Section 1. Identification

1.1 Product identifier
Product name: XL1-Blue Electroporation-Competent Cells, Part Number 200228
Part no. (chemical kit): 200228
Part no.: pUC 18 DNA Control Plasmid 200231-42
XL1-Blue electroporation competent cells 200228-41
Validation date: 3/23/2020

1.2 Relevant identified uses of the substance or mixture and uses advised against
Material uses: Analytical reagent.
pUC 18 DNA Control Plasmid 0.01 ml (0.1 ng/µl)
XL1-Blue electroporation competent cells 5 x 0.1 ml

1.3 Details of the supplier of the safety data sheet
Supplier/Manufacturer: Agilent Technologies, Inc.
5301 Stevens Creek Blvd
Santa Clara, CA 95051, USA
800-227-9770

1.4 Emergency telephone number
In case of emergency: CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

2.1 Classification of the substance or mixture
OSHA/HCS status: pUC 18 DNA Control Plasmid
While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

XL1-Blue electroporation competent cells
While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture
Not classified.

2.2 GHS label elements
Signal word: No signal word.
No signal word.

Hazard statements: pUC 18 DNA Control Plasmid
No known significant effects or critical hazards.

XL1-Blue electroporation competent cells
No known significant effects or critical hazards.

Precautionary statements

Date of issue: 03/23/2020
Section 2. Hazards identification

| Prevention | : | pUC 18 DNA Control Plasmid | Not applicable. |
|            | : | XL1-Blue electroporation competent cells | Not applicable. |

| Response    | : | pUC 18 DNA Control Plasmid | Not applicable. |
|            | : | XL1-Blue electroporation competent cells | Not applicable. |

| Storage     | : | pUC 18 DNA Control Plasmid | Not applicable. |
|            | : | XL1-Blue electroporation competent cells | Not applicable. |

| Disposal    | : | pUC 18 DNA Control Plasmid | Not applicable. |
|            | : | XL1-Blue electroporation competent cells | Not applicable. |

| Supplemental label elements | : | pUC 18 DNA Control Plasmid | None known. |
|                           | : | XL1-Blue electroporation competent cells | None known. |

2.3 Other hazards

| Hazards not otherwise classified | pUC 18 DNA Control Plasmid | None known. |
|                                  | XL1-Blue electroporation competent cells | None known. |

Section 3. Composition/information on ingredients

| Substance/mixture | : | pUC 18 DNA Control Plasmid | Mixture |
|                  | : | XL1-Blue electroporation competent cells | Mixture |

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL1-Blue electroporation competent cells</td>
<td>&lt;10</td>
<td>56-81-5</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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

4.1 Description of necessary first aid measures

| Eye contact | : | pUC 18 DNA Control Plasmid | 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. |
|            | : | XL1-Blue electroporation competent cells | 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 | : | pUC 18 DNA Control Plasmid | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. |
|           | : | XL1-Blue electroporation competent cells | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. |
Section 4. First aid measures

<table>
<thead>
<tr>
<th>Skin contact</th>
<th>XL1-Blue electroporation competent cells</th>
<th>pUC 18 DNA Control Plasmid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingestion</td>
<td>XL1-Blue electroporation competent cells</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact: pUC 18 DNA Control Plasmid
- XL1-Blue electroporation competent cells
  - No known significant effects or critical hazards.

Inhalation: pUC 18 DNA Control Plasmid
- XL1-Blue electroporation competent cells
  - No known significant effects or critical hazards.

Skin contact: pUC 18 DNA Control Plasmid
- XL1-Blue electroporation competent cells
  - No known significant effects or critical hazards.

Ingestion: pUC 18 DNA Control Plasmid
- XL1-Blue electroporation competent cells
  - No known significant effects or critical hazards.

4.3 Indication of immediate medical attention and special treatment needed, if necessary
## Section 4. First aid measures

**Notes to physician**: pUC 18 DNA Control Plasmid

- XL1-Blue electroporation competent cells
  - Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments**: pUC 18 DNA Control Plasmid

- XL1-Blue electroporation competent cells
  - No specific treatment.

**Protection of first-aiders**: pUC 18 DNA Control Plasmid

- XL1-Blue electroporation competent cells
  - No action shall be taken involving any personal risk or without suitable training.

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

- **Suitable extinguishing media**: pUC 18 DNA Control Plasmid
  - XL1-Blue electroporation competent cells
    - Use an extinguishing agent suitable for the surrounding fire.

- **Unsuitable extinguishing media**: pUC 18 DNA Control Plasmid
  - XL1-Blue electroporation competent cells
    - None known.

### 5.2 Special hazards arising from the substance or mixture

- **Specific hazards arising from the chemical**: pUC 18 DNA Control Plasmid
  - XL1-Blue electroporation competent cells
    - In a fire or if heated, a pressure increase will occur and the container may burst.

- **Hazardous thermal decomposition products**: pUC 18 DNA Control Plasmid
  - XL1-Blue electroporation competent cells
    - No specific data.
    - Decomposition products may include the following materials:
      - carbon dioxide
      - carbon monoxide

### 5.3 Advice for firefighters

- **Special protective actions for fire-fighters**: pUC 18 DNA Control Plasmid
  - XL1-Blue electroporation competent cells
    - Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

- **Special protective equipment for fire-fighters**: pUC 18 DNA Control Plasmid
  - XL1-Blue electroporation competent cells
    - Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: pUC 18 DNA Control Plasmid

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. Put on appropriate personal protective equipment.

XL1-Blue electroporation competent cells

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. Put on appropriate personal protective equipment.

For emergency responders

: pUC 18 DNA Control Plasmid

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 "For non-emergency personnel".

XL1-Blue electroporation competent cells

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 "For non-emergency personnel".

6.2 Environmental precautions

: pUC 18 DNA Control Plasmid

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).

XL1-Blue electroporation competent cells

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).

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up

: pUC 18 DNA Control Plasmid

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.

XL1-Blue electroporation competent cells

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.

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures

: pUC 18 DNA Control Plasmid

Put on appropriate personal protective equipment (see Section 8).

XL1-Blue electroporation competent cells

Put on appropriate personal protective equipment (see Section 8).
Section 7. Handling and storage

### Advice on general occupational hygiene

**pUC 18 DNA Control Plasmid**
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.

**XL1-Blue electroporation competent cells**
Potentially biohazardous material. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### Conditions for safe storage, including any incompatibilities

**pUC 18 DNA Control Plasmid**
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.

**XL1-Blue electroporation competent cells**
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.

### Specific end use(s)

**Recommendations**

**Industrial sector specific solutions**

**pUC 18 DNA Control Plasmid**
Industrial applications, Professional applications.

**XL1-Blue electroporation competent cells**
Industrial applications, Professional applications.

Not applicable.

Not applicable.

Section 8. Exposure controls/personal protection

### Control parameters

**Occupational exposure limits**

---

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Section 8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL1-Blue electroporation competent cells</td>
<td>OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hours. Form: Respirable</td>
</tr>
<tr>
<td></td>
<td>fraction</td>
</tr>
<tr>
<td></td>
<td>TWA: 10 mg/m³ 8 hours. Form: Total dust</td>
</tr>
<tr>
<td>Glycerol</td>
<td>OSHA PEL (United States, 5/2018). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction</td>
</tr>
<tr>
<td></td>
<td>TWA: 15 mg/m³ 8 hours. Form: Total dust</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

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

Hygiene measures: Handle as biohazard material (Biosafety level 1). 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

9.1 Information on basic physical and chemical properties

Appearance

Physical state: pUC 18 DNA Control Plasmid Liquid.
XL1-Blue electroporation competent cells Liquid.
Section 9. Physical and chemical properties

- **Color**: pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells Not available.
- **Odor**: pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells Not available.
- **Odor threshold**: pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells Not available.
- **pH**: pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells 7.5 Not available.
- **Melting point**: pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells 0°C (32°F) Not available.
- **Boiling point**: pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells 100°C (212°F) Not available.
- **Flash point**: pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells Not available. Not available.
- **Evaporation rate**: pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells Not available. Not available.
- **Flammability (solid, gas)**: pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells Not applicable. Not applicable.
- **Lower and upper explosive (flammable) limits**: pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells Not available. Not available.
- **Vapor pressure**: pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells Not available. Not available.
- **Vapor density**: pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells Not available. Not available.
- **Relative density**: pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells Not available. Not available.
- **Solubility**: pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water.
- **Partition coefficient: n-octanol/water**: pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells Not available. Not available.
- **Auto-ignition temperature**: pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells Not available. Not available.
- **Decomposition temperature**: pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells Not available. Not available.

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Section 9. Physical and chemical properties

Viscosity

- pUC 18 DNA Control Plasmid: Not available.
- XL1-Blue electroporation competent cells: Not available.

Section 10. Stability and reactivity

10.1 Reactivity

- pUC 18 DNA Control Plasmid: No specific test data related to reactivity available for this product or its ingredients.
- XL1-Blue electroporation competent cells: No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability

- pUC 18 DNA Control Plasmid: The product is stable.
- XL1-Blue electroporation competent cells: The product is stable.

10.3 Possibility of hazardous reactions

- pUC 18 DNA Control Plasmid: Under normal conditions of storage and use, hazardous reactions will not occur.
- XL1-Blue electroporation competent cells: Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

- pUC 18 DNA Control Plasmid: No specific data.
- XL1-Blue electroporation competent cells: No specific data.

10.5 Incompatible materials

- pUC 18 DNA Control Plasmid: May react or be incompatible with oxidizing materials.
- XL1-Blue electroporation competent cells: May react or be incompatible with oxidizing materials.

10.6 Hazardous decomposition products

- pUC 18 DNA Control Plasmid: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- XL1-Blue electroporation competent cells: 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>XL1-Blue electroporation competent cells</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>XL1-Blue electroporation competent cells</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 mg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 mg</td>
<td>-</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sensitization

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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

<table>
<thead>
<tr>
<th>Route</th>
<th>pUC 18 DNA Control Plasmid</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>XL1-Blue electroporation competent cells</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Potential acute health effects

<table>
<thead>
<tr>
<th>Route</th>
<th>pUC 18 DNA Control Plasmid</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>XL1-Blue electroporation competent cells</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

Eye contact

Inhalation

Skin contact

Ingestion

Symptoms related to the physical, chemical and toxicological characteristics

<table>
<thead>
<tr>
<th>Route</th>
<th>pUC 18 DNA Control Plasmid</th>
<th>No specific data.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>XL1-Blue electroporation competent cells</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

 Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

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Section 11. Toxicological information

**Potential immediate effects**
- Not available.

**Potential delayed effects**
- Not available.

**Long term exposure**

**Potential immediate effects**
- Not available.

**Potential delayed effects**
- Not available.

**Potential chronic health effects**

<table>
<thead>
<tr>
<th>General</th>
<th>pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carcinogenicity</td>
<td>pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Teratogenicity</td>
<td>pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Developmental effects</td>
<td>pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Fertility effects</td>
<td>pUC 18 DNA Control Plasmid XL1-Blue electroporation competent cells</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

**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>XL1-Blue electroporation competent cells</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

**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>XL1-Blue electroporation competent cells</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>

**12.2 Persistence and degradability**
Section 12. Ecological information

<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>XL1-Blue electroporation competent cells</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>

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;oc&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL1-Blue electroporation competent cells</td>
<td></td>
<td></td>
<td>low</td>
</tr>
<tr>
<td>Glycerol</td>
<td>-1.76</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

Soil/water partition coefficient (K<sub>OC</sub>) : Not available.

12.5 Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

13.1 Waste treatment methods

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

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

DOT / TDG / Mexico / 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.

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Section 14. Transport information

Transport in bulk according to IMO instruments: Not available.

Section 15. Regulatory information

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

U.S. Federal regulations
Clean Water Act (CWA) 311: Edetic acid

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs): Not listed
Clean Air Act Section 602 Class I Substances: Not listed
Clean Air Act Section 602 Class II Substances: Not listed
DEA List I Chemicals (Precursor Chemicals): Not listed
DEA List II Chemicals (Essential Chemicals): Not listed

SARA 302/304
Composition/information on ingredients
No products were found.

SARA 304 RQ: Not applicable.

SARA 311/312
Classification: pUC 18 DNA Control Plasmid, XL1-Blue electroporation competent cells

Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL1-Blue electroporation competent cells</td>
<td></td>
<td>EYE IRRITATION - Category 2B</td>
</tr>
<tr>
<td>Glycerol</td>
<td>&lt;10</td>
<td></td>
</tr>
</tbody>
</table>

State regulations
Massachusetts: The following components are listed: GLYCERINE MIST
New York: None of the components are listed.
New Jersey: The following components are listed: GLYCERIN; 1,2,3-PROPANETRIOL
Pennsylvania: The following components are listed: 1,2,3-PROPANETRIOL
California Prop. 65
This product does not require a Safe Harbor warning under California Prop. 65.

International regulations
Chemical Weapon Convention List Schedules I, II & III Chemicals
Not listed.

Montreal Protocol
Not listed.

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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>
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<tbody>
<tr>
<td>Australia</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Canada</td>
<td>All components are listed or exempted.</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>
<tr>
<td>Japan</td>
<td>Japan inventory (ENCS): All components are listed or exempted. Japan inventory (ISHL): All components are listed or exempted.</td>
</tr>
<tr>
<td>New Zealand</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Philippines</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Taiwan</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Thailand</td>
<td>Not determined.</td>
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<tr>
<td>Turkey</td>
<td>Not determined.</td>
</tr>
<tr>
<td>United States</td>
<td>All components are active or exempted.</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>All components are listed or exempted.</td>
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Section 16. Other information

History

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<tr>
<th>Field</th>
<th>Details</th>
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<tbody>
<tr>
<td>Date of issue</td>
<td>03/23/2020</td>
</tr>
<tr>
<td>Date of previous issue</td>
<td>02/15/2018</td>
</tr>
<tr>
<td>Version</td>
<td>6</td>
</tr>
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Key to abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>ATE</td>
<td>Acute Toxicity Estimate</td>
</tr>
<tr>
<td>BCF</td>
<td>Bioconcentration Factor</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System of Classification and Labelling of Chemicals</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IBC</td>
<td>Intermediate Bulk Container</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods</td>
</tr>
<tr>
<td>LogPow</td>
<td>Logarithm of the octanol/water partition coefficient</td>
</tr>
<tr>
<td>N/A</td>
<td>Not available</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
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</table>

Procedure used to derive the classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not classified.</td>
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</table>

Notice to reader

Indicates information that has changed from previously issued version.

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