Section 1. Identification

Product identifier: Seahorse XF Mito Tox Assay Kit, Part Number 103595-100
Part no. (chemical kit): 103595-100
Part no.: Oligomycin Not available.
           FCCP Not available.
           Antimycin A/ Rotenone 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).
Oligomycin 6 x 5.722 mg
FCCP 6 x 22.593 mg
Antimycin A/ Rotenone 6 x 1.145 mg

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

Section 2. Hazard(s) identification

Classification of the substance or mixture
Antimycin A/ Rotenone
H400 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
H410 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1

GHS label elements
Hazard pictograms: Antimycin A/ Rotenone

Signal word: Oligomycin No signal word.
              FCCP No signal word.
              Antimycin A/ Rotenone WARNING

Hazard statements: 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.

Precautionary statements
Prevention: Oligomycin Not applicable.
            FCCP Not applicable.
            Antimycin A/ Rotenone P273 - Avoid release to the environment.

Response: Oligomycin Not applicable.
          FCCP Not applicable.
          Antimycin A/ Rotenone P391 - Collect spillage.
Section 2. Hazard(s) identification

Storage:
- Oligomycin: Not applicable.
- FCCP: Not applicable.
- Antimycin A/ Rotenone: Not applicable.

Disposal:
- 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.

Supplemental label elements:

- Additional warning phrases:
  - Oligomycin: Not applicable.
  - FCCP: Not applicable.
  - Antimycin A/ Rotenone: Not applicable.

Other hazards which do not result in classification:
- Oligomycin: None known.
- FCCP: None known.
- Antimycin A/ Rotenone: None known.

Section 3. Composition and ingredient information

Substance/mixture:
- Oligomycin: Mixture
- FCCP: Mixture
- Antimycin A/ Rotenone: Mixture

CAS number/other identifiers:

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>% (w/w)</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>≤0.3</td>
<td>1397-94-0</td>
</tr>
<tr>
<td>Antimycin A</td>
<td></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.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures:

Eye contact:
- Oligomycin: 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.
- FCCP: 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.
- 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.

Inhalation:
- 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.
Section 4. First aid measures

Skin contact:

- **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.

Ingestion:

- **Oligomycin**: Wash out mouth with water. 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. 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. 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- **Eye contact**:
  - **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.

- **Inhalation**:
  - **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.

- **Skin contact**:
  - **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.

- **Ingestion**:
  - **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.

Over-exposure signs/symptoms

- **Eye contact**:
  - **Oligomycin**: No specific data.
  - **FCCP**: No specific data.
  - **Antimycin A/ Rotenone**: No specific data.
Section 4. First aid measures

### Inhalation
- **Oligomycin**: No specific data.
- **FCCP**: No specific data.
- **Antimycin A/ Rotenone**: No specific data.

### Skin contact
- **Oligomycin**: No specific data.
- **FCCP**: No specific data.
- **Antimycin A/ Rotenone**: No specific data.

### Ingestion
- **Oligomycin**: No specific data.
- **FCCP**: No specific data.
- **Antimycin A/ Rotenone**: No specific data.

**Notes to physician**:
- **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.

**Specific treatments**:
- **Oligomycin**: No specific treatment.
- **FCCP**: No specific treatment.
- **Antimycin A/ Rotenone**: No specific treatment.

**Protection of first-aiders**:
- **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.

See toxicological information (Section 11)

Section 5. Firefighting measures

**Extinguishing media**

**Suitable extinguishing media**
- **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.

** Unsuitable extinguishing media**
- **Oligomycin**: None known.
- **FCCP**: None known.
- **Antimycin A/ Rotenone**: None known.

**Specific hazards arising from the chemical**
- **Oligomycin**: No specific fire or explosion hazard.
- **FCCP**: No specific fire or explosion hazard.
- **Antimycin A/ Rotenone**: 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.
Section 5. Firefighting measures

### Hazardous thermal decomposition products
- **Oligomycin**: Decomposition products may include the following materials:
  - halogenated compounds
  - metal oxide/oxides
- **FCCP**: Decomposition products may include the following materials:
  - carbon dioxide
  - carbon monoxide
  - halogenated compounds
  - metal oxide/oxides
- **Antimycin A/ Rotenone**: Decomposition products may include the following materials:
  - halogenated compounds
  - metal oxide/oxides

### Special protective actions for fire-fighters
- **Oligomycin**: 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.
- **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.

### Special protective equipment for fire-fighters
- **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.

### Hazchem code
- **Oligomycin**: Not available.
- **FCCP**: Not available.
- **Antimycin A/ Rotenone**: ZZ

Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel
- **Oligomycin**: 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.
- **FCCP**: 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.
- **Antimycin A/ Rotenone**: 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...
Section 6. Accidental release measures

Environmental precautions:

Through spilt material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders:

- Oligomycin: 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".
- FCCP: 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".
- Antimycin A/ Rotenone: 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".

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).

Methods and material for containment and cleaning up:

For non-emergency personnel:

- 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.

Section 7. Handling and storage

Precautions for safe handling:

- 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
Section 7. Handling and storage

**Advice on general occupational hygiene**

**Oligomycin**
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.

**FCCP**
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.

**Antimycin A/ Rotenone**
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.

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

**Oligomycin**
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.

**FCCP**
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.

**Antimycin A/ Rotenone**
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.
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

: 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.

Body protection

: 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.

Other skin protection

: 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 and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state

Oligomycin  Solid.
FCCP  Solid.
Antimycin A/ Rotenone  Solid.

Colour

Oligomycin  White.
FCCP  Pale colour. / Yellow.
Antimycin A/ Rotenone  White.

Odour

Oligomycin  Odourless.
FCCP  Odourless.
Antimycin A/ Rotenone  Odourless.
Section 9. Physical and chemical properties and safety characteristics

<table>
<thead>
<tr>
<th>Property</th>
<th>Oligomycin</th>
<th>FCCP</th>
<th>Antimycin A/ Rotenone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odour threshold</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Boiling point, initial boiling point, and boiling range</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Lower and upper explosion limit/flammability limit</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Particle characteristics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median particle size</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>
Section 10. Stability and reactivity

Reactivity
- 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.

Chemical stability
- Oligomycin: The product is stable.
- FCCP: The product is stable.
- Antimycin A/ Rotenone: The product is stable.

Possibility of hazardous reactions
- 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.

Conditions to avoid
- Oligomycin: No specific data.
- FCCP: No specific data.
- Antimycin A/ Rotenone: No specific data.

Incompatible 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.

Hazardous decomposition products
- 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.

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>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
Not available.

Mutagenicity
Conclusion/Summary: Not available.

Carcinogenicity
Conclusion/Summary: Not available.

Reproductive toxicity
Conclusion/Summary: Not available.

Teratogenicity
Conclusion/Summary: Not available.
Section 11. Toxicological information

### 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</th>
<th>Oligomycin</th>
<th>FCCP</th>
<th>Antimycin A/ Rotenone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Eye contact</td>
<td>Oligomycin</td>
<td>FCCP</td>
<td>Antimycin A/ Rotenone</td>
</tr>
</tbody>
</table>

#### Potential acute health effects

<table>
<thead>
<tr>
<th>Route</th>
<th>Oligomycin</th>
<th>FCCP</th>
<th>Antimycin A/ Rotenone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Route</th>
<th>Oligomycin</th>
<th>FCCP</th>
<th>Antimycin A/ Rotenone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>No specific data.</td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>No specific data.</td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>No specific data.</td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>No specific data.</td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

#### 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

<table>
<thead>
<tr>
<th>General</th>
<th>Oligomycin</th>
<th>FCCP</th>
<th>Antimycin A/ Rotenone</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>
Section 11. Toxicological information

Carcinogenicity: Oligomycin, FCCP, Antimycin A/ Rotenone
   No known significant effects or critical hazards.

Mutagenicity: Oligomycin, FCCP, Antimycin A/ Rotenone
   No known significant effects or critical hazards.

Reproductive toxicity: Oligomycin, FCCP, Antimycin A/ Rotenone
   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>Antimycin A/ Rotenone</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>

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>Acute EC50 0.024 ppm Marine water</td>
<td>Crustaceans - Penaeus duorarum</td>
<td>48 hours</td>
</tr>
<tr>
<td>Antimycin A</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
Not available.

Mobility in soil

| Soil/water partition coefficient (KOC) | 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.

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Version: 1
12/14
Section 14. Transport information

ADG / IMDG / IATA: Not regulated as Dangerous Goods according to the ADG Code.

Additional information

Remarks: De minimis quantities

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
Not regulated.

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.
Republic of Korea: Not determined.
Taiwan: Not determined.
Thailand: Not determined.
Turkey: Not determined.
United States: Not determined.
Viet Nam: Not determined.
Section 16. Any other relevant information

**History**

- **Date of issue/Date of revision**: 09/11/2021
- **Date of previous issue**: No previous validation
- **Version**: 1

**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>Antimycin A/ Rotenone</td>
<td>Calculation method</td>
</tr>
<tr>
<td>SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1</td>
<td>Calculation method</td>
</tr>
<tr>
<td>LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

**References**

- Not available.

- Indicates information that has changed from previously issued version.

**Notice to reader**

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