Section 1. Identification

Product identifier : SureSelect XT HS Enzymatic Fragmentation Kit, 16 Reactions, Part number 5191-4079

Part no. (chemical kit) : 5191-4079

Part no. :
- 5X SureSelect Fragmentation Buffer 5191-4075
- SureSelect Fragmentation Enzyme 5191-4076

Material uses :
For Research Use Only. Not for use in diagnostic procedures.

5X SureSelect Fragmentation Buffer 0.032 ml
SureSelect Fragmentation Enzyme 0.016 ml

Supplier/Manufacturer :
Agilent Technologies, Inc.
5301 Stevens Creek Blvd
Santa Clara, CA 95051, USA
800-227-9770

Emergency telephone number (with hours of operation) :
CHEMTREC®: 1-800-424-9300

Section 2. Hazard identification

Classification of the substance or mixture

5X SureSelect Fragmentation Buffer
H361 - TOXIC TO REPRODUCTION (Fertility) - Category 2

SureSelect Fragmentation Enzyme
H320 - EYE IRRITATION - Category 2B

GHS label elements

Hazard pictograms :
5X SureSelect Fragmentation Buffer

Signal word :
5X SureSelect Fragmentation Buffer Warning
SureSelect Fragmentation Enzyme Warning

Hazard statements :
5X SureSelect Fragmentation Buffer H361 - Suspected of damaging fertility.
SureSelect Fragmentation Enzyme H320 - Causes eye irritation.
## Section 2. Hazard identification

### Prevention
- **5X SureSelect Fragmentation Buffer**
  - P201 - Obtain special instructions before use.
  - P202 - Do not handle until all safety precautions have been read and understood.
  - P280 - Wear protective gloves. Wear protective clothing. Wear eye or face protection.

- **SureSelect Fragmentation Enzyme**
  - P264 - Wash hands thoroughly after handling.

### Response
- **5X SureSelect Fragmentation Buffer**
  - P308 + P313 - IF exposed or concerned: Get medical attention.
  - P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - P337 + P313 - If eye irritation persists: Get medical attention.

- **SureSelect Fragmentation Enzyme**
  - P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - P337 + P313 - If eye irritation persists: Get medical attention.

### Storage
- **5X SureSelect Fragmentation Buffer**
  - P405 - Store locked up.

- **SureSelect Fragmentation Enzyme**
  - Not applicable.

### Disposal
- **5X SureSelect Fragmentation Buffer**
  - P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

- **SureSelect Fragmentation Enzyme**
  - Not applicable.

### Supplemental label elements
- **5X SureSelect Fragmentation Buffer**
  - None known.

- **SureSelect Fragmentation Enzyme**
  - None known.

### Other hazards which do not result in classification
- **5X SureSelect Fragmentation Buffer**
  - Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10%
  - Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%

- **SureSelect Fragmentation Enzyme**
  - Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%

### Section 3. Composition/information on ingredients

#### Substance/mixture
- **5X SureSelect Fragmentation Buffer**
  - Mixture

- **SureSelect Fragmentation Enzyme**
  - Mixture

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>% (w/w)</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>5X SureSelect Fragmentation Buffer</td>
<td>&lt;2.5</td>
<td>7647-17-8</td>
</tr>
<tr>
<td>Caesium chloride</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>≥50 - ≤75</td>
<td>56-81-5</td>
</tr>
<tr>
<td>Glycerol</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

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eye contact</strong></td>
<td>5X SureSelect Fragmentation Buffer&lt;br&gt;Wash out mouth with water. Remove dentures if any. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs. &lt;br&gt;<strong>SureSelect Fragmentation Enzyme</strong>&lt;br&gt;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. If irritation persists, get medical attention.</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>5X SureSelect Fragmentation Buffer&lt;br&gt;Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.&lt;br&gt;<strong>SureSelect Fragmentation Enzyme</strong>&lt;br&gt;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.</td>
</tr>
<tr>
<td><strong>Skin contact</strong></td>
<td>5X SureSelect Fragmentation Buffer&lt;br&gt;Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.&lt;br&gt;<strong>SureSelect Fragmentation Enzyme</strong>&lt;br&gt;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.</td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>5X SureSelect Fragmentation Buffer&lt;br&gt;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. 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.&lt;br&gt;<strong>SureSelect Fragmentation Enzyme</strong>&lt;br&gt;Wash out mouth with water. Remove dentures if any.</td>
</tr>
</tbody>
</table>
### Section 4. First-aid measures

**Enzyme**

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

**Most important symptoms/effects, acute and delayed**

<table>
<thead>
<tr>
<th>Potential acute health effects</th>
</tr>
</thead>
</table>
| **Eye contact** | 5X SureSelect Fragmentation Buffer  
SureSelect Fragmentation Enzyme | No known significant effects or critical hazards.  
Causes eye irritation. |
| **Inhalation** | 5X SureSelect Fragmentation Buffer  
SureSelect Fragmentation Enzyme | No known significant effects or critical hazards.  
No known significant effects or critical hazards. |
| **Skin contact** | 5X SureSelect Fragmentation Buffer  
SureSelect Fragmentation Enzyme | No known significant effects or critical hazards.  
No known significant effects or critical hazards. |
| **Ingestion** | 5X SureSelect Fragmentation Buffer  
SureSelect Fragmentation Enzyme | No known significant effects or critical hazards.  
No known significant effects or critical hazards. |

**Over-exposure signs/symptoms**

<table>
<thead>
<tr>
<th>Potential acute health effects</th>
</tr>
</thead>
</table>
| **Eye contact** | 5X SureSelect Fragmentation Buffer  
SureSelect Fragmentation Enzyme | No specific data.  
Adverse symptoms may include the following:  
irritation  
watering  
redness |
| **Inhalation** | 5X SureSelect Fragmentation Buffer  
SureSelect Fragmentation Enzyme | Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations  
No specific data. |
| **Skin contact** | 5X SureSelect Fragmentation Buffer  
SureSelect Fragmentation Enzyme | Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations  
No specific data. |
Section 4. First-aid measures

**Ingestion**
- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

Adverse symptoms may include the following:
- reduced fetal weight
- increase in fetal deaths
- skeletal malformations

**Notes to physician**
- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments**
- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

No specific treatment.

**Protection of first-aiders**
- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

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.

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

**Notes to physician**
- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments**
- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

No specific treatment.

**Protection of first-aiders**
- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

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. Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing media**
- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media**
- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

None known.

**Specific hazards arising from the chemical**
- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous thermal decomposition products**
- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

Decomposition products may include the following materials:
- halogenated compounds
- metal oxide/oxides
- carbon dioxide
- carbon monoxide
**Section 5. Fire-fighting measures**

<table>
<thead>
<tr>
<th>Special protective actions for fire-fighters</th>
<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>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Special protective equipment for fire-fighters</th>
<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>
<td></td>
</tr>
</tbody>
</table>

**Section 6. Accidental release measures**

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

<table>
<thead>
<tr>
<th>For non-emergency personnel</th>
<th>5X SureSelect Fragmentation Buffer</th>
<th>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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.</th>
</tr>
</thead>
<tbody>
<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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>For emergency responders</th>
<th>5X SureSelect Fragmentation Buffer</th>
<th>If specialized 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;.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>If specialized 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>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environmental precautions</th>
<th>5X SureSelect Fragmentation Buffer</th>
<th>Avoid dispersal of spilled 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).</th>
</tr>
</thead>
<tbody>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>Avoid dispersal of spilled 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>
<td></td>
</tr>
</tbody>
</table>

**Methods and materials for containment and cleaning up**
Section 6. Accidental release measures

Methods for cleaning up

<table>
<thead>
<tr>
<th>Product</th>
<th>Measures</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

<table>
<thead>
<tr>
<th>Protective measures</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>5X SureSelect Fragmentation Buffer</td>
<td>Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.</td>
</tr>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. 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.</td>
</tr>
</tbody>
</table>

Advice on general occupational hygiene

| 5X SureSelect Fragmentation Buffer         | 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. |
| SureSelect Fragmentation Enzyme            | 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. |
Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities:

- 5X SureSelect Fragmentation Buffer
  - 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. Store locked up. 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

- SureSelect Fragmentation Enzyme
  - 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/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>CA Alberta Provincial (Canada, 4/2009). 8 hrs OEL: 10 mg/m³ 8 hours. Form: Mist</td>
</tr>
<tr>
<td>Glycerol</td>
<td>CA British Columbia Provincial (Canada, 6/2017). TWA: 10 mg/m³ 8 hours. Form: Mist</td>
</tr>
<tr>
<td></td>
<td>CA Quebec Provincial (Canada, 1/2014). TWA: 20 mg/m³ 15 minutes. Form: mist</td>
</tr>
<tr>
<td></td>
<td>CA Saskatchewan Provincial (Canada, 7/2013). TWA: 10 mg/m³ 8 hours. Form: mist</td>
</tr>
<tr>
<td></td>
<td>CA Ontario Provincial (Canada, 1/2018). TWA: 10 mg/m³ 8 hours. Form: mist</td>
</tr>
</tbody>
</table>

Appropriate engineering controls:
If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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 8. Exposure controls/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: chemical splash goggles.

**Skin 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.

**Hand protection**
Respiratory protection:

**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**

<table>
<thead>
<tr>
<th>Physical state</th>
<th>5X SureSelect Fragmentation Buffer</th>
<th>Liquid.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SureSelect Fragmentation Enzyme</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>5X SureSelect Fragmentation Buffer</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td>SureSelect Fragmentation Enzyme</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odor</td>
<td>5X SureSelect Fragmentation Buffer</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td>SureSelect Fragmentation Enzyme</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>5X SureSelect Fragmentation Buffer</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td>SureSelect Fragmentation Enzyme</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>5X SureSelect Fragmentation Buffer</td>
<td>7.5</td>
</tr>
<tr>
<td></td>
<td>SureSelect Fragmentation Enzyme</td>
<td>7.5</td>
</tr>
</tbody>
</table>

*Date of issue/Date of revision: 03/26/2019  Date of previous issue: 05/31/2018  Version: 2*
## Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>5X SureSelect Fragmentation Buffer</th>
<th>SureSelect Fragmentation Enzyme</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Melting point</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Boiling point</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Lower and upper explosive (flammable) limits</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>Easily soluble in the following materials: cold water and hot water.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Partition coefficient: n-octanol/water</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

**Date of issue/Date of revision**: 03/26/2019  
**Date of previous issue**: 05/31/2018  
**Version**: 2
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.

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

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

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

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>5X SureSelect Fragmentation Buffer Caesium chloride</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2004 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>SureSelect Fragmentation Enzyme Glycerol</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>12600 mg/kg</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 Glycerol</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

Sensitization

Date of issue/Date of revision : 03/26/2019  Date of previous issue : 05/31/2018  Version : 2 11/16
Section 11. Toxicological information

Not available.

**Mutagenicity**

**Conclusion/Summary** : Not available.

**Carcinogenicity**

**Conclusion/Summary** : Not available.

**Reproductive toxicity**

**Conclusion/Summary** : Not available.

**Teratogenicity**

**Conclusion/Summary** : Not available.

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

Not available.

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

Not available.

**Aspiration hazard**

Not available.

**Information on the likely routes of exposure**

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

**Potential acute health effects**

**Eye contact**

- **5X SureSelect Fragmentation Buffer**
  - No known significant effects or critical hazards.
- **SureSelect Fragmentation Enzyme**
  - Causes eye irritation.

**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.

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

**Eye contact**

- **5X SureSelect Fragmentation Buffer**
  - No specific data.
- **SureSelect Fragmentation Enzyme**
  - Adverse symptoms may include the following:
    - irritation
    - watering
    - redness
# Section 11. Toxicological information

| Inhalation | 5X SureSelect Fragmentation Buffer | Adverse symptoms may include the following: 
|            | SureSelect Fragmentation Enzyme | reduced fetal weight 
|            |                                | increase in fetal deaths 
|            |                                | skeletal malformations 
| Skin contact | 5X SureSelect Fragmentation Buffer | Adverse symptoms may include the following: 
|            | SureSelect Fragmentation Enzyme | reduced fetal weight 
|            |                                | increase in fetal deaths 
|            |                                | skeletal malformations 
| Ingestion | 5X SureSelect Fragmentation Buffer | Adverse symptoms may include the following: 
|            | SureSelect Fragmentation Enzyme | reduced fetal weight 
|            |                                | increase in fetal deaths 
|            |                                | skeletal malformations 

## Delayed and immediate effects and also 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 | 5X SureSelect Fragmentation Buffer | No known significant effects or critical hazards. 
| Carcinogenicity | 5X SureSelect Fragmentation Buffer | No known significant effects or critical hazards. 
| Mutagenicity | 5X SureSelect Fragmentation Buffer | No known significant effects or critical hazards. 
| Teratogenicity | 5X SureSelect Fragmentation Buffer | No known significant effects or critical hazards. 
| Developmental effects | 5X SureSelect Fragmentation Buffer | No known significant effects or critical hazards. 

**Date of issue/Date of revision**: 03/26/2019  
**Date of previous issue**: 05/31/2018  
**Version**: 2
Section 11. Toxicological information

Fertility effects:
- 5X SureSelect Fragmentation Buffer
  Suspected of damaging fertility.
- SureSelect Fragmentation Enzyme
  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 (vapors) (mg/l)</th>
<th>Inhalation (dusts and mists) (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5X SureSelect Fragmentation Buffer</td>
<td>119030.6</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>5X SureSelect Fragmentation Buffer</td>
<td>2004</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Caesium chloride</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>12600</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Glycerol</td>
<td>N/A</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>5X SureSelect Fragmentation Buffer</td>
<td>Acute EC50 135000 µg/l Fresh water</td>
<td>Crustaceans - Eudiaptomus padanus ssp. padanus - Adult</td>
<td>48 hours</td>
</tr>
<tr>
<td>Caesium chloride</td>
<td>Acute LC50 7400 µg/l Fresh water</td>
<td>Daphnia - Daphnia hyalina - Adult</td>
<td>48 hours</td>
</tr>
<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&lt;sub&gt;ow&lt;/sub&gt;</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

Date of issue/Date of revision: 03/26/2019  Date of previous issue: 05/31/2018  Version: 2
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 minimized 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

TDG / IMDG / IATA : Not regulated.

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.

Section 15. Regulatory information

Canadian lists

Canadian NPRI : None of the components are listed.

CEPA Toxic substances : None of the components are listed.

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.
Section 15. Regulatory information

<table>
<thead>
<tr>
<th>Country</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Europe</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Japan</td>
<td>Japan inventory (ENCS): Not determined.</td>
</tr>
<tr>
<td></td>
<td>Japan inventory (ISHL): Not determined.</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Philippines</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Taiwan</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Thailand</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Turkey</td>
<td>Not determined.</td>
</tr>
<tr>
<td>United States</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>Not determined.</td>
</tr>
</tbody>
</table>

Section 16. Other information

**History**

- Date of issue/Date of revision: 03/26/2019
- Date of previous issue: 05/31/2018
- Version: 2

**Key to abbreviations**

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- HPR = Hazardous Products Regulations
- 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
- UN = United Nations

**Procedure used to derive the classification**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>5X SureSelect Fragmentation Buffer</td>
<td>Calculation method</td>
</tr>
<tr>
<td>TOXIC TO REPRODUCTION (Fertility) - Category 2</td>
<td></td>
</tr>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>Calculation method</td>
</tr>
<tr>
<td>EYE IRRITATION - Category 2B</td>
<td></td>
</tr>
</tbody>
</table>

**References**

- Not available.

**Notice to reader**

Disclaimer: The information contained in this document is based on Agilent’s state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.