## SAFETY DATA SHEET

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

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

#### 1.1 Product identifier

<table>
<thead>
<tr>
<th>Product name</th>
<th>Part no. (chemical kit)</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SureSelect XT HS Enzymatic Fragmentation Kit, 96 Reactions, Part Number 5191-4080</td>
<td>5191-4080</td>
<td>5X SureSelect Fragmentation Buffer 5191-4077, SureSelect Fragmentation Enzyme 5191-4078</td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>Material</th>
<th>Part no. (chemical kit)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>5X SureSelect Fragmentation Buffer</td>
<td>5191-4077</td>
<td>0.192 ml</td>
</tr>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>5191-4078</td>
<td>0.096 ml</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**: 5X SureSelect Fragmentation Buffer, SureSelect Fragmentation Enzyme

**Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**
Not classified.

**Ingredients of unknown toxicity**: 5X SureSelect Fragmentation Buffer, Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%
SureSelect Fragmentation Enzyme, Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 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

**Date of issue/Date of revision**: 31/05/2018
SECTION 2: Hazards identification

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

No signal word.

Hazard statements:
- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

No known significant effects or critical hazards.

Precautionary statements:

Prevention:
- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

Not applicable.

Response:
- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

Not applicable.

Storage:
- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

Not applicable.

Disposal:
- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

Not applicable.

Hazardous ingredients:
- 5X SureSelect Fragmentation Buffer

Not applicable.

Supplemental label elements:
- 5X SureSelect Fragmentation Buffer

Safety data sheet available on request.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles:
- 5X SureSelect Fragmentation Buffer

Not applicable.

Special packaging requirements:

Tactile warning of danger:
- 5X SureSelect Fragmentation Buffer

Not applicable.

2.3 Other hazards

Other hazards which do not result in classification:
- 5X SureSelect Fragmentation Buffer

None known.

SECTION 3: Composition/information on ingredients

3.1 Substances:
- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

Mixture

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## SECTION 3: Composition/information on ingredients

<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>
</table>
| 5X SureSelect Fragmentation Buffer | EC: 231-600-2  
Caesium chloride  
CAS: 7647-17-8 | <2.5 | Repr. 2, H361f (Fertility, Male)  
(oral)  
Aquatic Chronic 2, H411 | [1] |
| SureSelect Fragmentation Enzyme | REACH #: Annex V  
Glycerol  
EC: 200-289-5  
CAS: 56-81-5 | ≥50 - ≤75 | Not classified. | [2] |

### 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
6. Additional disclosure due to company policy

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### Eye contact

5X SureSelect Fragmentation Buffer  
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  
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  
SureSelect Fragmentation Enzyme  
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

#### Ingestion

5X SureSelect Fragmentation Buffer  
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.

---

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### SECTION 4: First aid measures

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

#### 4.2 Most important symptoms and effects, both acute and delayed

**Potential acute health effects**

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>5X SureSelect Fragmentation Buffer</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SureSelect Fragmentation Enzyme</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>5X SureSelect Fragmentation Buffer</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SureSelect Fragmentation Enzyme</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skin contact</th>
<th>5X SureSelect Fragmentation Buffer</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SureSelect Fragmentation Enzyme</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingestion</th>
<th>5X SureSelect Fragmentation Buffer</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SureSelect Fragmentation Enzyme</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

**Over-exposure signs/symptoms**

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>5X SureSelect Fragmentation Buffer</th>
<th>No specific data.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SureSelect Fragmentation Enzyme</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>5X SureSelect Fragmentation Buffer</th>
<th>No specific data.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SureSelect Fragmentation Enzyme</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skin contact</th>
<th>5X SureSelect Fragmentation Buffer</th>
<th>No specific data.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SureSelect Fragmentation Enzyme</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingestion</th>
<th>5X SureSelect Fragmentation Buffer</th>
<th>No specific data.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SureSelect Fragmentation Enzyme</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

#### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician**

<table>
<thead>
<tr>
<th>5X SureSelect Fragmentation Buffer</th>
<th>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</td>
</tr>
</tbody>
</table>

**Specific treatments**

<table>
<thead>
<tr>
<th>5X SureSelect Fragmentation Buffer</th>
<th>No specific treatment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>No specific treatment.</td>
</tr>
</tbody>
</table>
SECTION 5: Firefighting measures

5.1 Extinguishing media

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>Use an extinguishing agent suitable for the surrounding fire.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5X SureSelect Fragmentation Buffer</td>
<td>5X SureSelect Fragmentation Buffer</td>
</tr>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>SureSelect Fragmentation Enzyme</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unsuitable extinguishing media</th>
<th>None known.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5X SureSelect Fragmentation Buffer</td>
<td>5X SureSelect Fragmentation Buffer</td>
</tr>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>SureSelect Fragmentation Enzyme</td>
</tr>
</tbody>
</table>

5.2 Special hazards arising from the substance or mixture

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

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

5.3 Advice for firefighters

<table>
<thead>
<tr>
<th>Special precautions for fire-fighters</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>5X SureSelect Fragmentation Buffer</td>
<td>5X SureSelect Fragmentation Buffer</td>
</tr>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>SureSelect Fragmentation Enzyme</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Special protective equipment for fire-fighters</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. 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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5X SureSelect Fragmentation Buffer</td>
<td>5X SureSelect Fragmentation Buffer</td>
</tr>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>SureSelect Fragmentation Enzyme</td>
</tr>
</tbody>
</table>

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

<table>
<thead>
<tr>
<th>For non-emergency personnel</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 spilt material. Put on appropriate personal protective equipment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5X SureSelect Fragmentation Buffer</td>
<td>5X SureSelect Fragmentation Buffer</td>
</tr>
<tr>
<td>SureSelect Fragmentation Enzyme</td>
<td>SureSelect Fragmentation Enzyme</td>
</tr>
</tbody>
</table>

| 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. |
|----------------------------|---------------------------------------------------------------|

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SECTION 6: Accidental release measures

For emergency responders:
- 5X SureSelect Fragmentation Buffer: 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".
- SureSelect Fragmentation Enzyme: 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:
- 5X SureSelect Fragmentation Buffer: 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).
- SureSelect Fragmentation Enzyme: 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).

6.3 Methods and material for containment and cleaning up:
- Methods for cleaning up:
  - 5X SureSelect Fragmentation Buffer: 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.
  - SureSelect Fragmentation Enzyme: 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.

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:
  - 5X SureSelect Fragmentation Buffer: Put on appropriate personal protective equipment (see Section 8).
  - SureSelect Fragmentation Enzyme: Put on appropriate personal protective equipment (see Section 8).
- 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.

7.2 Conditions for safe storage, including any incompatibilities:
- Storage: 

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SECTION 7: Handling and storage

5X SureSelect Fragmentation Buffer

- 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.

SureSelect Fragmentation Enzyme

- 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.

7.3 Specific end use(s)

**Recommendations**

- 5X SureSelect Fragmentation Buffer: Industrial applications, Professional applications.
- SureSelect Fragmentation Enzyme: Industrial applications, Professional applications.

**Industrial sector specific solutions**

- 5X SureSelect Fragmentation Buffer: Not applicable.
- SureSelect Fragmentation Enzyme: 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>SureSelect Fragmentation Enzyme</td>
<td>EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 10 mg/m³ 8 hours. Form: Mist</td>
</tr>
<tr>
<td>Glycerol</td>
<td></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.

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SECTION 8: Exposure controls/personal protection

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.

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.

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

Physical state: 5X SureSelect Fragmentation Buffer Liquid. SureSelect Fragmentation Enzyme Liquid.

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

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### 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>Melting point/freezing point</td>
<td>Not available.</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 applicable.</td>
<td>Not applicable.</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>
<tr>
<td>Solubility(ies)</td>
<td>Easily soluble in the following materials: cold water and hot water.</td>
<td>Easily 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>
</tbody>
</table>

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**SECTION 9: Physical and chemical properties**

**Explosive properties**

- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

Not available.

**Oxidising properties**

- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

Not available.

**9.2 Other information**

No additional information.

**SECTION 10: Stability and reactivity**

**10.1 Reactivity**

- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

No specific test data related to reactivity available for this product or its ingredients.

**10.2 Chemical stability**

- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

The product is stable.

**10.3 Possibility of hazardous reactions**

- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid**

- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

No specific data.

**10.5 Incompatible materials**

- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

May react or be incompatible with oxidising materials.

**10.6 Hazardous decomposition products**

- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme

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**

<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</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2004 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Irritation/Corrosion**

Conclusion/Summary: Not available.

**Sensitiser**

Conclusion/Summary: Not available.

**Date of issue/Date of revision**

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SECTION 11: Toxicological information

**Carcinogenicity**
Conclusion/Summary: Not available.

**Mutagenicity**
Conclusion/Summary: Not available.

**Reproductive toxicity**
Conclusion/Summary: Not available.

**Teratogenicity**
Conclusion/Summary: Not available.

**Information on likely routes of exposure**

<table>
<thead>
<tr>
<th>Routes of entry</th>
<th>5X SureSelect Fragmentation Buffer</th>
<th>Routes of entry anticipated: Oral, Dermal, Inhalation.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SureSelect Fragmentation Enzyme</td>
<td></td>
</tr>
</tbody>
</table>

**Potential acute health effects**

**Inhalation**
- 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.

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

**Eye contact**
- 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**

**Inhalation**
- 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.

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

**Eye contact**
- 5X SureSelect Fragmentation Buffer: No specific data.
- SureSelect Fragmentation Enzyme: 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**
- Not available.

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SECTION 11: Toxicological information

**Potential immediate effects:** Not available.

**Potential delayed effects:** Not available.

**Potential chronic health effects**

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

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

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

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

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

**Fertility effects:**
- 5X SureSelect Fragmentation Buffer
- SureSelect Fragmentation Enzyme
  - 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>5X SureSelect Fragmentation Buffer, Caesium chloride</td>
<td>Acute EC50 135000 μg/l Fresh water, Acute LC50 7400 μg/l Fresh water</td>
<td>Crustaceans - Eudiaptomus padanus ssp. padanus - Adult, Daphnia - Daphnia hyalina - Adult</td>
<td>48 hours, 48 hours</td>
</tr>
</tbody>
</table>

**12.2 Persistence and degradability**

Not available.

**12.3 Bioaccumulative potential**

Not available.

**12.4 Mobility in soil**

<table>
<thead>
<tr>
<th>Soil/water partition coefficient ($K_{OC}$)</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**

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SECTION 12: Ecological information

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

Product

Methods of disposal : 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.

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

Packaging

Methods of disposal : 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. Empty containers or liners may retain some product residues. Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

ADR/RID / IMDG / IATA : Not regulated.

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

5X SureSelect Fragmentation Buffer : Not applicable.

SureSelect Fragmentation Enzyme : Not applicable.

Other EU regulations

Ozone depleting substances (1005/2009/EU)

Not listed.

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SECTION 15: Regulatory information

**Prior Informed Consent (PIC) (649/2012/EU)**
Not listed.

**Seveso Directive**
This product is not controlled under the Seveso Directive.

**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**

<table>
<thead>
<tr>
<th>Country</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Not determined</td>
</tr>
<tr>
<td>Canada</td>
<td>Not determined</td>
</tr>
<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>
</tbody>
</table>
| 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                   | All components are listed or exempted. |
| Thailand                 | Not determined                   |
| Turkey                   | Not determined                   |
| United States            | All components are listed or exempted. |
| 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>Not classified.</td>
<td></td>
</tr>
</tbody>
</table>

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

SECTION 16: Other information

Full text of abbreviated H statements

5X SureSelect Fragmentation Buffer
H361f (oral)
H411

Suspected of damaging fertility if swallowed.
Toxic to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

5X SureSelect Fragmentation Buffer
Aquatic Chronic 2, H411
Repr. 2, H361f (oral)

LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
REPRODUCTIVE TOXICITY (Fertility) (oral) - Category 2

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

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