SAFETY DATA SHEET

SCS1 Supercompetent Cells, Part Number 200231

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

1.1 Product identifier

Product name: SCS1 Supercompetent Cells, Part Number 200231

Part No. (Kit): 200231

Part No.: SCS1 supercompetent cells
pUC18 Control Plasmid DNA
1.42 M 2-Mercaptoethanol

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

<table>
<thead>
<tr>
<th>Identified uses</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytical reagent</td>
<td></td>
</tr>
<tr>
<td>SCS1 supercompetent cells</td>
<td>1 ml (0.2 ml / Tube)</td>
</tr>
<tr>
<td>pUC18 Control Plasmid DNA</td>
<td>0.01 ml</td>
</tr>
<tr>
<td>1.42 M 2-Mercaptoethanol</td>
<td>0.025 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:
- SCS1 supercompetent cells: Mixture
- pUC18 Control Plasmid DNA: Mixture
- 1.42 M 2-Mercaptoethanol: Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

- H312 ACUTE TOXICITY (dermal) - Category 4
- H332 ACUTE TOXICITY (inhalation) - Category 4
- H315 SKIN CORROSION/IRRITATION - Category 2
- H318 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
- H317 SKIN SENSITIZATION - Category 1
- H412 LONG-TERM AQUATIC HAZARD - Category 3

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SECTION 2: Hazards identification

Ingredients of unknown ecotoxicity:
- SCS1 supercompetent cells
- pUC18 Control Plasmid DNA
- 1.42 M 2-Mercaptoethanol

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 15%
Not applicable.

Classification according to Directive 1999/45/EC [DPD]:
- SCS1 supercompetent cells: The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
- pUC18 Control Plasmid DNA: The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
- 1.42 M 2-Mercaptoethanol: The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification:
- SCS1 supercompetent cells: Not classified.
- pUC18 Control Plasmid DNA: Not classified.
- 1.42 M 2-Mercaptoethanol: Xn; R20/21, Xi; R41, R43, R52/53

Human health hazards:
- SCS1 supercompetent cells: Not applicable.
- pUC18 Control Plasmid DNA: Not applicable.
- 1.42 M 2-Mercaptoethanol: Harmful by inhalation and in contact with skin. Risk of serious damage to eyes. May cause sensitisation by skin contact.

Environmental hazards:
- SCS1 supercompetent cells: Not applicable.
- pUC18 Control Plasmid DNA: Not applicable.
- 1.42 M 2-Mercaptoethanol: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

See Section 16 for the full text of the R phrases or H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms:

Signal word:
- SCS1 supercompetent cells
- pUC18 Control Plasmid DNA
- 1.42 M 2-Mercaptoethanol

No signal word.

Danger

Hazard statements:
- SCS1 supercompetent cells
- pUC18 Control Plasmid DNA
- 1.42 M 2-Mercaptoethanol

No known significant effects or critical hazards.

GHS05 -
Causes serious eye damage.
GHS07 -
Harmful in contact with skin.
Harmful if inhaled.
Causes skin irritation.
May cause an allergic skin reaction.

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SECTION 2: Hazards identification

Precautionary statements

Prevention:
- SCS1 supercompetent cells
- pUC18 Control Plasmid DNA
- 1.42 M 2-Mercaptoethanol

Response:
- SCS1 supercompetent cells
- pUC18 Control Plasmid DNA
- 1.42 M 2-Mercaptoethanol

Storage:
- SCS1 supercompetent cells
- pUC18 Control Plasmid DNA
- 1.42 M 2-Mercaptoethanol

Disposal:
- SCS1 supercompetent cells
- pUC18 Control Plasmid DNA
- 1.42 M 2-Mercaptoethanol

Hazardous ingredients:
- 1.42 M 2-Mercaptoethanol

Supplemental label elements:
- SCS1 supercompetent cells
- pUC18 Control Plasmid DNA
- 1.42 M 2-Mercaptoethanol

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles:
- Not applicable.

Special packaging requirements:
- SCS1 supercompetent cells
- pUC18 Control Plasmid DNA
- 1.42 M 2-Mercaptoethanol

2.3 Other hazards

Other hazards which do not result in classification:
- SCS1 supercompetent cells
- pUC18 Control Plasmid DNA
- 1.42 M 2-Mercaptoethanol

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Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II - Europe

Harmful to aquatic life with long lasting effects.
SECTION 3: Composition/information on ingredients

3.2 Mixtures

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>%</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.42 M 2-Mercaptoethanol</td>
<td>EC: 200-464-6 CAS: 60-24-2</td>
<td>≥10 - &lt;12</td>
<td>T; R23/24 Xn; R22 Xi; R41, R38 R43 N; R51/53</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.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

<table>
<thead>
<tr>
<th>: SCS1 supercompetent cells pUC18 Control Plasmid DNA 1.42 M 2-Mercaptoethanol</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.</td>
</tr>
</tbody>
</table>

Inhalation

<table>
<thead>
<tr>
<th>: SCS1 supercompetent cells pUC18 Control Plasmid DNA 1.42 M 2-Mercaptoethanol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td>Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained</td>
</tr>
</tbody>
</table>

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SECTION 4: First aid measures

Skin contact

SCS1 supercompetent cells
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

pUC18 Control Plasmid DNA
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

1.42 M 2-Mercaptoethanol
Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

SCS1 supercompetent cells
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.

pUC18 Control Plasmid DNA
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.

1.42 M 2-Mercaptoethanol
Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders

SCS1 supercompetent cells
No action shall be taken involving any personal risk or without suitable training.

pUC18 Control Plasmid DNA
No action shall be taken involving any personal risk or without suitable training.

1.42 M 2-Mercaptoethanol
No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

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SECTION 4: First aid measures

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Ingredient 1</th>
<th>Ingredient 2</th>
<th>Ingredient 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eye contact</strong></td>
<td>SCS1 supercompetent cells</td>
<td>pUC18 Control Plasmid DNA</td>
<td>1.42 M 2-Mercaptoethanol</td>
</tr>
<tr>
<td></td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>SCS1 supercompetent cells</td>
<td>pUC18 Control Plasmid DNA</td>
<td>1.42 M 2-Mercaptoethanol</td>
</tr>
<tr>
<td></td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>Harmful if inhaled.</td>
</tr>
<tr>
<td><strong>Skin contact</strong></td>
<td>SCS1 supercompetent cells</td>
<td>pUC18 Control Plasmid DNA</td>
<td>1.42 M 2-Mercaptoethanol</td>
</tr>
<tr>
<td></td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>Harmful in contact with skin.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>SCS1 supercompetent cells</td>
<td>pUC18 Control Plasmid DNA</td>
<td>1.42 M 2-Mercaptoethanol</td>
</tr>
<tr>
<td></td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No specific data.</td>
</tr>
<tr>
<td><strong>Over-exposure signs/symptoms</strong></td>
<td>SCS1 supercompetent cells</td>
<td>pUC18 Control Plasmid DNA</td>
<td>1.42 M 2-Mercaptoethanol</td>
</tr>
<tr>
<td><strong>Eye contact</strong></td>
<td>SCS1 supercompetent cells</td>
<td>pUC18 Control Plasmid DNA</td>
<td>1.42 M 2-Mercaptoethanol</td>
</tr>
<tr>
<td></td>
<td>No specific data.</td>
<td>No specific data.</td>
<td>Adverse symptoms may include the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>pain</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>watering</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>redness</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>SCS1 supercompetent cells</td>
<td>pUC18 Control Plasmid DNA</td>
<td>1.42 M 2-Mercaptoethanol</td>
</tr>
<tr>
<td></td>
<td>No specific data.</td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
<tr>
<td><strong>Skin contact</strong></td>
<td>SCS1 supercompetent cells</td>
<td>pUC18 Control Plasmid DNA</td>
<td>1.42 M 2-Mercaptoethanol</td>
</tr>
<tr>
<td></td>
<td>No specific data.</td>
<td>No specific data.</td>
<td>Adverse symptoms may include the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>pain or irritation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>redness</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>blistering may occur</td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>SCS1 supercompetent cells</td>
<td>pUC18 Control Plasmid DNA</td>
<td>1.42 M 2-Mercaptoethanol</td>
</tr>
<tr>
<td></td>
<td>No specific data.</td>
<td>No specific data.</td>
<td>Adverse symptoms may include the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>stomach pains</td>
</tr>
</tbody>
</table>

4.3 Indication of any immediate medical attention and special treatment needed
SECTION 4: First aid measures

<table>
<thead>
<tr>
<th>Notes to physician</th>
<th>Specific treatments</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCS1 supercompetent cells</td>
<td>SCS1 supercompetent cells</td>
</tr>
<tr>
<td>pUC18 Control Plasmid DNA</td>
<td>pUC18 Control Plasmid DNA</td>
</tr>
<tr>
<td>1.42 M 2-Mercaptoethanol</td>
<td>1.42 M 2-Mercaptoethanol</td>
</tr>
<tr>
<td>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</td>
<td>No specific treatment.</td>
</tr>
<tr>
<td>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</td>
<td>No specific treatment.</td>
</tr>
<tr>
<td>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</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>Unsuitable extinguishing media</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCS1 supercompetent cells</td>
<td>SCS1 supercompetent cells</td>
</tr>
<tr>
<td>pUC18 Control Plasmid DNA</td>
<td>pUC18 Control Plasmid DNA</td>
</tr>
<tr>
<td>1.42 M 2-Mercaptoethanol</td>
<td>1.42 M 2-Mercaptoethanol</td>
</tr>
<tr>
<td>Use an extinguishing agent suitable for the surrounding fire.</td>
<td>None known.</td>
</tr>
<tr>
<td>Use an extinguishing agent suitable for the surrounding fire.</td>
<td>None known.</td>
</tr>
<tr>
<td>Use an extinguishing agent suitable for the surrounding fire.</td>
<td>None known.</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>Hazardous combustion products</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCS1 supercompetent cells</td>
<td>Decomposition products may include the following materials:</td>
</tr>
<tr>
<td>pUC18 Control Plasmid DNA</td>
<td>carbon dioxide</td>
</tr>
<tr>
<td>1.42 M 2-Mercaptoethanol</td>
<td>carbon monoxide</td>
</tr>
<tr>
<td>In a fire or if heated, a pressure increase will occur and the container may burst.</td>
<td>sulfur oxides</td>
</tr>
<tr>
<td>In a fire or if heated, a pressure increase will occur and the container may burst.</td>
<td>halogenated compounds</td>
</tr>
<tr>
<td>In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.</td>
<td>metal oxide/oxides</td>
</tr>
<tr>
<td>Decomposition products may include the following materials:</td>
<td></td>
</tr>
<tr>
<td>carbon dioxide</td>
<td>No specific data.</td>
</tr>
<tr>
<td>carbon monoxide</td>
<td></td>
</tr>
<tr>
<td>sulfur oxides</td>
<td>Decomposition products may include the following materials:</td>
</tr>
<tr>
<td>halogenated compounds</td>
<td>carbon dioxide</td>
</tr>
<tr>
<td>metal oxide/oxides</td>
<td>carbon monoxide</td>
</tr>
<tr>
<td>Special precautions for fire-fighters</td>
<td>carbon oxides</td>
</tr>
<tr>
<td>Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.</td>
<td></td>
</tr>
<tr>
<td>Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.</td>
<td></td>
</tr>
<tr>
<td>Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.</td>
<td></td>
</tr>
</tbody>
</table>

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SECTION 5: Firefighting measures

<table>
<thead>
<tr>
<th>Special protective equipment for fire-fighters</th>
<th>2-Mercaptoethanol</th>
<th>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>: SCS1 supercompetent cells</td>
<td>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. 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.</td>
<td></td>
</tr>
<tr>
<td>pUC18 Control Plasmid DNA</td>
<td>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. 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.</td>
<td></td>
</tr>
<tr>
<td>1.42 M 2-Mercaptoethanol</td>
<td>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. 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.</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: SCS1 supercompetent 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 spilt material. Put on appropriate personal protective equipment.

pUC18 Control Plasmid DNA
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.

1.42 M 2-Mercaptoethanol
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. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: SCS1 supercompetent cells
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”.

pUC18 Control Plasmid DNA
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”.

1.42 M 2-Mercaptoethanol
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

: SCS1 supercompetent 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).

pUC18 Control Plasmid DNA
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).

1.42 M
Avoid dispersal of spilt material and runoff and contact with...
### SECTION 6: Accidental release measures

| 2-Mercaptoethanol | soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. |

#### 6.3 Methods and material for containment and cleaning up

**Methods for cleaning up**

- **SCS1 supercompetent 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.
- **pUC18 Control Plasmid DNA**
  - 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.
- **1.42 M 2-Mercaptoethanol**
  - 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**

- **SCS1 supercompetent cells**
  - Put on appropriate personal protective equipment (see Section 8).
- **pUC18 Control Plasmid DNA**
  - Put on appropriate personal protective equipment (see Section 8).
- **1.42 M 2-Mercaptoethanol**
  - Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene**

- **SCS1 supercompetent 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.
- **pUC18 Control Plasmid DNA**
  - 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.
- **1.42 M 2-Mercaptoethanol**
  - 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 7: Handling and storage

7.2 Conditions for safe storage, including any incompatibilities

<table>
<thead>
<tr>
<th>Substance</th>
<th>Storage Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCS1 supercompetent cells</td>
<td>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.</td>
</tr>
<tr>
<td>pUC18 Control Plasmid DNA</td>
<td>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.</td>
</tr>
<tr>
<td>1.42 M 2-Mercaptoethanol</td>
<td>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.</td>
</tr>
</tbody>
</table>

7.3 Specific end use(s)

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Industrial applications, Professional applications.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCS1 supercompetent cells</td>
<td></td>
</tr>
<tr>
<td>pUC18 Control Plasmid DNA</td>
<td></td>
</tr>
<tr>
<td>1.42 M 2-Mercaptoethanol</td>
<td></td>
</tr>
</tbody>
</table>

Industrial sector specific solutions

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCS1 supercompetent cells</td>
<td></td>
</tr>
<tr>
<td>pUC18 Control Plasmid DNA</td>
<td></td>
</tr>
<tr>
<td>1.42 M 2-Mercaptoethanol</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

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.
SECTION 8: Exposure controls/personal protection

No DNELs available.

PNECs
No PNECs available.

8.2 Exposure controls

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

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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

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: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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: SCS1 supercompetent cells Liquid.
pUC18 Control Plasmid DNA Liquid.
1.42 M 2-Mercaptoethanol Liquid.
### SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>SCS1 supercompetent cells</th>
<th>pUC18 Control Plasmid DNA</th>
<th>1.42 M 2-Mercaptoethanol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odour</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not available.</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>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable.</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>
<td>Not available.</td>
</tr>
</tbody>
</table>

Date of issue/Date of revision: 28/08/2015
### SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Vapour pressure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pUC18 Control Plasmid DNA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.42 M 2-Mercaptoethanol</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Relative density</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.42 M 2-Mercaptoethanol</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>1.42 M 2-Mercaptoethanol</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solubility(ies)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCs1 supercompetent cells</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pUC18 Control Plasmid DNA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.42 M 2-Mercaptoethanol</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>SCs1 supercompetent cells</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCs1 supercompetent cells</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pUC18 Control Plasmid DNA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.42 M 2-Mercaptoethanol</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>SCs1 supercompetent cells</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Auto-ignition temperature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCs1 supercompetent cells</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pUC18 Control Plasmid DNA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.42 M 2-Mercaptoethanol</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>SCs1 supercompetent cells</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decomposition temperature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCs1 supercompetent cells</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pUC18 Control Plasmid DNA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.42 M 2-Mercaptoethanol</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>SCs1 supercompetent cells</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCs1 supercompetent cells</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pUC18 Control Plasmid DNA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.42 M 2-Mercaptoethanol</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>SCs1 supercompetent cells</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explosive properties</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCs1 supercompetent cells</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pUC18 Control Plasmid DNA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.42 M 2-Mercaptoethanol</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>SCs1 supercompetent cells</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxidising properties</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCs1 supercompetent cells</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pUC18 Control Plasmid DNA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.42 M 2-Mercaptoethanol</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION 9: Physical and chemical properties

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : SCS1 supercompetent cells
                 pUC18 Control Plasmid DNA
                 1.42 M 2-Mercaptoethanol

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

10.2 Chemical stability : SCS1 supercompetent cells
                          pUC18 Control Plasmid DNA
                          1.42 M 2-Mercaptoethanol

                          The product is stable.

10.3 Possibility of hazardous reactions : SCS1 supercompetent cells
                                         pUC18 Control Plasmid DNA
                                         1.42 M 2-Mercaptoethanol

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

10.4 Conditions to avoid : SCS1 supercompetent cells
                          pUC18 Control Plasmid DNA
                          1.42 M 2-Mercaptoethanol

                          No specific data.

10.5 Incompatible materials : SCS1 supercompetent cells
                             pUC18 Control Plasmid DNA
                             1.42 M 2-Mercaptoethanol

                             May react or be incompatible with oxidising materials.

10.6 Hazardous decomposition products : SCS1 supercompetent cells
                                         pUC18 Control Plasmid DNA
                                         1.42 M 2-Mercaptoethanol

                                         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>1.42 M 2-Mercaptoethanol</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>200 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>244 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Acute toxicity estimates

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SECTION 11: Toxicological information

### Potential acute health effects

**Inhalation**
- **SCS1 supercompetent cells**: No known significant effects or critical hazards.
- **pUC18 Control Plasmid DNA**: No known significant effects or critical hazards.
- **1.42 M 2-Mercaptoethanol**: Harmful if inhaled.

**Ingestion**
- **SCS1 supercompetent cells**: No known significant effects or critical hazards.
- **pUC18 Control Plasmid DNA**: No known significant effects or critical hazards.
- **1.42 M 2-Mercaptoethanol**: No known significant effects or critical hazards.

**Skin contact**
- **SCS1 supercompetent cells**: No known significant effects or critical hazards.
- **pUC18 Control Plasmid DNA**: No known significant effects or critical hazards.
- **1.42 M 2-Mercaptoethanol**: Harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction.

**Eye contact**
- **SCS1 supercompetent cells**: No known significant effects or critical hazards.
- **pUC18 Control Plasmid DNA**: No known significant effects or critical hazards.
- **1.42 M 2-Mercaptoethanol**: Causes serious eye damage.

### Irritation/Corrosion

**Product/ingredient name**: 1.42 M 2-Mercaptoethanol
- **Result**: Eyes - Severe irritant
- **Species**: Rabbit
- **Score**: -
- **Exposure**: 2 milligrams
- **Observation**: -

### Sensitiser

**Conclusion/Summary**: Not available.

### Chronic toxicity / Carcinogenicity / Mutagenicity / Teratogenicity / Reproductive toxicity

Not available.

### Specific target organ toxicity (single exposure)

**Product/ingredient name**: 1.42 M 2-Mercaptoethanol
- **Category**: Category 3
- **Route of exposure**: Not applicable.
- **Target organs**: Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

### Information on the likely routes of exposure

- **SCS1 supercompetent cells**: Routes of entry anticipated: Oral, Dermal, Inhalation.
- **pUC18 Control Plasmid DNA**: Not available.
- **1.42 M 2-Mercaptoethanol**: Routes of entry anticipated: Oral, Dermal, Inhalation.

**ATE value**

- **Inhalation (vapours)**: 2440 mg/kg, 2000 mg/kg, 20 mg/l
- **Oral**: 2440 mg/kg
- **Dermal**: 2000 mg/kg

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### SECTION 11: Toxicological information

| Ingestion                  | SCS1 supercompetent cells | No specific data. |
|                           | pUC18 Control Plasmid DNA | No specific data. |
|                           | 1.42 M 2-Mercaptoethanol  | No specific data. |

| Inhalation                 | SCS1 supercompetent cells | No specific data. |
|                           | pUC18 Control Plasmid DNA | No specific data. |
|                           | 1.42 M 2-Mercaptoethanol  | No specific data. |

**Skin contact**

| SCS1 supercompetent cells | No specific data. |
| pUC18 Control Plasmid DNA | No specific data. |
| 1.42 M 2-Mercaptoethanol  | Adverse symptoms may include the following: |
|                           | stomach pains |

| pUC18 Control Plasmid DNA | No specific data. |
| 1.42 M 2-Mercaptoethanol  | Adverse symptoms may include the following: |
|                           | pain or irritation |
|                           | redness |
|                           | blistering may occur |

| 1.42 M 2-Mercaptoethanol  | No specific data. |

**Eye contact**

| SCS1 supercompetent cells | No specific data. |
| pUC18 Control Plasmid DNA | No specific data. |
| 1.42 M 2-Mercaptoethanol  | Adverse symptoms may include the following: |
|                           | pain |
|                           | watering |
|                           | redness |

| pUC18 Control Plasmid DNA | No specific data. |
| 1.42 M 2-Mercaptoethanol  | Adverse symptoms may include the following: |
|                           | pain |
|                           | watering |
|                           | redness |

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

**Short term exposure**

- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.

**Long term exposure**

- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.

**Potential chronic health effects**

- **General**: SCS1 supercompetent cells pUC18 Control Plasmid DNA 1.42 M 2-Mercaptoethanol No known significant effects or critical hazards.
- **Carcinogenicity**: SCS1 supercompetent cells pUC18 Control Plasmid DNA 1.42 M 2-Mercaptoethanol No known significant effects or critical hazards.

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

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SECTION 11: Toxicological information

**Mutagenicity**
- SCS1 supercompetent cells
- pUC18 Control Plasmid DNA
- 1.42 M 2-Mercaptoethanol
  - No known significant effects or critical hazards.

**Teratogenicity**
- SCS1 supercompetent cells
- pUC18 Control Plasmid DNA
- 1.42 M 2-Mercaptoethanol
  - No known significant effects or critical hazards.

**Developmental effects**
- SCS1 supercompetent cells
- pUC18 Control Plasmid DNA
- 1.42 M 2-Mercaptoethanol
  - No known significant effects or critical hazards.

**Fertility effects**
- SCS1 supercompetent cells
- pUC18 Control Plasmid DNA
- 1.42 M 2-Mercaptoethanol
  - No known significant effects or critical hazards.

**Toxicokinetics**

**Absorption**
- SCS1 supercompetent cells
- pUC18 Control Plasmid DNA
- 1.42 M 2-Mercaptoethanol
  - Not available.

**Distribution**
- SCS1 supercompetent cells
- pUC18 Control Plasmid DNA
- 1.42 M 2-Mercaptoethanol
  - Not available.

**Metabolism**
- SCS1 supercompetent cells
- pUC18 Control Plasmid DNA
- 1.42 M 2-Mercaptoethanol
  - Not available.

**Elimination**
- SCS1 supercompetent cells
- pUC18 Control Plasmid DNA
- 1.42 M 2-Mercaptoethanol
  - Not available.

**Other information**
- Not available.

SECTION 12: Ecological information

**12.1 Toxicity**
- Conclusion/Summary
  - Not available.

**12.2 Persistence and degradability**
- Conclusion/Summary
  - Not available.

**12.3 Bioaccumulative potential**

**Date of issue/Date of revision**
- 28/08/2015
SECTION 12: Ecological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP\textsubscript{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.42 M 2-Mercaptoethanol</td>
<td>-0.056</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

Soil/water partition coefficient (K\textsubscript{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

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 : The classification of the product may meet the criteria for a hazardous waste.

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. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

Regulatory 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 73/78 and the IBC Code : Not available.

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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

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

: Not applicable.

Other EU regulations

Europe inventory

: All components are listed or exempted.

Integrated pollution prevention and control list (IPPC) - Air

: 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 Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia

: All components are listed or exempted.

Canada

: All components are listed or exempted.

China

: Not determined.

Japan

: 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.

United States

: All components are listed or exempted.

15.2 Chemical Safety Assessment

: This product contains substances for which Chemical Safety Assessments might still be required.
SCS1 Supercompetent Cells, Part Number 200231

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>1.42 M 2-Mercaptoethanol</td>
<td>Calculation method</td>
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<tr>
<td>Acute Tox. 4, H312</td>
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<tr>
<td>Acute Tox. 4, H332</td>
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<tr>
<td>Skin Irrit. 2, H315</td>
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<tr>
<td>Eye Dam. 1, H318</td>
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</tr>
<tr>
<td>Skin Sens. 1, H317</td>
<td></td>
</tr>
<tr>
<td>Aquatic Chronic 3, H412</td>
<td></td>
</tr>
</tbody>
</table>

Full text of abbreviated H statements:

2-Mercaptoethanol

- H301 Toxic if swallowed.
- H310 Fatal in contact with skin.
- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H330 Fatal if inhaled.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]:

2-Mercaptoethanol

- Acute Tox. 2, H310 ACUTE TOXICITY (dermal) - Category 2
- Acute Tox. 2, H330 ACUTE TOXICITY (inhalation) - Category 2
- Acute Tox. 3, H301 ACUTE TOXICITY (oral) - Category 3
- Acute Tox. 4, H312 ACUTE TOXICITY (dermal) - Category 4
- Acute Tox. 4, H332 ACUTE TOXICITY (inhalation) - Category 4
- Aquatic Chronic 2, H411 LONG-TERM AQUATIC HAZARD - Category 2
- Aquatic Chronic 3, H412 LONG-TERM AQUATIC HAZARD - Category 3
- Eye Dam. 1, H318 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
- Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2
- Skin Sens. 1, H317 SKIN SENSITIZATION - Category 1
- STOT SE 3, H335 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

Full text of abbreviated R phrases:

- SCS1 supercompetent cells
- pUC18 Control Plasmid DNA
- 1.42 M 2-Mercaptoethanol

Not applicable.

R23/24- Toxic by inhalation and in contact with skin.
R22- Harmful if swallowed.
R20/21- Harmful by inhalation and in contact with skin.
R41- Risk of serious damage to eyes.
R38- Irritating to skin.
R43- May cause sensitisation by skin contact.
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Date of issue/Date of revision: 28/08/2015 20/21
SECTION 16: Other information

Full text of classifications [DSD/DPD]

<table>
<thead>
<tr>
<th>Substance</th>
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<tr>
<td>SCS1 supercompetent cells</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>pUC18 Control Plasmid DNA</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>1.42 M 2-Mercaptoethanol</td>
<td>T - Toxic</td>
</tr>
<tr>
<td></td>
<td>Xn - Harmful</td>
</tr>
<tr>
<td></td>
<td>Xi - Irritant</td>
</tr>
<tr>
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<td>N - Dangerous for the environment</td>
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</table>

Date of issue/ Date of revision : 28/08/2015
Date of previous issue : 15/03/2013.
Version : 4

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