SAFETY DATA SHEET

SureSelect XT HS Enzymatic Fragmentation Kit, 96 Reactions, Part Number 5191-4080

Section 1. Identification

Product identifier : SureSelect XT HS Enzymatic Fragmentation Kit, 96 Reactions, Part Number 5191-4080
Part no. (chemical kit) : 5191-4080
Part no. : 5X SureSelect Fragmentation Buffer 5191-4077
SureSelect Fragmentation Enzyme 5191-4078

Suppliers/Manufacturers : 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

Relevant identified uses of the substance or mixture and uses advised against
5X SureSelect Fragmentation Buffer 0.192 ml
SureSelect Fragmentation Enzyme 0.096 ml

Section 2. Hazard(s) identification

Classification of the substance or mixture
Not classified.

GHS label elements
Signal word : 5X SureSelect Fragmentation Buffer
No signal word.
SureSelect Fragmentation Enzyme
No signal word.

Hazard statements : 5X SureSelect Fragmentation Buffer
No known significant effects or critical hazards.
SureSelect Fragmentation Enzyme
No known significant effects or critical hazards.

Precautionary statements
Prevention : 5X SureSelect Fragmentation Buffer
Not applicable.
SureSelect Fragmentation Enzyme
Not applicable.

Response : 5X SureSelect Fragmentation Buffer
Not applicable.
SureSelect Fragmentation Enzyme
Not applicable.

Date of issue/Date of revision : 31/05/2018
Date of previous issue : No previous validation
Version : 1
Section 2. Hazard(s) identification

Storage: 5X SureSelect Fragmentation Buffer Not applicable.  SureSelect Fragmentation Enzyme Not applicable.

Disposal: 5X SureSelect Fragmentation Buffer Not applicable.  SureSelect Fragmentation Enzyme Not applicable.

Supplemental label elements

Additional warning phrases: 5X SureSelect Fragmentation Buffer Not applicable.  SureSelect Fragmentation Enzyme Not applicable.

Other hazards which do not result in classification: 5X SureSelect Fragmentation Buffer None known.  SureSelect Fragmentation Enzyme None known.

Section 3. Composition and ingredient information

Substance/mixture: 5X SureSelect Fragmentation Buffer Mixture  SureSelect Fragmentation Enzyme 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>SureSelect Fragmentation Enzyme</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>≥30 - ≤60</td>
<td>56-81-5</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: 5X SureSelect Fragmentation Buffer 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.  SureSelect Fragmentation Enzyme 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: 5X SureSelect Fragmentation Buffer Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.  SureSelect Fragmentation Enzyme Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact: 5X SureSelect Fragmentation Buffer Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.  SureSelect Fragmentation Enzyme Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Section 4. First aid measures

Ingestion:
- **5X SureSelect Fragmentation Buffer**: 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.
- **SureSelect Fragmentation Enzyme**: 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**
  - **5X SureSelect Fragmentation Buffer**: No known significant effects or critical hazards.
  - **SureSelect Fragmentation Enzyme**: No known significant effects or critical hazards.

- **Inhalation**
  - **5X SureSelect Fragmentation Buffer**: No known significant effects or critical hazards.
  - **SureSelect Fragmentation Enzyme**: No known significant effects or critical hazards.

- **Skin contact**
  - **5X SureSelect Fragmentation Buffer**: No known significant effects or critical hazards.
  - **SureSelect Fragmentation Enzyme**: No known significant effects or critical hazards.

- **Ingestion**
  - **5X SureSelect Fragmentation Buffer**: No known significant effects or critical hazards.
  - **SureSelect Fragmentation Enzyme**: No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

- **Eye contact**
  - **5X SureSelect Fragmentation Buffer**: No specific data.
  - **SureSelect Fragmentation Enzyme**: No specific data.

- **Inhalation**
  - **5X SureSelect Fragmentation Buffer**: No specific data.
  - **SureSelect Fragmentation Enzyme**: No specific data.

- **Skin contact**
  - **5X SureSelect Fragmentation Buffer**: No specific data.
  - **SureSelect Fragmentation Enzyme**: No specific data.

- **Ingestion**
  - **5X SureSelect Fragmentation Buffer**: No specific data.
  - **SureSelect Fragmentation Enzyme**: No specific data.

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

- **Notes to physician**
  - **5X SureSelect Fragmentation Buffer**: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
  - **SureSelect Fragmentation Enzyme**: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
### Section 4. First aid measures

<table>
<thead>
<tr>
<th>Specific treatments</th>
<th>5X SureSelect Fragmentation Buffer</th>
<th>No specific treatment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection of first-aiders</td>
<td>5X SureSelect Fragmentation Buffer</td>
<td>No action shall be taken involving any personal risk or without suitable training.</td>
</tr>
</tbody>
</table>

See toxicological information (Section 11)

### Section 5. Firefighting measures

#### Extinguishing media

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>5X SureSelect Fragmentation Buffer</th>
<th>Use an extinguishing agent suitable for the surrounding fire.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsuitable extinguishing media</td>
<td>5X SureSelect Fragmentation Buffer</td>
<td>None known.</td>
</tr>
</tbody>
</table>

#### Specific hazards arising from the chemical

<table>
<thead>
<tr>
<th>5X SureSelect Fragmentation Buffer</th>
<th>In a fire or if heated, a pressure increase will occur and the container may burst.</th>
</tr>
</thead>
</table>

#### Hazardous thermal decomposition products

<table>
<thead>
<tr>
<th>5X SureSelect Fragmentation Buffer</th>
<th>Decomposition products may include the following materials: halogenated compounds metal oxide/oxides</th>
</tr>
</thead>
<tbody>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>Decomposition products may include the following materials: carbon dioxide carbon monoxide</td>
</tr>
</tbody>
</table>

#### Special protective actions for fire-fighters

<table>
<thead>
<tr>
<th>5X SureSelect Fragmentation Buffer</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SureSelect Fragmentation Enzyme</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>
</tbody>
</table>

#### Special protective equipment for fire-fighters

<table>
<thead>
<tr>
<th>5X SureSelect Fragmentation Buffer</th>
<th>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</td>
</tr>
</tbody>
</table>
### Section 6. Accidental release measures

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

**For non-emergency personnel**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Action Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>5X SureSelect Fragmentation Buffer</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>
</tr>
<tr>
<td>SureSelect Fragmentation Enzyme</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>
</tr>
</tbody>
</table>

**For emergency responders**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Action Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>5X SureSelect Fragmentation Buffer</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>SureSelect Fragmentation Enzyme</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>
</tbody>
</table>

**Environmental precautions**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Action Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>5X SureSelect Fragmentation Buffer</td>
<td>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).</td>
</tr>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>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).</td>
</tr>
</tbody>
</table>

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

**Methods for cleaning up**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Action Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>5X SureSelect Fragmentation Buffer</td>
<td>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.</td>
</tr>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>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.</td>
</tr>
</tbody>
</table>

### Section 7. Handling and storage

#### Precautions for safe handling

**Protective measures**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Action Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>5X SureSelect Fragmentation Buffer</td>
<td>Put on appropriate personal protective equipment (see Section 8).</td>
</tr>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>Put on appropriate personal protective equipment (see Section 8).</td>
</tr>
</tbody>
</table>
Section 7. Handling and storage

Advice on general occupational hygiene

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Conditions for safe storage, including any incompatibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>5X SureSelect Fragmentation Buffer</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>SureSelect Fragmentation Enzyme</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>Ingredient name</th>
<th>Conditions for safe storage, including any incompatibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>5X SureSelect Fragmentation Buffer</td>
<td>Storage temperature: -20°C (-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>
</tr>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>Storage temperature: -20°C (-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>
</tr>
</tbody>
</table>

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m³ 8 hours.</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
</tr>
</tbody>
</table>

Appropriate engineering controls

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

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.

Individual protection measures
Section 8. Exposure controls and personal protection

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.

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.

Other skin 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.

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.

Section 9. Physical and chemical properties

Appearance


Colour: 5X SureSelect Fragmentation Buffer: Not available. SureSelect Fragmentation Enzyme: Not available.

Odour: 5X SureSelect Fragmentation Buffer: Not available. SureSelect Fragmentation Enzyme: Not available.

Odour threshold: 5X SureSelect Fragmentation Buffer: Not available. SureSelect Fragmentation Enzyme: Not available.

pH: 5X SureSelect Fragmentation Buffer: 7.5 SureSelect Fragmentation Enzyme: 7.5

Melting point: 5X SureSelect Fragmentation Buffer: Not available. SureSelect Fragmentation Enzyme: Not available.

Boiling point: 5X SureSelect Fragmentation Buffer: Not available. SureSelect Fragmentation Enzyme: Not available.

Flash point: 5X SureSelect Fragmentation Buffer: Not available. SureSelect Fragmentation Enzyme: Not available.
Section 9. Physical and chemical properties

Evaporation rate: 5X SureSelect Fragmentation Buffer
SureSelect Fragmentation Enzyme
Not available.

Flammability (solid, gas): 5X SureSelect Fragmentation Buffer
SureSelect Fragmentation Enzyme
Not applicable.

Lower and upper explosive (flammable) limits: 5X SureSelect Fragmentation Buffer
SureSelect Fragmentation Enzyme
Not available.

Vapour pressure: 5X SureSelect Fragmentation Buffer
SureSelect Fragmentation Enzyme
Not available.

Vapour density: 5X SureSelect Fragmentation Buffer
SureSelect Fragmentation Enzyme
Not available.

Relative density: 5X SureSelect Fragmentation Buffer
SureSelect Fragmentation Enzyme
Not available.

Solubility: 5X SureSelect Fragmentation Buffer
SureSelect Fragmentation Enzyme
Easily soluble in the following materials: cold water and hot water.

Partition coefficient: n-octanol/water: 5X SureSelect Fragmentation Buffer
SureSelect Fragmentation Enzyme
Not available.

Auto-ignition temperature: 5X SureSelect Fragmentation Buffer
SureSelect Fragmentation Enzyme
Not available.

Decomposition temperature: 5X SureSelect Fragmentation Buffer
SureSelect Fragmentation Enzyme
Not available.

Viscosity: 5X SureSelect Fragmentation Buffer
SureSelect Fragmentation Enzyme
Not available.

Section 10. Stability and reactivity

Reactivity: 5X SureSelect Fragmentation Buffer
SureSelect Fragmentation Enzyme
No specific test data related to reactivity available for this product or its ingredients.

Chemical stability: 5X SureSelect Fragmentation Buffer
SureSelect Fragmentation Enzyme
The product is stable.
Section 10. Stability and reactivity

Possibility of hazardous reactions:
- **5X SureSelect Fragmentation Buffer**: Under normal conditions of storage and use, hazardous reactions will not occur.
- **SureSelect Fragmentation Enzyme**: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid:
- **5X SureSelect Fragmentation Buffer**: No specific data.
- **SureSelect Fragmentation Enzyme**: No specific data.

Incompatible materials:
- **5X SureSelect Fragmentation Buffer**: May react or be incompatible with oxidising materials.
- **SureSelect Fragmentation Enzyme**: May react or be incompatible with oxidising materials.

Hazardous decomposition products:
- **5X SureSelect Fragmentation Buffer**: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- **SureSelect Fragmentation Enzyme**: 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>SureSelect Fragmentation Enzyme</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>12600 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Glycerol</td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

Sensitisation
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
# Section 11. Toxicological information

**Information on likely routes of exposure**

- **Inhalation**:
  - 5X SureSelect Fragmentation Buffer
  - SureSelect Fragmentation Enzyme
  - No known significant effects or critical hazards.

- **Ingestion**:
  - 5X SureSelect Fragmentation Buffer
  - SureSelect Fragmentation Enzyme
  - No known significant effects or critical hazards.

- **Skin contact**:
  - 5X SureSelect Fragmentation Buffer
  - SureSelect Fragmentation Enzyme
  - No known significant effects or critical hazards.

**Potential acute health effects**

- **Eye contact**:
  - 5X SureSelect Fragmentation Buffer
  - SureSelect Fragmentation Enzyme
  - No known significant effects or critical hazards.

- **Inhalation**:
  - 5X SureSelect Fragmentation Buffer
  - SureSelect Fragmentation Enzyme
  - No known significant effects or critical hazards.

- **Skin contact**:
  - 5X SureSelect Fragmentation Buffer
  - SureSelect Fragmentation Enzyme
  - No known significant effects or critical hazards.

- **Ingestion**:
  - 5X SureSelect Fragmentation Buffer
  - SureSelect Fragmentation Enzyme
  - No known significant effects or critical hazards.

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

- **Eye contact**:
  - 5X SureSelect Fragmentation Buffer
  - SureSelect Fragmentation Enzyme
  - No specific data.

- **Inhalation**:
  - 5X SureSelect Fragmentation Buffer
  - SureSelect Fragmentation Enzyme
  - No specific data.

- **Skin contact**:
  - 5X SureSelect Fragmentation Buffer
  - SureSelect Fragmentation Enzyme
  - No specific data.

- **Ingestion**:
  - 5X SureSelect Fragmentation Buffer
  - SureSelect Fragmentation Enzyme
  - No specific data.

**Potential chronic health effects**

- **General**:
  - 5X SureSelect Fragmentation Buffer
  - SureSelect Fragmentation Enzyme
  - No known significant effects or critical hazards.
Section 11. Toxicological information

**Carcinogenicity**
- 5X SureSelect Fragmentation Buffer: No known significant effects or critical hazards.
- SureSelect Fragmentation Enzyme: No known significant effects or critical hazards.

**Mutagenicity**
- 5X SureSelect Fragmentation Buffer: No known significant effects or critical hazards.
- SureSelect Fragmentation Enzyme: No known significant effects or critical hazards.

**Teratogenicity**
- 5X SureSelect Fragmentation Buffer: No known significant effects or critical hazards.
- SureSelect Fragmentation Enzyme: No known significant effects or critical hazards.

**Developmental effects**
- 5X SureSelect Fragmentation Buffer: No known significant effects or critical hazards.
- SureSelect Fragmentation Enzyme: No known significant effects or critical hazards.

**Fertility effects**
- 5X SureSelect Fragmentation Buffer: No known significant effects or critical hazards.
- SureSelect Fragmentation Enzyme: No known significant effects or critical hazards.

Numerical measures of toxicity

**Acute toxicity estimates**
Not available.

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>SureSelect Fragmentation Enzyme</td>
<td>Acute LC50 54000 mg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Persistence and degradability**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Dose</th>
<th>Inoculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>301D Ready Biodegradability - Closed Bottle Test</td>
<td>93 % - 30 days</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Bioaccumulative potential**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP_{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>-1.76</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Mobility in soil**
- Soil/water partition coefficient (K_{oc}): Not available.
Section 12. Ecological information

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. 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

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

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 Annex II of Marpol and the IBC Code: Not available.

Section 15. Regulatory information

Standard Uniform Schedule of Medicine 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 (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
Not listed.

Inventory list
Australia: Not determined.
Canada: Not determined.
China: All components are listed or exempted.
Europe: All components are listed or exempted.
Japan: Japan inventory (ENCS): Not determined.
Japan inventory (ISHL): Not determined.
Malaysia: Not determined.
Section 15. Regulatory information

<table>
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<tr>
<th>Country</th>
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<tbody>
<tr>
<td>New Zealand</td>
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<td>Philippines</td>
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<td>Republic of Korea</td>
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<td>Taiwan</td>
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<tr>
<td>Thailand</td>
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<td>Turkey</td>
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<td>Viet Nam</td>
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</table>

Section 16. Any other relevant information

History

| Date of issue/Date of revision | : 31/05/2018 |
| Date of previous issue | : No previous validation |
| Version | : 1 |

Key to abbreviations

- ADG = Australian Dangerous Goods
- 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
- NOHSC = National Occupational Health and Safety Commission
- SUSMP = Standard Uniform Schedule of Medicine and Poisons
- UN = United Nations

Procedure used to derive the classification

<table>
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<th>Classification</th>
<th>Justification</th>
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References

- Not available.

Indicates information that has changed from previously issued version.

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