochloride: No signal word.
- Oligomycin: No signal word.
- FCCP: No signal word.
- Antimycin A/ Rotenone: WARNING
- Palmitate-BSA Conjugate: No signal word.
- BSA Control: No signal word.

Hazard statements:
- Etomoxir: H301 - Toxic if swallowed.
- L-Carnitine hydrochloride: No known significant effects or critical hazards.
- Oligomycin: No known significant effects or critical hazards.
- FCCP: No known significant effects or critical hazards.
- Antimycin A/ Rotenone: H410 - Very toxic to aquatic life with long lasting effects.
- Palmitate-BSA Conjugate: No known significant effects or critical hazards.
- BSA Control: No known significant effects or critical hazards.

Precautionary statements

Prevention:
- Etomoxir: P270 - Do not eat, drink or smoke when using this product.
- P264 - Wash thoroughly after handling.
- L-Carnitine hydrochloride: Not applicable.
- Oligomycin: Not applicable.
- FCCP: Not applicable.
- Antimycin A/ Rotenone: P273 - Avoid release to the environment.
- Palmitate-BSA Conjugate: Not applicable.
- BSA Control: Not applicable.

Response:
- Etomoxir: P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.
- L-Carnitine hydrochloride: Not applicable.
- Oligomycin: Not applicable.
- FCCP: Not applicable.
- Palmitate-BSA Conjugate: Not applicable.
- BSA Control: Not applicable.

Storage:
- Etomoxir: Not applicable.
- L-Carnitine hydrochloride: Not applicable.
- Oligomycin: Not applicable.
- FCCP: Not applicable.
- Antimycin A/ Rotenone: Not applicable.
- Palmitate-BSA Conjugate: Not applicable.
- BSA Control: Not applicable.

Disposal:
- Etomoxir: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- L-Carnitine hydrochloride: Not applicable.
- Oligomycin: Not applicable.
- FCCP: Not applicable.
- Antimycin A/ Rotenone: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Palmitate-BSA Conjugate: Not applicable.
- BSA Control: Not applicable.
Section 2. Hazard(s) identification

Supplemental label elements

Additional warning phrases:
- Etomoxir
- L-Carnitine hydrochloride
- Oligomycin
- FCCP
- Antimycin A/ Rotenone
- Palmitate-BSA Conjugate
- BSA Control

Other hazards which do not result in classification:
- Etomoxir: May form combustible dust concentrations in air.
- L-Carnitine hydrochloride: None known.
- Oligomycin: None known.
- FCCP: None known.
- Antimycin A/ Rotenone: None known.
- Palmitate-BSA Conjugate: None known.
- BSA Control: None known.

Section 3. Composition and ingredient information

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>CAS number/other identifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Etomoxir</td>
<td>(R)-(+)2-[6-(4-Chlorophenoxy)hexyl]-oxirane-2-carboxylic acid sodium salt 828934-41-4</td>
</tr>
<tr>
<td>L-Carnitine</td>
<td>(R)-(3-carboxy-2-hydroxypropyl)trimethylammonium chloride 6645-46-1</td>
</tr>
<tr>
<td>Hydrochloride</td>
<td></td>
</tr>
<tr>
<td>Oligomycin</td>
<td>≤0.3</td>
</tr>
<tr>
<td>FCCP</td>
<td></td>
</tr>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>≤0.3</td>
</tr>
<tr>
<td>Palmitate-BSA Conjugate</td>
<td></td>
</tr>
<tr>
<td>BSA Control</td>
<td></td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 4. First aid measures

<table>
<thead>
<tr>
<th>Description of necessary first aid measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact: Etomoxir</td>
</tr>
<tr>
<td>L-Carnitine hydrochloride</td>
</tr>
<tr>
<td>Oligomycin</td>
</tr>
<tr>
<td>FCCP</td>
</tr>
</tbody>
</table>
Section 4. First aid measures

occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

**Antimycin A/ Rotenone**
Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

**Palmitate-BSA Conjugate**
Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

**BSA Control**
Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

**Inhalation**

**Etomoxir**
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**L-Carnitine hydrochloride**
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Oligomycin**
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

**FCCP**
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

**Antimycin A/ Rotenone**
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Palmitate-BSA Conjugate**
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**BSA Control**
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be
### Section 4. First aid measures

#### Skin contact:
- **Etomoxir**: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- **L-Carnitine hydrochloride**: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- **Oligomycin**: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- **FCCP**: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- **Antimycin A/Rotenone**: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- **Palmitate-BSA Conjugate**: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- **BSA Control**: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

#### Ingestion:
- **Etomoxir**: Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- **L-Carnitine hydrochloride**: Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
- **Oligomycin**: Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
- **FCCP**: Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
- **Antimycin A/Rotenone**: Wash out mouth with water. Remove dentures if any.
Section 4. First aid measures

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Palmitate-BSA Conjugate
Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

BSA Control
Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

**Eye contact**
- Etomoxir
  Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.

- L-Carnitine hydrochloride
  No known significant effects or critical hazards.

- Oligomycin
  No known significant effects or critical hazards.

- FCCP
  No known significant effects or critical hazards.

- Antimycin A/ Rotenone
  No known significant effects or critical hazards.

- Palmitate-BSA Conjugate
  No known significant effects or critical hazards.

- BSA Control
  No known significant effects or critical hazards.

**Inhalation**
- Etomoxir
  Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

- L-Carnitine hydrochloride
  No known significant effects or critical hazards.

- Oligomycin
  No known significant effects or critical hazards.

- FCCP
  No known significant effects or critical hazards.

- Antimycin A/ Rotenone
  No known significant effects or critical hazards.

- Palmitate-BSA Conjugate
  No known significant effects or critical hazards.

- BSA Control
  No known significant effects or critical hazards.

**Skin contact**
- Etomoxir
  No known significant effects or critical hazards.

- L-Carnitine hydrochloride
  No known significant effects or critical hazards.

- Oligomycin
  No known significant effects or critical hazards.

- FCCP
  No known significant effects or critical hazards.

- Antimycin A/ Rotenone
  No known significant effects or critical hazards.

- Palmitate-BSA Conjugate
  No known significant effects or critical hazards.

- BSA Control
  No known significant effects or critical hazards.
Section 4. First aid measures

**Ingestion**
- **Etomoxir**: Toxic if swallowed.
- **L-Carnitine hydrochloride**: No known significant effects or critical hazards.
- **Oligomycin**: No known significant effects or critical hazards.
- **FCCP**: No known significant effects or critical hazards.
- **Antimycin A/ Rotenone**: No known significant effects or critical hazards.
- **Palmitate-BSA Conjugate**: No known significant effects or critical hazards.
- **BSA Control**: No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

**Eye contact**
- **Etomoxir**: Adverse symptoms may include the following:
  - Irritation
  - Redness
- **L-Carnitine hydrochloride**: No specific data.
- **Oligomycin**: No specific data.
- **FCCP**: No specific data.
- **Antimycin A/ Rotenone**: No specific data.
- **Palmitate-BSA Conjugate**: No specific data.
- **BSA Control**: No specific data.

**Inhalation**
- **Etomoxir**: Adverse symptoms may include the following:
  - Respiratory tract irritation
  - Coughing
- **L-Carnitine hydrochloride**: No specific data.
- **Oligomycin**: No specific data.
- **FCCP**: No specific data.
- **Antimycin A/ Rotenone**: No specific data.
- **Palmitate-BSA Conjugate**: No specific data.
- **BSA Control**: No specific data.

**Skin contact**
- **Etomoxir**: No specific data.
- **L-Carnitine hydrochloride**: No specific data.
- **Oligomycin**: No specific data.
- **FCCP**: No specific data.
- **Antimycin A/ Rotenone**: No specific data.
- **Palmitate-BSA Conjugate**: No specific data.
- **BSA Control**: No specific data.

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to physician**
- **Etomoxir**: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- **L-Carnitine hydrochloride**: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- **Oligomycin**: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- **FCCP**: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- **Antimycin A/ Rotenone**: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- **Palmitate-BSA Conjugate**: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Section 4. First aid measures

Protection of first-aiders:

- Etomoxir: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
- L-Carnitine hydrochloride: No action shall be taken involving any personal risk or without suitable training.
- Oligomycin: No action shall be taken involving any personal risk or without suitable training.
- FCCP: No action shall be taken involving any personal risk or without suitable training.
- Antimycin A/ Rotenone: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
- Palmitate-BSA Conjugate: No action shall be taken involving any personal risk or without suitable training.
- BSA Control: No action shall be taken involving any personal risk or without suitable training.

Specific treatments:

- Etomoxir: No specific treatment.
- L-Carnitine hydrochloride: No specific treatment.
- Oligomycin: No specific treatment.
- FCCP: No specific treatment.
- Palmitate-BSA Conjugate: No specific treatment.
- BSA Control: No specific treatment.

In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Section 5. Firefighting measures

Extinguishing media:

Suitable extinguishing media:

- Etomoxir: Use dry chemical powder.
- L-Carnitine hydrochloride: Use an extinguishing agent suitable for the surrounding fire.
- Oligomycin: Use an extinguishing agent suitable for the surrounding fire.
- FCCP: Use an extinguishing agent suitable for the surrounding fire.
- Antimycin A/ Rotenone: Use an extinguishing agent suitable for the surrounding fire.
- Palmitate-BSA Conjugate: Use an extinguishing agent suitable for the surrounding fire.
- BSA Control: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media:

- Etomoxir: Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.
- L-Carnitine hydrochloride: None known.
- Oligomycin: None known.
- FCCP: None known.
- Antimycin A/ Rotenone: None known.
- Palmitate-BSA Conjugate: None known.
- BSA Control: None known.

See toxicological information (Section 11)
### Section 5. Firefighting measures

<table>
<thead>
<tr>
<th>Specific hazards arising from the chemical</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Etomoxir</td>
<td>May form explosive dust-air mixture if dispersed.</td>
</tr>
<tr>
<td>L-Carnitine hydrochloride</td>
<td>No specific fire or explosion hazard.</td>
</tr>
<tr>
<td>Oligomycin</td>
<td>No specific fire or explosion hazard.</td>
</tr>
<tr>
<td>FCCP</td>
<td>No specific fire or explosion hazard.</td>
</tr>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.</td>
</tr>
<tr>
<td>Palmitate-BSA Conjugate</td>
<td>In a fire or if heated, a pressure increase will occur and the container may burst.</td>
</tr>
<tr>
<td>BSA Control</td>
<td>In a fire or if heated, a pressure increase will occur and the container may burst.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazardous thermal decomposition products</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Etomoxir</td>
<td>Decomposition products may include the following materials: carbon dioxide, carbon monoxide, halogenated compounds, carbonyl halides, metal oxide/oxides.</td>
</tr>
<tr>
<td>L-Carnitine hydrochloride</td>
<td>Decomposition products may include the following materials: carbon dioxide, carbon monoxide, nitrogen oxides, halogenated compounds.</td>
</tr>
<tr>
<td>Oligomycin</td>
<td>Decomposition products may include the following materials: halogenated compounds, metal oxide/oxides.</td>
</tr>
<tr>
<td>FCCP</td>
<td>Decomposition products may include the following materials: carbon dioxide, carbon monoxide, halogenated compounds, metal oxide/oxides.</td>
</tr>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>Decomposition products may include the following materials: halogenated compounds, metal oxide/oxides.</td>
</tr>
<tr>
<td>Palmitate-BSA Conjugate</td>
<td>Decomposition products may include the following materials: carbon dioxide, carbon monoxide, nitrogen oxides, sulfur oxides.</td>
</tr>
<tr>
<td>BSA Control</td>
<td>Decomposition products may include the following materials: carbon dioxide, carbon monoxide, nitrogen oxides, sulfur oxides.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Special protective actions for fire-fighters</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Etomoxir</td>
<td>Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.</td>
</tr>
<tr>
<td>L-Carnitine hydrochloride</td>
<td>Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.</td>
</tr>
<tr>
<td>Oligomycin</td>
<td>Promptly isolate the scene by removing all persons</td>
</tr>
</tbody>
</table>

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Section 5. Firefighting measures

from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

FCCP
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Antimycin A/ Rotenone
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Palmitate-BSA Conjugate
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

BSA Control
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters:

Etomoxir
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

L-Carnitine hydrochloride
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Oligomycin
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

FCCP
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Antimycin A/ Rotenone
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Palmitate-BSA Conjugate
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

BSA Control
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Hazchem code:

Etomoxir
2X

L-Carnitine hydrochloride
Not available.

Oligomycin
Not available.

FCCP
Not available.

Antimycin A/ Rotenone
2Z

Palmitate-BSA Conjugate
Not available.

BSA Control
Not available.
## Section 6. Accidental release measures

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

<table>
<thead>
<tr>
<th>For non-emergency personnel</th>
<th></th>
<th>For emergency responders</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Etomoxir</strong></td>
<td>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.</td>
<td><strong>Etomoxir</strong></td>
</tr>
<tr>
<td><strong>L-Carnitine hydrochloride</strong></td>
<td>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.</td>
<td>If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in &quot;For non-emergency personnel&quot;.</td>
</tr>
<tr>
<td><strong>Oligomycin</strong></td>
<td>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.</td>
<td>If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in &quot;For non-emergency personnel&quot;.</td>
</tr>
<tr>
<td><strong>FCCP</strong></td>
<td>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.</td>
<td>If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in &quot;For non-emergency personnel&quot;.</td>
</tr>
<tr>
<td><strong>Antimycin A/ Rotenone</strong></td>
<td>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.</td>
<td></td>
</tr>
<tr>
<td><strong>Palmitate-BSA Conjugate</strong></td>
<td>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.</td>
<td></td>
</tr>
<tr>
<td><strong>BSA Control</strong></td>
<td>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.</td>
<td></td>
</tr>
</tbody>
</table>
Section 6. Accidental release measures

Environmental precautions:

- **Etomoxir**: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- **L-Carnitine hydrochloride**: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- **Oligomycin**: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- **FCCP**: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- **Antimycin A/ Rotenone**: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.
- **Palmitate-BSA Conjugate**: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- **BSA Control**: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in “For non-emergency personnel”.

Methods and material for containment and cleaning up:

**Methods for cleaning up**:

- **Etomoxir**: Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.
- **L-Carnitine hydrochloride**: Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container.
Section 6. Accidental release measures

- **Oligomycin**: Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.

- **FCCP**: Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.

- **Antimycin A/ Rotenone**: Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.

- **Palmitate-BSA Conjugate**: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

- **BSA Control**: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

### Precautions for safe handling

**Protective measures**: Etomoxir

- **L-Carnitine hydrochloride**: Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

- **Oligomycin**: Put on appropriate personal protective equipment (see Section 8).

- **FCCP**: Put on appropriate personal protective equipment (see Section 8).

- **Antimycin A/ Rotenone**: Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be
### Section 7. Handling and storage

<table>
<thead>
<tr>
<th>Material</th>
<th>Advice on general occupational hygiene</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palmitate-BSA Conjugate</td>
<td>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</td>
</tr>
<tr>
<td>BSA Control</td>
<td>Put on appropriate personal protective equipment (see Section 8).</td>
</tr>
<tr>
<td>Etomoxir</td>
<td>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</td>
</tr>
<tr>
<td>L-Carnitine hydrochloride</td>
<td>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</td>
</tr>
<tr>
<td>Oligomycin</td>
<td>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</td>
</tr>
<tr>
<td>FCCP</td>
<td>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</td>
</tr>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</td>
</tr>
<tr>
<td>Palmitate-BSA Conjugate</td>
<td>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</td>
</tr>
<tr>
<td>BSA Control</td>
<td>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Material</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Etomoxir</td>
<td>Storage temperature: room temperature.  Store in accordance with local regulations.  Store in a segregated and approved area.  Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly sealed.</td>
</tr>
</tbody>
</table>

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**Date of issue/Date of revision**: 14/04/2020  
**Date of previous issue**: 14/11/2019  
**Version**: 2

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## Section 7. Handling and storage

<table>
<thead>
<tr>
<th>Substance</th>
<th>Storage Conditions</th>
<th>Safety Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-Carnitine hydrochloride</td>
<td>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</td>
<td></td>
</tr>
<tr>
<td>Oligomycin</td>
<td>Storage temperature: room temperature. Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</td>
<td></td>
</tr>
<tr>
<td>FCCP</td>
<td>Storage temperature: room temperature. Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</td>
<td></td>
</tr>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>Storage temperature: room temperature. Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</td>
<td></td>
</tr>
<tr>
<td>Palmitate-BSA Conjugate</td>
<td>Store between the following temperatures: 2 to 8°C (35.6 to 46.4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</td>
<td></td>
</tr>
</tbody>
</table>
Section 7. Handling and storage

BSA Control

Store between the following temperatures: 2 to 8°C (35.6 to 46.4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits
None.

Appropriate engineering controls

Environmental exposure controls

: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Other skin protection

Respiratory protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
Section 9. Physical and chemical properties

**Appearance**

**Physical state**
- Etomoxir: Solid. [Powder.]
- L-Carnitine hydrochloride: Solid.
- Oligomycin: Solid.
- FCCP: Solid.
- Antimycin A/ Rotenone: Solid.
- Palmitate-BSA Conjugate: Liquid.
- BSA Control: Liquid.

**Colour**
- Etomoxir: White.
- L-Carnitine hydrochloride: Not available.
- Oligomycin: White.
- FCCP: Pale colour. / Yellow.
- Antimycin A/ Rotenone: White.
- Palmitate-BSA Conjugate: Not available.
- BSA Control: Not available.

**Odour**
- Etomoxir: Not available.
- L-Carnitine hydrochloride: Not available.
- Oligomycin: Odourless.
- FCCP: Odourless.
- Antimycin A/ Rotenone: Odourless.
- Palmitate-BSA Conjugate: Not available.
- BSA Control: Not available.

**Odour threshold**
- Etomoxir: Not available.
- L-Carnitine hydrochloride: Not available.
- Oligomycin: Not available.
- FCCP: Not available.
- Antimycin A/ Rotenone: Not available.
- Palmitate-BSA Conjugate: Not available.
- BSA Control: Not available.

**pH**
- Etomoxir: Not available.
- L-Carnitine hydrochloride: Not available.
- Oligomycin: Not available.
- FCCP: Not available.
- Antimycin A/ Rotenone: Not available.
- Palmitate-BSA Conjugate: Not available.
- BSA Control: Not available.

**Melting point**
- Etomoxir: Not available.
- L-Carnitine hydrochloride: 142°C (287.6°F)
- Oligomycin: Not available.
- FCCP: Not available.
- Antimycin A/ Rotenone: Not available.
- Palmitate-BSA Conjugate: 0°C (32°F)
- BSA Control: 0°C (32°F)

**Boiling point**
- Etomoxir: Not available.
- L-Carnitine hydrochloride: Not available.
- Oligomycin: Not available.
- FCCP: Not available.
- Antimycin A/ Rotenone: Not available.
- Palmitate-BSA Conjugate: 100°C (212°F)
- BSA Control: 100°C (212°F)

**Flash point**
- Etomoxir: Not available.
- L-Carnitine hydrochloride: Not available.
- Oligomycin: Not available.
- FCCP: Not available.
- Antimycin A/ Rotenone: Not available.
- Palmitate-BSA Conjugate: Not available.
- BSA Control: Not available.
Section 9. Physical and chemical properties

**Evaporation rate**
- Etomoxir: Not available.
- L-Carnitine hydrochloride: Not available.
- Oligomycin: Not available.
- FCCP: Not available.
- Antimycin A/ Rotenone: Not available.
- Palmitate-BSA Conjugate: Not available.
- BSA Control: Not available.

**Flammability (solid, gas)**
- Etomoxir: Not available.
- L-Carnitine hydrochloride: Not available.
- Oligomycin: Not available.
- FCCP: Not available.
- Antimycin A/ Rotenone: Not available.
- Palmitate-BSA Conjugate: Not available.
- BSA Control: Not available.

**Lower and upper explosive (flammable) limits**
- Etomoxir: Not available.
- L-Carnitine hydrochloride: Not available.
- Oligomycin: Not available.
- FCCP: Not available.
- Antimycin A/ Rotenone: Not available.
- Palmitate-BSA Conjugate: Not available.
- BSA Control: Not available.

**Vapour pressure**
- Etomoxir: Not available.
- L-Carnitine hydrochloride: Not available.
- Oligomycin: Not available.
- FCCP: Not available.
- Antimycin A/ Rotenone: Not available.
- Palmitate-BSA Conjugate: Not available.
- BSA Control: Not available.

**Vapour density**
- Etomoxir: Not available.
- L-Carnitine hydrochloride: Not available.
- Oligomycin: Not available.
- FCCP: Not available.
- Antimycin A/ Rotenone: Not available.
- Palmitate-BSA Conjugate: Not available.
- BSA Control: Not available.

**Relative density**
- Etomoxir: Not available.
- L-Carnitine hydrochloride: Not available.
- Oligomycin: Not available.
- FCCP: Not available.
- Antimycin A/ Rotenone: Not available.
- Palmitate-BSA Conjugate: Not available.
- BSA Control: Not available.

**Solubility**
- Etomoxir: Soluble in the following materials: cold water and hot water.
- L-Carnitine hydrochloride: Soluble in the following materials: cold water and hot water.
- Oligomycin: Not available.
- FCCP: Not available.
- Antimycin A/ Rotenone: Not available.
- Palmitate-BSA Conjugate: Easily soluble in the following materials: cold water and hot water.
- BSA Control: Easily soluble in the following materials: cold water and hot water.

**Partition coefficient: n-octanol/water**
- Etomoxir: Not available.
- L-Carnitine hydrochloride: -0.975
- Oligomycin: Not available.
- FCCP: Not available.
- Antimycin A/ Rotenone: Not available.
- Palmitate-BSA Conjugate: Not available.
- BSA Control: Not available.
Section 9. Physical and chemical properties

Auto-ignition temperature:
- Etomoxir: Not available.
- L-Carnitine hydrochloride: Not available.
- Oligomycin: Not available.
- FCCP: Not available.
- Antimycin A/Rotenone: Not available.
- Palmitate-BSA Conjugate: Not available.
- BSA Control: Not available.

Decomposition temperature:
- Etomoxir: Not available.
- L-Carnitine hydrochloride: Not available.
- Oligomycin: Not available.
- FCCP: Not available.
- Antimycin A/Rotenone: Not available.
- Palmitate-BSA Conjugate: Not available.
- BSA Control: Not available.

Viscosity:
- Etomoxir: Not available.
- L-Carnitine hydrochloride: Not available.
- Oligomycin: Not available.
- FCCP: Not available.
- Antimycin A/Rotenone: Not available.
- Palmitate-BSA Conjugate: Not available.
- BSA Control: Not available.

Section 10. Stability and reactivity

Reactivity:
- Etomoxir: No specific test data related to reactivity available for this product or its ingredients.
- L-Carnitine hydrochloride: No specific test data related to reactivity available for this product or its ingredients.
- Oligomycin: No specific test data related to reactivity available for this product or its ingredients.
- FCCP: No specific test data related to reactivity available for this product or its ingredients.
- Antimycin A/Rotenone: No specific test data related to reactivity available for this product or its ingredients.
- Palmitate-BSA Conjugate: No specific test data related to reactivity available for this product or its ingredients.
- BSA Control: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability:
- Etomoxir: The product is stable.
- L-Carnitine hydrochloride: The product is stable.
- Oligomycin: The product is stable.
- FCCP: The product is stable.
- Antimycin A/Rotenone: The product is stable.
- Palmitate-BSA Conjugate: The product is stable.
- BSA Control: The product is stable.

Possibility of hazardous reactions:
- Etomoxir: Under normal conditions of storage and use, hazardous reactions will not occur.
- L-Carnitine hydrochloride: Under normal conditions of storage and use, hazardous reactions will not occur.
- Oligomycin: Under normal conditions of storage and use, hazardous reactions will not occur.
- FCCP: Under normal conditions of storage and use, hazardous reactions will not occur.
- Antimycin A/Rotenone: Under normal conditions of storage and use, hazardous reactions will not occur.
- Palmitate-BSA Conjugate: Under normal conditions of storage and use, hazardous reactions will not occur.
- BSA Control: Under normal conditions of storage and use, hazardous reactions will not occur.
Section 10. Stability and reactivity

Conditions to avoid

- **Etomoxir**: Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Prevent dust accumulation.

- **L-Carnitine hydrochloride**: No specific data.
- **Oligomycin**: No specific data.
- **FCCP**: No specific data.
- **Antimycin A/ Rotenone**: No specific data.
- **Palmitate-BSA Conjugate**: No specific data.
- **BSA Control**: No specific data.

Incompatible materials

- **Etomoxir**: Reactive or incompatible with the following materials: oxidising materials.

- **L-Carnitine hydrochloride**: May react or be incompatible with oxidising materials.
- **Oligomycin**: May react or be incompatible with oxidising materials.
- **FCCP**: May react or be incompatible with oxidising materials.
- **Antimycin A/ Rotenone**: May react or be incompatible with oxidising materials.
- **Palmitate-BSA Conjugate**: May react or be incompatible with oxidising materials.
- **BSA Control**: May react or be incompatible with oxidising materials.

Hazardous decomposition products

- **Etomoxir**: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

- **L-Carnitine hydrochloride**: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- **Oligomycin**: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- **FCCP**: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- **Antimycin A/ Rotenone**: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- **Palmitate-BSA Conjugate**: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- **BSA Control**: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

**Acute toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-Carnitine hydrochloride (R)-(3-carboxy-2-hydroxypropyl) trimethylammonium chloride</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>6890 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>28 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Irritation/Corrosion**

Not available.

**Sensitisation**

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Not available.

**Mutagenicity**

**Conclusion/Summary** : Not available.

**Carcinogenicity**

**Conclusion/Summary** : Not available.

**Reproductive toxicity**

**Conclusion/Summary** : Not available.

**Teratogenicity**

**Conclusion/Summary** : Not available.

**Specific target organ toxicity (single exposure)**

Not available.

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Not available.

**Information on likely routes of exposure**

<table>
<thead>
<tr>
<th>Route of Exposure</th>
<th>Substance</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Etomoxir</td>
<td>Routes of entry anticipated: Oral, Dermal, Inhalation.</td>
</tr>
<tr>
<td></td>
<td>L-Carnitine hydrochloride</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td>Oligomycin</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td>FCCP</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td>Antimycin A/ Rotenone</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td>Palmitate-BSA Conjugate</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td>BSA Control</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

**Potential acute health effects**

**Eye contact**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Etomoxir</td>
<td>Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.</td>
</tr>
<tr>
<td>L-Carnitine hydrochloride</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Oligomycin</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>FCCP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Palmitate-BSA Conjugate</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>BSA Control</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

**Inhalation**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Etomoxir</td>
<td>Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.</td>
</tr>
<tr>
<td>L-Carnitine hydrochloride</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Oligomycin</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>FCCP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Palmitate-BSA Conjugate</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>BSA Control</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

**Skin contact**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Etomoxir</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>L-Carnitine hydrochloride</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Oligomycin</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>FCCP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Palmitate-BSA Conjugate</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>BSA Control</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>
Section 11. Toxicological information

### Ingestion

- **Etomoxir**: Toxic if swallowed.
- **L-Carnitine hydrochloride**: No known significant effects or critical hazards.
- **Oligomycin**: No known significant effects or critical hazards.
- **FCCP**: No known significant effects or critical hazards.
- **Antimycin A/ Rotenone**: No known significant effects or critical hazards.
- **Palmitate-BSA Conjugate**: No known significant effects or critical hazards.
- **BSA Control**: No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

#### Eye contact

- **Etomoxir**: Adverse symptoms may include the following:
  - irritation
  - redness

- **L-Carnitine hydrochloride**: No specific data.
- **Oligomycin**: No specific data.
- **FCCP**: No specific data.
- **Antimycin A/ Rotenone**: No specific data.
- **Palmitate-BSA Conjugate**: No specific data.
- **BSA Control**: No specific data.

#### Inhalation

- **Etomoxir**: Adverse symptoms may include the following:
  - respiratory tract irritation
  - coughing

- **L-Carnitine hydrochloride**: No specific data.
- **Oligomycin**: No specific data.
- **FCCP**: No specific data.
- **Antimycin A/ Rotenone**: No specific data.
- **Palmitate-BSA Conjugate**: No specific data.
- **BSA Control**: No specific data.

#### Skin contact

- **Etomoxir**: No specific data.
- **L-Carnitine hydrochloride**: No specific data.
- **Oligomycin**: No specific data.
- **FCCP**: No specific data.
- **Antimycin A/ Rotenone**: No specific data.
- **Palmitate-BSA Conjugate**: No specific data.
- **BSA Control**: No specific data.

#### Ingestion

- **Etomoxir**: No specific data.
- **L-Carnitine hydrochloride**: No specific data.
- **Oligomycin**: No specific data.
- **FCCP**: No specific data.
- **Antimycin A/ Rotenone**: No specific data.
- **Palmitate-BSA Conjugate**: No specific data.
- **BSA Control**: No specific data.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.

#### Long term exposure

- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.
- **Potential chronic health effects**
Section 11. Toxicological information

**General**
- **Etomoxir**: Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
- **L-Carnitine hydrochloride**: No known significant effects or critical hazards.
- **Oligomycin**: No known significant effects or critical hazards.
- **FCCP**: No known significant effects or critical hazards.
- **Antimycin A/ Rotenone**: No known significant effects or critical hazards.
- **Palmitate-BSA Conjugate**: No known significant effects or critical hazards.
- **BSA Control**: No known significant effects or critical hazards.

**Carcinogenicity**
- **Etomoxir**: No known significant effects or critical hazards.
- **L-Carnitine hydrochloride**: No known significant effects or critical hazards.
- **Oligomycin**: No known significant effects or critical hazards.
- **FCCP**: No known significant effects or critical hazards.
- **Antimycin A/ Rotenone**: No known significant effects or critical hazards.
- **Palmitate-BSA Conjugate**: No known significant effects or critical hazards.
- **BSA Control**: No known significant effects or critical hazards.

**Mutagenicity**
- **Etomoxir**: No known significant effects or critical hazards.
- **L-Carnitine hydrochloride**: No known significant effects or critical hazards.
- **Oligomycin**: No known significant effects or critical hazards.
- **FCCP**: No known significant effects or critical hazards.
- **Antimycin A/ Rotenone**: No known significant effects or critical hazards.
- **Palmitate-BSA Conjugate**: No known significant effects or critical hazards.
- **BSA Control**: No known significant effects or critical hazards.

**Teratogenicity**
- **Etomoxir**: No known significant effects or critical hazards.
- **L-Carnitine hydrochloride**: No known significant effects or critical hazards.
- **Oligomycin**: No known significant effects or critical hazards.
- **FCCP**: No known significant effects or critical hazards.
- **Antimycin A/ Rotenone**: No known significant effects or critical hazards.
- **Palmitate-BSA Conjugate**: No known significant effects or critical hazards.
- **BSA Control**: No known significant effects or critical hazards.

**Developmental effects**
- **Etomoxir**: No known significant effects or critical hazards.
- **L-Carnitine hydrochloride**: No known significant effects or critical hazards.
- **Oligomycin**: No known significant effects or critical hazards.
- **FCCP**: No known significant effects or critical hazards.
- **Antimycin A/ Rotenone**: No known significant effects or critical hazards.
- **Palmitate-BSA Conjugate**: No known significant effects or critical hazards.
- **BSA Control**: No known significant effects or critical hazards.

**Fertility effects**
- **Etomoxir**: No known significant effects or critical hazards.
- **L-Carnitine hydrochloride**: No known significant effects or critical hazards.
- **Oligomycin**: No known significant effects or critical hazards.
- **FCCP**: No known significant effects or critical hazards.
- **Antimycin A/ Rotenone**: No known significant effects or critical hazards.
- **Palmitate-BSA Conjugate**: No known significant effects or critical hazards.
- **BSA Control**: No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Oral (mg/kg)</th>
<th>Dermal (mg/kg)</th>
<th>Inhalation (gases) (ppm)</th>
<th>Inhalation (vapours) (mg/l)</th>
<th>Inhalation (dusts and mists) (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Etomoxir</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(R)-(+)2-[6-(4-Chlorophenoxy)hexyl]oxirane-2-carboxylic acid sodium salt</td>
<td>100</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>L-Carnitine hydrochloride</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(R)-(3-carboxy-2-hydroxypropyl)trimethylammonium chloride</td>
<td>6890</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Antimycin A/ Rotenone</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antimycin A</td>
<td>28</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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Section 11. Toxicological information

Section 12. Ecological information

**Toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimycin A/ Rotenone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antimycin A</td>
<td>Acute EC50 0.024 ppm Marine water</td>
<td>Crustaceans - Penaeus duorarum</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 0.000019 mg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

**Persistence and degradability**

Not available.

**Bioaccumulative potential**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-Carnitine hydrochloride</td>
<td>-0.975</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>(R)-(3-carboxy-2-hydroxypropyl) trimethylammonium chloride</td>
<td>-0.975</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

**Mobility in soil**

Soil/water partition coefficient (K<sub>oc</sub>): Not available.

**Other adverse effects**: No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods: The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

<table>
<thead>
<tr>
<th></th>
<th>ADG</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>UN316</td>
<td>UN316</td>
<td>UN316</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>CHEMICAL KIT</td>
<td>CHEMICAL KIT</td>
<td>Chemical kit</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>
Section 14. Transport information

<table>
<thead>
<tr>
<th>Packing group</th>
<th>II</th>
<th>II</th>
<th>II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental hazards</td>
<td>Yes. The environmentally hazardous substance mark is not required.</td>
<td>Yes.</td>
<td>Yes. The environmentally hazardous substance mark is not required.</td>
</tr>
</tbody>
</table>

Additional information

ADG  
- Hazchem code: 2Z
- Special provisions: 251, 340

IMDG  
- The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- Emergency schedules: F-A, _S-P_
- Special provisions: 251, 340

IATA  
- The environmentally hazardous substance mark may appear if required by other transportation regulations.
- Quantity limitation:
  - Passenger and Cargo Aircraft: 10 kg. Packaging instructions: 960.
  - Cargo Aircraft Only: 10 kg. Packaging instructions: 960.
- Special provisions: A44, A163

Special precautions for user: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments: Not available.

Section 15. Regulatory information

Standard for the Uniform Scheduling of Medicines and Poisons

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia: Not determined.
Canada: Not determined.
China: Not determined.
Europe: Not determined.
New Zealand: Not determined.
Philippines: Not determined.

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Section 15. Regulatory information

<table>
<thead>
<tr>
<th>Country</th>
<th>Determination</th>
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</thead>
<tbody>
<tr>
<td>Republic of Korea</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Thailand</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Turkey</td>
<td>Not determined.</td>
</tr>
<tr>
<td>United States</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>Not determined.</td>
</tr>
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</table>

Section 16. Any other relevant information

History

<table>
<thead>
<tr>
<th>Date of issue/Date of revision</th>
<th>14/04/2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of previous issue</td>
<td>14/11/2019</td>
</tr>
<tr>
<td>Version</td>
<td>2</td>
</tr>
</tbody>
</table>

Key to abbreviations

- ADG = Australian Dangerous Goods
- ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- N/A = Not available
- SUSMP = Standard Uniform Schedule of Medicine and Poisons
- UN = United Nations

Procedure used to derive the classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Etomoxir</td>
<td>Expert judgment</td>
</tr>
<tr>
<td>ACUTE TOXICITY (oral) - Category 3</td>
<td></td>
</tr>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>Calculation method</td>
</tr>
<tr>
<td>SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1</td>
<td></td>
</tr>
<tr>
<td>LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1</td>
<td></td>
</tr>
</tbody>
</table>

References

- Not available.

Notice to reader

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