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

1.1 Product identifier

Product name: Seahorse XFp Glycolytic Rate Assay Kit, Part Number 103346-100
Part No. (Kit): 103346-100
Part No.: 2-deoxyglucose Not available.
Antimycin A/ Rotenone Not available.

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

<table>
<thead>
<tr>
<th>Identified uses</th>
<th>2-deoxyglucose</th>
<th>Antimycin A/ Rotenone</th>
</tr>
</thead>
<tbody>
<tr>
<td>For research use only.</td>
<td>6 x 24.624 mg</td>
<td>6 x 3.311 mg</td>
</tr>
</tbody>
</table>

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

e-mail address of person responsible for this SDS: pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation): CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition: 2-deoxyglucose Mono-constituent substance
Antimycin A/ Rotenone Mixture

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

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

Ingredients of unknown toxicity: Antimycin A/ Rotenone Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: > 60%

See Section 16 for the full text of the H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms: Antimycin A/ Rotenone

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SECTION 2: Hazards identification

Signal word
- 2-deoxyglucose: No signal word.
- Antimycin A/ Rotenone: Warning

Hazard statements
- 2-deoxyglucose: No known significant effects or critical hazards.
- Antimycin A/ Rotenone: H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements
- Prevention:
  - 2-deoxyglucose: Not applicable.
  - Antimycin A/ Rotenone: P273 - Avoid release to the environment.
- Response:
  - 2-deoxyglucose: Not applicable.
- Storage:
  - 2-deoxyglucose: Not applicable.
  - Antimycin A/ Rotenone: Not applicable.
- Disposal:
  - 2-deoxyglucose: Not applicable.
  - Antimycin A/ Rotenone: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients
- 2-deoxyglucose: Not applicable.
- Antimycin A/ Rotenone: Not applicable.

Supplemental label elements
- 2-deoxyglucose: Not applicable.
- Antimycin A/ Rotenone: Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
- 2-deoxyglucose: Not applicable.
- Antimycin A/ Rotenone: Not applicable.

2.3 Other hazards
- Other hazards which do not result in classification:
  - 2-deoxyglucose: None known.
  - Antimycin A/ Rotenone: None known.

SECTION 3: Composition/information on ingredients

3.1 Substances
- 2-deoxyglucose: Mono-constituent substance
- Antimycin A/ Rotenone: Mixture

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>%</th>
<th>Regulation (EC) No. 1272/2008 [CLP]</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-deoxyglucose</td>
<td>EC: 205-823-0</td>
<td>100</td>
<td>Not classified.</td>
<td>[A]</td>
</tr>
<tr>
<td>2-deoxy-D-glucose</td>
<td>CAS: 154-17-6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>EC: 231-598-3</td>
<td>&lt;10</td>
<td>Eye Irrit. 2, H319</td>
<td>[1]</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>CAS: 7647-14-5</td>
<td></td>
<td>Acute Tox. 2, H300</td>
<td>[1]</td>
</tr>
<tr>
<td>Antimycin A</td>
<td>CAS: 1397-94-0</td>
<td>&lt;0.1</td>
<td>Aquatic Acute 1, H400 (M=10000)</td>
<td>[1]</td>
</tr>
<tr>
<td>(2R,6aS,12aS)-1,2,6,6a,12,12a-</td>
<td>EC: 201-501-9</td>
<td>&lt;0.1</td>
<td>Aquatic Chronic 1, H410 (M=10000)</td>
<td>[1][2]</td>
</tr>
<tr>
<td>hexahydro-2-isopropenyl-8,9-</td>
<td>CAS: 83-79-4</td>
<td></td>
<td>Aquatic Acute 1, H400 (M=100)</td>
<td></td>
</tr>
<tr>
<td>dimethoxychromeno[3,4-b]furo[2,3-</td>
<td>Index: 650-005-00-2</td>
<td></td>
<td>Aquatic Chronic 1, H410 (M=100)</td>
<td></td>
</tr>
<tr>
<td>h]chromen-6-one</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Date of issue/Date of revision: 21/06/2017
SECTION 3: Composition/information on ingredients

Type

1. Substance classified with a health or environmental hazard
2. Substance with a workplace exposure limit
3. Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
4. Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
5. Substance of equivalent concern

[A] Constituent
[B] Impurity
[C] Stabilising additive

See Section 16 for the full text of the H statements declared above.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

- 2-deoxyglucose: 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

- 2-deoxyglucose: 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.

Skin contact

- 2-deoxyglucose: 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

- 2-deoxyglucose: 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. 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
SECTION 4: First aid measures

Protection of first-aiders

- 2-deoxyglucose: 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.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media: 2-deoxyglucose Use an extinguishing agent suitable for the surrounding fire.
  Antimycin A/ Rotenone Use an extinguishing agent suitable for the surrounding fire.

- Unsuitable extinguishing media: 2-deoxyglucose None known.
  Antimycin A/ Rotenone None known.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture: 2-deoxyglucose 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 combustion products | : 2-deoxyglucose | Decomposition products may include the following materials: carbon dioxide carbon monoxide |
| Antimycin A/ Rotenone | Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides |

5.3 Advice for firefighters

| Special precautions for fire-fighters | : 2-deoxyglucose | 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 | : 2-deoxyglucose | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. |
| 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. |

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

| For non-emergency personnel | : 2-deoxyglucose | 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 through spilt material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |

| For emergency responders | : 2-deoxyglucose | 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". |

6.2 Environmental precautions

| : 2-deoxyglucose | 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 |
SECTION 6: Accidental release measures

6.3 Methods and material for containment and cleaning up

**Methods for cleaning up**: 2-deoxyglucose
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.

6.4 Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

**Protective measures**: 2-deoxyglucose
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 hazardous. Do not reuse container.

**Advice on general occupational hygiene**: 2-deoxyglucose
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.

7.2 Conditions for safe storage, including any incompatibilities

**Storage**: 2-deoxyglucose
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.

Antimycin A/ Rotenone
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.

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SECTION 7: Handling and storage

Danger criteria

<table>
<thead>
<tr>
<th>Category</th>
<th>Notification and MAPP threshold</th>
<th>Safety report threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>E1: Hazardous to the aquatic environment - Acute 1 or Chronic 1</td>
<td>100</td>
</tr>
</tbody>
</table>

7.3 Specific end use(s)

Recommendations:
- 2-deoxyglucose
  - Industrial applications, Professional applications.
- Antimycin A/ Rotenone
  - Industrial applications, Professional applications.

Industrial sector specific solutions:
- 2-deoxyglucose
  - Not applicable.
- Antimycin A/ Rotenone
  - Not applicable.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Exposure limit values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>EH40/2005 WELs (United Kingdom (UK), 12/2011).</td>
</tr>
<tr>
<td></td>
<td>TWA: 5 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>STEL: 10 mg/m³ 15 minutes.</td>
</tr>
</tbody>
</table>

Recommended monitoring procedures:
If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs
No DNELs/DMELs available.

PNECs
No PNECs available

8.2 Exposure controls

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

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.

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SECTION 8: Exposure controls/personal 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**
- 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.

**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.**

**Respiratory 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.

**Environmental exposure controls**
- 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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

**Appearance**

<table>
<thead>
<tr>
<th>Property</th>
<th>2-deoxyglucose</th>
<th>Antimycin A/ Rotenone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid.</td>
<td>Solid. [Amorphous.]</td>
</tr>
<tr>
<td>Colour</td>
<td>Not available.</td>
<td>White.</td>
</tr>
<tr>
<td>Odour</td>
<td>Not available.</td>
<td>Odourless.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>146 to 147°C</td>
<td>Not available.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

**Date of issue/Date of revision**
- 21/06/2017
SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>2-deoxyglucose</th>
<th>Antimycin A/ Rotenone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solubility(ies)</td>
<td>Soluble in the following materials: cold water and hot water.</td>
<td>Soluble in the following materials: cold water and hot water.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

- 2-deoxyglucose: 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.

10.2 Chemical stability

- 2-deoxyglucose: The product is stable.
- Antimycin A/ Rotenone: The product is stable.

10.3 Possibility of hazardous reactions

- 2-deoxyglucose: 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.

10.4 Conditions to avoid

- 2-deoxyglucose: No specific data.
- Antimycin A/ Rotenone: No specific data.

10.5 Incompatible materials

- 2-deoxyglucose: May react or be incompatible with oxidising materials.
- Antimycin A/ Rotenone: May react or be incompatible with oxidising materials.

10.6 Hazardous decomposition products

- 2-deoxyglucose: 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

11.1 Information on toxicological effects

Acute toxicity

Date of issue/Date of revision: 21/06/2017
SECTION 11: Toxicological information

### Acute toxicity estimates

Not available.

### Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>3000 mg/kg</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>28 mg/kg</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Antimycin A (2R,6aS,12aS)-1,2,6,6a,12,12a-hexahydro-2-isopropenyl-8,9-dimethoxychromeno[3,4-b]furo[2,3-h]chromen-6-one</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>25 mg/kg</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Sensitiser

Conclusion/Summary: Not available.

### Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
<tr>
<td>(2R,6aS,12aS)-1,2,6,6a,12,12a-hexahydro-2-isopropenyl-8,9-dimethoxychromeno[3,4-b]furo[2,3-h]chromen-6-one</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

### Information on likely routes of exposure

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
<tr>
<td>(2R,6aS,12aS)-1,2,6,6a,12,12a-hexahydro-2-isopropenyl-8,9-dimethoxychromeno[3,4-b]furo[2,3-h]chromen-6-one</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Potential acute health effects

#### Inhalation

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>2-deoxyglucose</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>

#### Ingestion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>2-deoxyglucose</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>

#### Skin contact

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>2-deoxyglucose</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>

#### Eye contact

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>2-deoxyglucose</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>

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

#### Inhalation

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimycin A/ Rotenone</td>
<td>2-deoxyglucose</td>
<td>Not specific data.</td>
<td></td>
</tr>
</tbody>
</table>

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SECTION 11: Toxicological information

Ingestion:
- 2-deoxyglucose: No specific data.
- Antimycin A/ Rotenone: No specific data.

Skin contact:
- 2-deoxyglucose: No specific data.
- Antimycin A/ Rotenone: No specific data.

Eye contact:
- 2-deoxyglucose: No specific data.
- Antimycin A/ Rotenone: 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

General:
- 2-deoxyglucose: No known significant effects or critical hazards.
- Antimycin A/ Rotenone: No known significant effects or critical hazards.

Carcinogenicity:
- 2-deoxyglucose: No known significant effects or critical hazards.
- Antimycin A/ Rotenone: No known significant effects or critical hazards.

Mutagenicity:
- 2-deoxyglucose: No known significant effects or critical hazards.
- Antimycin A/ Rotenone: No known significant effects or critical hazards.

Teratogenicity:
- 2-deoxyglucose: No known significant effects or critical hazards.
- Antimycin A/ Rotenone: No known significant effects or critical hazards.

Developmental effects:
- 2-deoxyglucose: No known significant effects or critical hazards.
- Antimycin A/ Rotenone: No known significant effects or critical hazards.

Fertility effects:
- 2-deoxyglucose: No known significant effects or critical hazards.
- Antimycin A/ Rotenone: No known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 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>Sodium chloride</td>
<td>Acute EC50 2430000 µg/l Fresh water</td>
<td>Algae - Navicula seminulum</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 28.85 mg/dm³ Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 519.6 mg/l Fresh water</td>
<td>Crustaceans - Cypris subglobosa</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute IC50 6.87 g/L Fresh water</td>
<td>Aquatic plants - Lemna minor</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1661 mg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1000000 µg/l Fresh water</td>
<td>Fish - Morone saxatilis - Larvae</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic LC10 781 mg/l Fresh water</td>
<td>Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>3 weeks</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 6 g/L Fresh water</td>
<td>Aquatic plants - Lemna minor</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.314 g/L Fresh water</td>
<td>Daphnia - Daphnia pulex</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 100 mg/l Fresh water</td>
<td>Fish - Gambusia holbrooki - Adult</td>
<td>8 weeks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Crustaceans - Penaeus duorarum</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fish - Sander vitreus - Fingerling</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Crustaceans - Simocephalus serrulatus - Larvae</td>
<td></td>
</tr>
<tr>
<td>Antimycin A</td>
<td>Acute EC50 0.024 ppm Marine water</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2R,6aS,12aS)-1,2,6,6a,12,12a-hexahydro-</td>
<td>Acute EC50 0.02 µg/l Fresh water</td>
<td></td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 190 µg/l Fresh water</td>
<td></td>
<td>48 hours</td>
</tr>
</tbody>
</table>

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SECTION 12: Ecological information

| 2-isopropenyl-8, 9-dimethoxychromeno[3,4-b]furo[2,3-h]chromen-6-one | Acute EC50 3.7 μg/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| | Acute LC50 1.9 ppb Fresh water | Fish - Oncorhynchus mykiss | 96 hours |
| | Chronic NOEC 0.3 ppb Marine water | Daphnia - Daphnia magna | 21 days |
| | Chronic NOEC 1.01 ppb | Fish - Oncorhynchus mykiss | 32 days |

12.2 Persistence and degradability
Not available.

12.3 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>Antimycin A/ Rotenone (2R,6aS,12aS)-1,2,6,6a,12,12a-hexahydro-2-isopropenyl-8,9-dimethoxychromeno[3,4-b]furo[2,3-h]chromen-6-one</td>
<td>4.1</td>
<td>25.7</td>
<td>low</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

<table>
<thead>
<tr>
<th>Soil/water partition coefficient (K&lt;sub&gt;OC&lt;/sub&gt;)</th>
<th>Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

12.5 Results of PBT and vPvB assessment

| PBT | Not applicable. |
| vPvB | Not applicable. |

12.6 Other adverse effects
No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

<table>
<thead>
<tr>
<th>Product</th>
<th>Method of disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>

| Hazardous waste | The classification of the product may meet the criteria for a hazardous waste. |
| Hazardous packaging | The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. |

| Special precautions | 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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SECTION 14: Transport information

ADR/RID / IMDG / IATA : Not regulated.

Additional information

Remarks: De minimis quantities

14.6 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.

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

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

2-deoxyglucose : Not applicable.

Antimycin A/ Rotenone : Not applicable.

Other EU regulations

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category

Antimycin A/ Rotenone

E1: Hazardous to the aquatic environment - Acute 1 or Chronic 1

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

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

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SECTION 15: Regulatory information

Not listed.

Inventory list

Australia : Not determined.
Canada : Not determined.
China : Not determined.
Europe : Not determined.
Japan : Japan inventory (ENCS): Not determined.
Japan inventory (ISHL): Not determined.
Malaysia : 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.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments might still be required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Acute 1, H400</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Aquatic Chronic 1, H410</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

Full text of abbreviated H statements

Antimycin A/ Rotenone

H300 : Fatal if swallowed.
H301 : Toxic if swallowed.
H315 : Causes skin irritation.
H319 : Causes serious eye irritation.
H335 : May cause respiratory irritation.
H400 : Very toxic to aquatic life.
H410 : Very toxic to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]
SECTION 16: Other information

<table>
<thead>
<tr>
<th>Antimycin A/ Rotenone</th>
<th>ACUTE TOXICITY (oral) - Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 2, H300</td>
<td>ACUTE TOXICITY (oral) - Category 3</td>
</tr>
<tr>
<td>Acute Tox. 3, H301</td>
<td>SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1</td>
</tr>
<tr>
<td>Aquatic Acute 1, H400</td>
<td>LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1</td>
</tr>
<tr>
<td>Aquatic Chronic 1, H410</td>
<td>SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2</td>
</tr>
<tr>
<td>Eye Irrit. 2, H319</td>
<td>SKIN CORROSION/IRRITATION - Category 2</td>
</tr>
<tr>
<td>Skin Irrit. 2, H315</td>
<td>SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE</td>
</tr>
<tr>
<td>STOT SE 3, H335</td>
<td>(Respiratory tract irritation) - Category 3</td>
</tr>
</tbody>
</table>

Date of issue/Date of revision: 21/06/2017
Date of previous issue: 28/11/2016.
Version: 2

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