SAFETY DATA SHEET
BL21-Gold(DE3) Competent Cells, Part Number 230132

Section 1. Identification

Product identifier : BL21-Gold(DE3) Competent Cells, Part Number 230132
Part No. (Chemical Kit) : 230132
Part No. : BL21-Gold(DE3) Competent Cells 230132-41
pUC 18 DNA Control Plasmid 200231-42

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

Analytical reagent.
BL21-Gold(DE3) Competent Cells 1 ml (10 x 0.1 ml)
pUC 18 DNA Control Plasmid 0.01 ml (0.1 ng/µl)

Supplier/Manufacturer : Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
1800 802 402

Emergency telephone number (with hours of operation) : CHEMTREC®: +(61)-290372994

Section 2. Hazard(s) identification

Classification of the substance or mixture
Not classified.

BL21-Gold(DE3) Competent Cells
pUC 18 DNA Control Plasmid

GHS label elements

Signal word : BL21-Gold(DE3) Competent Cells pUC 18 DNA Control Plasmid
No signal word.

Hazard statements : BL21-Gold(DE3) Competent Cells pUC 18 DNA Control Plasmid
No known significant effects or critical hazards.

Precautionary statements

Prevention : BL21-Gold(DE3) Competent Cells pUC 18 DNA Control Plasmid
Not applicable.

Response : BL21-Gold(DE3) Competent Cells pUC 18 DNA Control Plasmid
Not applicable.

Storage : BL21-Gold(DE3) Competent Cells pUC 18 DNA Control Plasmid
Not applicable.

Disposal : BL21-Gold(DE3) Competent Cells pUC 18 DNA Control Plasmid
Not applicable.

Date of issue/Date of revision : 20/12/2017
Date of previous issue : 24/08/2015
Version : 3
Section 2. Hazard(s) identification

- **Additional warning phrases**:
  - BL21-Gold(DE3) Competent Cells
  - pUC 18 DNA Control Plasmid

- **Other hazards which do not result in classification**:
  - BL21-Gold(DE3) Competent Cells: None known.
  - pUC 18 DNA Control Plasmid: None known.

Section 3. Composition and ingredient information

- **Substance/mixture**:
  - BL21-Gold(DE3) Competent Cells
  - pUC 18 DNA Control Plasmid

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>CAS number</th>
<th>% (w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>56-81-5</td>
<td>≥10 - ≤30</td>
</tr>
<tr>
<td>Dimethyl sulfoxide</td>
<td>67-68-5</td>
<td>≤10</td>
</tr>
<tr>
<td>Sucrose</td>
<td>57-50-1</td>
<td>≤10</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

- **Eye contact**:
  - BL21-Gold(DE3) Competent Cells
  - pUC 18 DNA Control Plasmid

- **Inhalation**:
  - BL21-Gold(DE3) Competent Cells
  - pUC 18 DNA Control Plasmid

- **Skin contact**:
  - BL21-Gold(DE3) Competent Cells
  - pUC 18 DNA Control Plasmid

- **Ingestion**:
  - BL21-Gold(DE3) Competent Cells
  - pUC 18 DNA Control Plasmid

Immediate 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.

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

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.

Date of issue/Date of revision: 20/12/2017
Date of previous issue: 24/08/2015
Version: 3
Section 4. First aid measures

Water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact: BL21-Gold(DE3) Competent Cells, pUC 18 DNA Control Plasmid
No known significant effects or critical hazards.

Inhalation: BL21-Gold(DE3) Competent Cells, pUC 18 DNA Control Plasmid
No known significant effects or critical hazards.

Skin contact: BL21-Gold(DE3) Competent Cells, pUC 18 DNA Control Plasmid
No known significant effects or critical hazards.

Ingestion: BL21-Gold(DE3) Competent Cells, pUC 18 DNA Control Plasmid
No known significant effects or critical hazards.

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training.

Notes to physician

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

Specific treatments

No specific treatment.

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media: BL21-Gold(DE3) Competent Cells, pUC 18 DNA Control Plasmid
Use an extinguishing agent suitable for the surrounding fire.
## Section 5. Firefighting measures

### Unsuitable extinguishing media
- **BL21-Gold(DE3) Competent Cells**
- **pUC 18 DNA Control Plasmid**
  - None known.

### Specific hazards arising from the chemical
- **BL21-Gold(DE3) Competent Cells**
- **pUC 18 DNA Control Plasmid**
  - In a fire or if heated, a pressure increase will occur and the container may burst.
  - In a fire or if heated, a pressure increase will occur and the container may burst.

### Hazardous thermal decomposition products
- **BL21-Gold(DE3) Competent Cells**
- **pUC 18 DNA Control Plasmid**
  - Decomposition products may include the following materials:
    - Carbon dioxide
    - Carbon monoxide
    - Sulfur oxides
    - Halogenated compounds
    - Metal oxide/oxides
  - No specific data.

### Special protective actions for fire-fighters
- **BL21-Gold(DE3) Competent Cells**
- **pUC 18 DNA Control Plasmid**
  - 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.
  - 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
- **BL21-Gold(DE3) Competent Cells**
- **pUC 18 DNA Control Plasmid**
  - Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
  - 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

### Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel
- **BL21-Gold(DE3) Competent Cells**
- **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 spill material. Put on appropriate personal protective equipment.

#### For emergency responders
- **BL21-Gold(DE3) Competent Cells**
- **pUC 18 DNA Control Plasmid**
  - 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".
  - 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".
Section 6. Accidental release measures

Environmental precautions

BL21-Gold(DE3) Competent Cells
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).

pUC 18 DNA Control Plasmid
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).

Methods and material for containment and cleaning up

Methods for cleaning up

BL21-Gold(DE3) 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.

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.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

BL21-Gold(DE3) Competent Cells
Put on appropriate personal protective equipment (see Section 8).

pUC 18 DNA Control Plasmid
Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene

BL21-Gold(DE3) 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.

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.

Conditions for safe storage, including any incompatibilities

BL21-Gold(DE3) 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. 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 before handling or use.

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 before handling or use.
Section 7. Handling and storage

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.

Section 8. Exposure controls and personal protection

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BL21-Gold(DE3) Competent Cells</td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m³ 8 hours.</td>
</tr>
<tr>
<td>Dimethyl sulfoxide</td>
<td>DFG MAC-values list (Germany, 7/2015). Absorbed through skin.</td>
</tr>
<tr>
<td></td>
<td>PEAK: 320 mg/m³, 4 times per shift, 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>TWA: 160 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>PEAK: 100 ppm, 4 times per shift, 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>TWA: 50 ppm 8 hours.</td>
</tr>
<tr>
<td>Sucrose</td>
<td>Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m³ 8 hours.</td>
</tr>
</tbody>
</table>

**Control parameters**

**Occupational exposure limits**

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BL21-Gold(DE3) Competent Cells</td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
</tr>
<tr>
<td>Dimethyl sulfoxide</td>
<td></td>
</tr>
<tr>
<td>Sucrose</td>
<td></td>
</tr>
</tbody>
</table>

**Appropriate engineering 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.

**Environmental exposure controls**

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

**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**

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.

**Hand 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.

**Body 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.
Section 8. Exposure controls and personal protection

- **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

- **Physical state**: Liquid
  - BL21-Gold(DE3) Competent
  - pUC 18 DNA Control Plasmid
- **Colour**: Not available
  - BL21-Gold(DE3) Competent
  - pUC 18 DNA Control Plasmid
- **Odour**: Not available
  - BL21-Gold(DE3) Competent
  - pUC 18 DNA Control Plasmid
- **Odour threshold**: Not available
  - BL21-Gold(DE3) Competent
  - pUC 18 DNA Control Plasmid

### Physical and chemical properties

- **pH**: 6.4
  - BL21-Gold(DE3) Competent
  - pUC 18 DNA Control Plasmid 7.5
- **Melting point**: Not available
  - BL21-Gold(DE3) Competent
  - pUC 18 DNA Control Plasmid 0°C (32°F)
- **Boiling point**: Not available
  - BL21-Gold(DE3) Competent
  - pUC 18 DNA Control Plasmid 100°C (212°F)
- **Flash point**: Not available
  - BL21-Gold(DE3) Competent
  - pUC 18 DNA Control Plasmid
- **Evaporation rate**: Not available
  - BL21-Gold(DE3) Competent
  - pUC 18 DNA Control Plasmid
- **Flammability (solid, gas)**: Not applicable
  - BL21-Gold(DE3) Competent
  - pUC 18 DNA Control Plasmid
- **Lower and upper explosive (flammable) limits**: Not available
  - BL21-Gold(DE3) Competent
  - pUC 18 DNA Control Plasmid
- **Vapour pressure**: Not available
  - BL21-Gold(DE3) Competent
  - pUC 18 DNA Control Plasmid
- **Vapour density**: Not available
  - BL21-Gold(DE3) Competent
  - pUC 18 DNA Control Plasmid
- **Relative density**: Not available
  - BL21-Gold(DE3) Competent
  - pUC 18 DNA Control Plasmid
- **Solubility**: Soluble in the following materials: cold water and hot water
  - BL21-Gold(DE3) Competent
  - pUC 18 DNA Control Plasmid
- **Partition coefficient: n-octanol/water**: Not available
  - BL21-Gold(DE3) Competent
  - pUC 18 DNA Control Plasmid
Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>BL21-Gold(DE3) Competent Cells</th>
<th>pUC 18 DNA Control Plasmid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>

Section 10. Stability and reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>BL21-Gold(DE3) Competent Cells</th>
<th>pUC 18 DNA Control Plasmid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
</tr>
<tr>
<td>Chemical stability</td>
<td>The product is stable.</td>
<td>The product is stable.</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>May react or be incompatible with oxidising materials.</td>
<td>May react or be incompatible with oxidising materials.</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</td>
<td>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</td>
</tr>
</tbody>
</table>

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>BL21-Gold(DE3) Competent Cells</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>12600 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Glycerol</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>40000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Dimethyl sulfoxide</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>14500 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Sucrose</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>29700 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Irritation/Corrosion
Section 11. Toxicological information

<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>BL21-Gold(DE3) Competent Cells</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>
<tr>
<td>Dimethyl sulfoxide</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>100 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>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>100 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

Sensitisation
Not available.

Mutagenicity
Not available.

Carcinogenicity
Not available.

Reproductive toxicity
Not available.

Teratogenicity
Not available.

Specific target organ toxicity (single exposure)
Not available.

Specific target organ toxicity (repeated exposure)
Not available.

Aspiration hazard
Not available.


Potential acute health effects:

Eye contact: BL21-Gold(DE3) Competent Cells and pUC 18 DNA Control Plasmid. No known significant effects or critical hazards.

Inhalation: BL21-Gold(DE3) Competent Cells and pUC 18 DNA Control Plasmid. No known significant effects or critical hazards.

Skin contact: BL21-Gold(DE3) Competent Cells and pUC 18 DNA Control Plasmid. No known significant effects or critical hazards.

Ingestion: BL21-Gold(DE3) Competent Cells and pUC 18 DNA Control Plasmid. No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics.
## Section 11. Toxicological information

### General:
- **BL21-Gold(DE3) Competent Cells** No known significant effects or critical hazards.
- **pUC 18 DNA Control Plasmid** No known significant effects or critical hazards.

### Carcinogenicity:
- **BL21-Gold(DE3) Competent Cells** No known significant effects or critical hazards.
- **pUC 18 DNA Control Plasmid** No known significant effects or critical hazards.

### Mutagenicity:
- **BL21-Gold(DE3) Competent Cells** No known significant effects or critical hazards.
- **pUC 18 DNA Control Plasmid** No known significant effects or critical hazards.

### Teratogenicity:
- **BL21-Gold(DE3) Competent Cells** No known significant effects or critical hazards.
- **pUC 18 DNA Control Plasmid** No known significant effects or critical hazards.

### Developmental effects:
- **BL21-Gold(DE3) Competent Cells** No known significant effects or critical hazards.
- **pUC 18 DNA Control Plasmid** No known significant effects or critical hazards.

### Fertility effects:
- **BL21-Gold(DE3) Competent Cells** No known significant effects or critical hazards.
- **pUC 18 DNA Control Plasmid** No known significant effects or critical hazards.

### Ingestion:
- **BL21-Gold(DE3) Competent Cells** No specific data.
- **pUC 18 DNA Control Plasmid** No specific data.

### Skin contact:
- **BL21-Gold(DE3) Competent Cells** No specific data.
- **pUC 18 DNA Control Plasmid** No specific data.

### Inhalation:
- **BL21-Gold(DE3) Competent Cells** No specific data.
- **pUC 18 DNA Control Plasmid** No specific data.

### Eye contact:
- **BL21-Gold(DE3) Competent Cells** No specific data.
- **pUC 18 DNA Control Plasmid** No specific data.

### Potential chronic health effects:
- Not available.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure
- **Potential immediate effects** Not available.
- **Potential delayed effects** Not available.

#### Long term exposure
- **Potential immediate effects** Not available.
- **Potential delayed effects** Not available.

### Numerical measures of toxicity
#### Acute toxicity estimates
- Not available.
Section 12. Ecological information

Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>BL21-Gold(DE3) 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>Acute LC50 25000 ppm Fresh water</td>
<td>Daphnia - Daphnia magna - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td>Dimethyl sulfoxide</td>
<td>Acute LC50 34000000 μg/l Fresh water</td>
<td>Fish - Pimephales promelas</td>
<td>96 hours</td>
</tr>
<tr>
<td>Sucrose</td>
<td>Chronic NOEC 100 ul/L Marine water</td>
<td>Algae - Ulva lactuca</td>
<td>72 hours</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>BL21-Gold(DE3) 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>

Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogPow</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>BL21-Gold(DE3) Competent Cells</td>
<td>-1.76</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Glycerol</td>
<td>-1.35</td>
<td>3.16</td>
<td>low</td>
</tr>
<tr>
<td>Dimethyl sulfoxide</td>
<td>-3.7</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Sucrose</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mobility in soil

Soil/water partition coefficient (Koc): Not available.

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

Section 13. Disposal considerations

Disposal methods: The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

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

Special precautions for user: Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Section 14. Transport information

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

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons

Model Work Health and Safety Regulations - Scheduled Substances
No listed substance

International regulations

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

Montreal Protocol (Annexes A, B, C, E)
Not listed.

Stockholm Convention on Persistent Organic Pollutants
Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)
Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals
Not listed.

Inventory list

Australia: All components are listed or exempted.
Canada: All components are listed or exempted.
China: Not determined.
Europe: All components are listed or exempted.
Japan: Japan inventory (ENCS): Not determined. Japan inventory (ISHL): All components are listed or exempted.
Malaysia: Not determined.
New Zealand: Not determined.
Philippines: Not determined.
Republic of Korea: All components are listed or exempted.
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.

Section 16. Any other relevant information

History

Date of issue/Date of revision: 20/12/2017
Date of previous issue: 24/08/2015.
Version: 3
Section 16. Any other relevant information

Key to abbreviations  

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ADG</td>
<td>Australian Dangerous Goods</td>
</tr>
<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>
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<tr>
<td>LogPow</td>
<td>logarithm of the octanol/water partition coefficient</td>
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<tr>
<td>NOHSC</td>
<td>National Occupational Health and Safety Commission</td>
</tr>
<tr>
<td>SUSMP</td>
<td>Standard Uniform Schedule of Medicine and Poisons</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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Procedure used to derive the classification

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

Not available.

Notice to reader

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