SAFETY DATA SHEET
Gigapack III Plus-4 Packaging Extract, Part Number 200204

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

1.1 Product identifier

Product name: Gigapack III Plus-4 Packaging Extract, Part Number 200204
Part No. (Kit): 200204
Part No.: Gigapack III packaging extract
Wild-Type Lambda DNA c1857ind 1 Sam7 246203-51
VCS257 E. coli Strain 200256-51

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

Identified uses

<table>
<thead>
<tr>
<th>Identified uses</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytical reagent.</td>
<td></td>
</tr>
<tr>
<td>Gigapack III packaging extract</td>
<td>0.275 ml (11 x 0.025 ml)</td>
</tr>
<tr>
<td>Wild-Type Lambda DNA c1857ind 1 Sam7</td>
<td>0.005 ml (0.21 µg/µl)</td>
</tr>
<tr>
<td>VCS257 E. coli Strain</td>
<td>1 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: Gigapack III packaging extract
Wild-Type Lambda DNA c1857ind 1 Sam7
VCS257 E. coli Strain

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

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

2.2 Label elements

Signal word: Gigapack III packaging extract
Wild-Type Lambda DNA c1857ind 1 Sam7
VCS257 E. coli Strain
No signal word.
# SECTION 2: Hazards identification

<table>
<thead>
<tr>
<th>Hazard statements</th>
<th>Gigapack III packaging extract</th>
<th>Wild-Type Lambda DNA c1857ind 1 Sam7</th>
<th>VCS257 E. coli Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Precautionary statements</th>
<th>Prevention</th>
<th>Response</th>
<th>Storage</th>
<th>Disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gigapack III packaging extract</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Wild-Type Lambda DNA c1857ind 1 Sam7</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>VCS257 E. coli Strain</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazardous ingredients</th>
<th>No hazardous ingredient</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Supplemental label elements</th>
<th>Gigapack III packaging extract</th>
<th>Wild-Type Lambda DNA c1857ind 1 Sam7</th>
<th>VCS257 E. coli Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety data sheet available on request.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</th>
<th>Gigapack III packaging extract</th>
<th>Wild-Type Lambda DNA c1857ind 1 Sam7</th>
<th>VCS257 E. coli Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Special packaging requirements</th>
<th>Tactile warning of danger</th>
<th>Gigapack III packaging extract</th>
<th>Wild-Type Lambda DNA c1857ind 1 Sam7</th>
<th>VCS257 E. coli Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

### 2.3 Other hazards

<table>
<thead>
<tr>
<th>Other hazards which do not result in classification</th>
<th>Gigapack III packaging extract</th>
<th>Wild-Type Lambda DNA c1857ind 1 Sam7</th>
<th>VCS257 E. coli Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>None known.</td>
<td>None known.</td>
<td>None known.</td>
<td>None known.</td>
</tr>
</tbody>
</table>
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>
<th>Type</th>
</tr>
</thead>
</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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gigapack III packaging extract</td>
<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>Wild-Type Lambda DNA c1857ind 1 Sam7</td>
<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>VCS257 E. coli Strain</td>
<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>
</tbody>
</table>

Inhalation

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gigapack III packaging extract</td>
<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>Wild-Type Lambda DNA c1857ind 1 Sam7</td>
<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>VCS257 E. coli Strain</td>
<td>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</td>
</tr>
</tbody>
</table>

Skin contact

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gigapack III packaging extract</td>
<td>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td>Wild-Type Lambda DNA c1857ind 1 Sam7</td>
<td>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td>VCS257 E. coli Strain</td>
<td>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.</td>
</tr>
</tbody>
</table>

See Section 16 for the full text of the H statements declared above.
SECTION 4: First aid measures

**Ingestion** :
- **Gigapack III packaging extract**
  - 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.
- **Wild-Type Lambda DNA c1857ind 1 Sam7**
  - 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.
- **VCS257 E. coli Strain**
  - 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.

**Protection of first-aiders** :
- **Gigapack III packaging extract**
  - No action shall be taken involving any personal risk or without suitable training.
- **Wild-Type Lambda DNA c1857ind 1 Sam7**
  - No action shall be taken involving any personal risk or without suitable training.
- **VCS257 E. coli Strain**
  - No action shall be taken involving any personal risk or without suitable training.

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

**Potential acute health effects**

- **Eye contact**
  - **Gigapack III packaging extract**
    - No known significant effects or critical hazards.
  - **Wild-Type Lambda DNA c1857ind 1 Sam7**
    - No known significant effects or critical hazards.
  - **VCS257 E. coli Strain**
    - No known significant effects or critical hazards.

- **Inhalation**
  - **Gigapack III packaging extract**
    - No known significant effects or critical hazards.
  - **Wild-Type Lambda DNA c1857ind 1 Sam7**
    - No known significant effects or critical hazards.
  - **VCS257 E. coli Strain**
    - No known significant effects or critical hazards.

- **Skin contact**
  - **Gigapack III packaging extract**
    - No known significant effects or critical hazards.
  - **Wild-Type Lambda DNA c1857ind 1 Sam7**
    - No known significant effects or critical hazards.
  - **VCS257 E. coli Strain**
    - No known significant effects or critical hazards.

- **Ingestion**
  - **Gigapack III packaging extract**
    - No known significant effects or critical hazards.
  - **Wild-Type Lambda DNA c1857ind 1 Sam7**
    - No known significant effects or critical hazards.
  - **VCS257 E. coli Strain**
    - No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

- **Eye contact**
  - **Gigapack III packaging extract**
    - No specific data.
  - **Wild-Type Lambda DNA c1857ind 1 Sam7**
    - No specific data.
  - **VCS257 E. coli Strain**
    - No specific data.

- **Inhalation**
  - **Gigapack III packaging extract**
    - No specific data.
  - **Wild-Type Lambda DNA c1857ind 1 Sam7**
    - No specific data.
  - **VCS257 E. coli Strain**
    - No specific data.
### SECTION 4: First aid measures

<table>
<thead>
<tr>
<th>Skin contact</th>
<th>Gigapack III packaging extract</th>
<th>Ingestion</th>
<th>Wild-Type Lambda DNA c1857ind 1 Sam7</th>
<th>VCS257 E. coli Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No specific data.</td>
<td></td>
<td>No specific data.</td>
<td></td>
</tr>
</tbody>
</table>

**Notes to physician**

<table>
<thead>
<tr>
<th>Gigapack III packaging extract</th>
<th>Wild-Type Lambda DNA c1857ind 1 Sam7</th>
<th>VCS257 E. coli Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treat symptomatically.</td>
<td>Contact poison treatment specialist</td>
<td></td>
</tr>
<tr>
<td>if large quantities have been</td>
<td>immediately if large quantities</td>
<td></td>
</tr>
<tr>
<td>ingested or inhaled.</td>
<td>have been ingested or inhaled.</td>
<td></td>
</tr>
</tbody>
</table>

**Specific treatments**

<table>
<thead>
<tr>
<th>Gigapack III packaging extract</th>
<th>Wild-Type Lambda DNA c1857ind 1 Sam7</th>
<th>VCS257 E. coli Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>No specific treatment.</td>
<td>No specific treatment.</td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>Gigapack III packaging extract</th>
<th>Wild-Type Lambda DNA c1857ind 1 Sam7</th>
<th>VCS257 E. coli Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use an extinguishing agent</td>
<td>suitable for the surrounding</td>
<td>Use an extinguishing agent suitable</td>
<td></td>
</tr>
<tr>
<td>for the surrounding fire.</td>
<td>fire</td>
<td>for the surrounding fire.</td>
<td></td>
</tr>
</tbody>
</table>

**Unsuitable extinguishing media**

<table>
<thead>
<tr>
<th>Gigapack III packaging extract</th>
<th>Wild-Type Lambda DNA c1857ind 1 Sam7</th>
<th>VCS257 E. coli Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>None known.</td>
<td>None known.</td>
<td></td>
</tr>
</tbody>
</table>

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

**Hazardous combustion products**

<table>
<thead>
<tr>
<th>Gigapack III packaging extract</th>
<th>Wild-Type Lambda DNA c1857ind 1 Sam7</th>
<th>VCS257 E. coli Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decomposition products may</td>
<td>include the following materials:</td>
<td></td>
</tr>
<tr>
<td>include the following materials:</td>
<td>carbon dioxide</td>
<td></td>
</tr>
<tr>
<td>No specific data.</td>
<td>carbon monoxide</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Decomposition products may include</td>
<td></td>
</tr>
<tr>
<td></td>
<td>the following materials:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>carbon dioxide</td>
<td></td>
</tr>
<tr>
<td></td>
<td>carbon monoxide</td>
<td></td>
</tr>
<tr>
<td></td>
<td>halogenated compounds</td>
<td></td>
</tr>
<tr>
<td></td>
<td>metal oxide/oxides</td>
<td></td>
</tr>
</tbody>
</table>

#### 5.3 Advice for firefighters

**Date of issue/Date of revision**

: 29/02/2016
## SECTION 5: Firefighting measures

<table>
<thead>
<tr>
<th>Special precautions for fire-fighters</th>
<th>Gigapack III packaging extract</th>
<th>Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wild-Type Lambda DNA c1857ind 1 Sam7</td>
<td>Gigapack III packaging extract</td>
<td>Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.</td>
</tr>
<tr>
<td>VCS257 E. coli Strain</td>
<td>Gigapack III packaging extract</td>
<td>Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.</td>
</tr>
</tbody>
</table>

### Special protective equipment for fire-fighters

<table>
<thead>
<tr>
<th>Special precautions for fire-fighters</th>
<th>Gigapack III packaging extract</th>
<th>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wild-Type Lambda DNA c1857ind 1 Sam7</td>
<td>Wild-Type Lambda DNA c1857ind 1 Sam7</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>
</tr>
<tr>
<td>VCS257 E. coli Strain</td>
<td>VCS257 E. coli Strain</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>
</tr>
</tbody>
</table>

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel

- **Gigapack III packaging extract**: 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.

#### For emergency responders

- **Gigapack III packaging extract**: 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".

- **Wild-Type Lambda DNA c1857ind 1 Sam7**: 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".

- **VCS257 E. coli Strain**: 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".

---

**Date of issue/Date of revision**: 29/02/2016
SECTION 6: Accidental release measures

6.2 Environmental precautions

<table>
<thead>
<tr>
<th>Material</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gigapack III packaging extract</td>
<td>Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</td>
</tr>
<tr>
<td>Wild-Type Lambda DNA c1857ind 1 Sam7</td>
<td>Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</td>
</tr>
<tr>
<td>VCS257 E. coli Strain</td>
<td>Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</td>
</tr>
</tbody>
</table>

6.3 Methods and material for containment and cleaning up

<table>
<thead>
<tr>
<th>Methods for cleaning up</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.</td>
<td>Gigapack III packaging extract</td>
</tr>
<tr>
<td>Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.</td>
<td>Wild-Type Lambda DNA c1857ind 1 Sam7</td>
</tr>
<tr>
<td>Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.</td>
<td>VCS257 E. coli Strain</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Protective measures</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Put on appropriate personal protective equipment (see Section 8).</td>
<td>Gigapack III packaging extract</td>
</tr>
<tr>
<td>Put on appropriate personal protective equipment (see Section 8).</td>
<td>Wild-Type Lambda DNA c1857ind 1 Sam7</td>
</tr>
<tr>
<td>Put on appropriate personal protective equipment (see Section 8).</td>
<td>VCS257 E. coli Strain</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Advice on general occupational hygiene</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.</td>
<td>Gigapack III packaging extract</td>
</tr>
<tr>
<td>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.</td>
<td>Wild-Type Lambda DNA c1857ind 1 Sam7</td>
</tr>
<tr>
<td>Potentially biohazardous material. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.</td>
<td>VCS257 E. coli Strain</td>
</tr>
</tbody>
</table>

Date of issue/Date of revision: 29/02/2016
SECTION 7: Handling and storage

7.2 Conditions for safe storage, including any incompatibilities

- Gigapack III packaging extract: 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.

- Wild-Type Lambda DNA c1857ind 1 Sam7: 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.

- VCS257 E. coli Strain: 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.

7.3 Specific end use(s)

- Gigapack III packaging extract: Industrial applications, Professional applications.

- Wild-Type Lambda DNA c1857ind 1 Sam7: Industrial applications, Professional applications.

- VCS257 E. coli Strain: Industrial applications, Professional applications.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

### Occupational exposure limits

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Exposure limit values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gigapack III packaging extract</td>
<td>EH40/2005 WELs (United Kingdom (UK), 12/2011). STEL: 20 mg/m³ 15 minutes. TWA: 10 mg/m³ 8 hours.</td>
</tr>
<tr>
<td>Sucrose</td>
<td></td>
</tr>
<tr>
<td>VCS257 E. coli Strain Glycerol</td>
<td>EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 10 mg/m³ 8 hours. Form: Mist</td>
</tr>
</tbody>
</table>

#### Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace...
SECTION 8: Exposure controls/personal protection

- Atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs
No DNELs/DMELs available.

PNECs
No PNECs available.

8.2 Exposure controls

**Appropriate engineering controls**: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Individual protection measures**

- **Hygiene measures**: 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.

- **Body protection**: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

- **Other skin protection**: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

- **Respiratory protection**: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

- **Environmental exposure controls**: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

**Appearance**

- **Physical state**: Gigapack III packaging extract, Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain - Liquid.
- **Colour**: Gigapack III packaging extract, Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain - Not available.

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SECTION 9: Physical and chemical properties

Odour
- Gigapack III packaging extract: Not available.
- Wild-Type Lambda DNA c1857ind 1 Sam7: Not available.
- VCS257 E. coli Strain: Not available.

Odour threshold
- Gigapack III packaging extract: Not available.
- Wild-Type Lambda DNA c1857ind 1 Sam7: Not available.
- VCS257 E. coli Strain: Not available.

pH
- Gigapack III packaging extract: 8
- Wild-Type Lambda DNA c1857ind 1 Sam7: 7
- VCS257 E. coli Strain: 7

Melting point/freezing point
- Gigapack III packaging extract: Not available.
- Wild-Type Lambda DNA c1857ind 1 Sam7: 0°C
- VCS257 E. coli Strain: Not available.

Initial boiling point and boiling range
- Gigapack III packaging extract: Not available.
- Wild-Type Lambda DNA c1857ind 1 Sam7: 100°C
- VCS257 E. coli Strain: Not available.

Flash point
- Gigapack III packaging extract: Not available.
- Wild-Type Lambda DNA c1857ind 1 Sam7: Not available.
- VCS257 E. coli Strain: Not available.

Evaporation rate
- Gigapack III packaging extract: Not available.
- Wild-Type Lambda DNA c1857ind 1 Sam7: Not available.
- VCS257 E. coli Strain: Not available.

Flammability (solid, gas)
- Gigapack III packaging extract: Not applicable.
- Wild-Type Lambda DNA c1857ind 1 Sam7: Not applicable.
- VCS257 E. coli Strain: Not applicable.

Upper/lower flammability or explosive limits
- Gigapack III packaging extract: Not available.
- Wild-Type Lambda DNA c1857ind 1 Sam7: Not available.
- VCS257 E. coli Strain: Not available.

Vapour pressure
- Gigapack III packaging extract: Not available.
- Wild-Type Lambda DNA c1857ind 1 Sam7: Not available.
- VCS257 E. coli Strain: Not available.

Vapour density
- Gigapack III packaging extract: Not available.
- Wild-Type Lambda DNA c1857ind 1 Sam7: Not available.
- VCS257 E. coli Strain: Not available.

Relative density
- Gigapack III packaging extract: Not available.
- Wild-Type Lambda DNA c1857ind 1 Sam7: Not available.
- VCS257 E. coli Strain: Not available.
### SECTION 9: Physical and chemical properties

#### Solubility(ies)
- **Gigapack III packaging extract**
  - Easily soluble in the following materials: cold water and hot water.
- **Wild-Type Lambda DNA c1857ind 1 Sam7**
  - Easily soluble in the following materials: cold water and hot water.
- **VCS257 E. coli Strain**
  - Easily soluble in the following materials: cold water and hot water.

#### Partition coefficient: n-octanol/water
- **Gigapack III packaging extract**
  - Not available.
- **Wild-Type Lambda DNA c1857ind 1 Sam7**
  - Not available.
- **VCS257 E. coli Strain**
  - Not available.

#### Auto-ignition temperature
- **Gigapack III packaging extract**
  - Not available.
- **Wild-Type Lambda DNA c1857ind 1 Sam7**
  - Not available.
- **VCS257 E. coli Strain**
  - Not available.

#### Decomposition temperature
- **Gigapack III packaging extract**
  - Not available.
- **Wild-Type Lambda DNA c1857ind 1 Sam7**
  - Not available.
- **VCS257 E. coli Strain**
  - Not available.

#### Viscosity
- **Gigapack III packaging extract**
  - Not available.
- **Wild-Type Lambda DNA c1857ind 1 Sam7**
  - Not available.
- **VCS257 E. coli Strain**
  - Not available.

#### Explosive properties
- **Gigapack III packaging extract**
  - Not available.
- **Wild-Type Lambda DNA c1857ind 1 Sam7**
  - Not available.
- **VCS257 E. coli Strain**
  - Not available.

#### Oxidising properties
- **Gigapack III packaging extract**
  - Not available.
- **Wild-Type Lambda DNA c1857ind 1 Sam7**
  - Not available.
- **VCS257 E. coli Strain**
  - Not available.

### 9.2 Other information
No additional information.

### SECTION 10: Stability and reactivity

#### 10.1 Reactivity
- **Gigapack III packaging extract**
  - No specific test data related to reactivity available for this product or its ingredients.
- **Wild-Type Lambda DNA c1857ind 1 Sam7**
  - No specific test data related to reactivity available for this product or its ingredients.
- **VCS257 E. coli Strain**
  - No specific test data related to reactivity available for this product or its ingredients.

#### 10.2 Chemical stability
- **Gigapack III packaging extract**
  - The product is stable.
- **Wild-Type Lambda DNA c1857ind 1 Sam7**
  - The product is stable.
- **VCS257 E. coli Strain**
  - The product is stable.

#### 10.3 Possibility of hazardous reactions
- **Gigapack III packaging extract**
  - Under normal conditions of storage and use, hazardous reactions will not occur.
- **Wild-Type Lambda DNA c1857ind 1 Sam7**
  - Under normal conditions of storage and use, hazardous reactions will not occur.
- **VCS257 E. coli Strain**
  - Under normal conditions of storage and use, hazardous reactions will not occur.
SECTION 10: Stability and reactivity

10.4 Conditions to avoid

- Gigapack III packaging extract: No specific data.
- Wild-Type Lambda DNA c1857ind 1 Sam7: No specific data.
- VCS257 E. coli Strain: No specific data.

10.5 Incompatible materials

- Gigapack III packaging extract: May react or be incompatible with oxidising materials.
- Wild-Type Lambda DNA c1857ind 1 Sam7: May react or be incompatible with oxidising materials.
- VCS257 E. coli Strain: May react or be incompatible with oxidising materials.

10.6 Hazardous decomposition products

- Gigapack III packaging extract: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Wild-Type Lambda DNA c1857ind 1 Sam7: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- VCS257 E. coli Strain: 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>VCS257 E. coli Strain</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>3000 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Acute toxicity estimates

- Not available.

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>VCS257 E. coli Strain</td>
<td>Eyes - Moderate</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 100</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>irritant</td>
<td></td>
<td></td>
<td>milligrams</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eyes - Moderate</td>
<td>Rabbit</td>
<td>-</td>
<td>10 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>irritant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skin - Mild</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>irritant</td>
<td></td>
<td></td>
<td>milligrams</td>
<td></td>
</tr>
</tbody>
</table>

Sensitiser

Conclusion/Summary: Not available.

Chronic toxicity / Carcinogenicity / Mutagenicity / Teratogenicity / Reproductive toxicity

- Not available.

Specific target organ toxicity (single exposure)

- Not available.

Specific target organ toxicity (repeated exposure)

- Not available.

Aspiration hazard

- Not available.

Information on likely routes of exposure

- Gigapack III packaging extract: Not available.
- Wild-Type Lambda DNA c1857ind 1 Sam7: Not available.
- VCS257 E. coli Strain: Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

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# SECTION 11: Toxicological information

## Inhalation

<table>
<thead>
<tr>
<th>Substance</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gigapack III packaging extract</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Wild-Type Lambda DNA c1857 ind 1 Sam7</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>VCS257 E. coli Strain</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

## Ingestion

<table>
<thead>
<tr>
<th>Substance</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gigapack III packaging extract</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Wild-Type Lambda DNA c1857 ind 1 Sam7</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>VCS257 E. coli Strain</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

## Skin contact

<table>
<thead>
<tr>
<th>Substance</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gigapack III packaging extract</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Wild-Type Lambda DNA c1857 ind 1 Sam7</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>VCS257 E. coli Strain</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

## Eye contact

<table>
<thead>
<tr>
<th>Substance</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gigapack III packaging extract</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Wild-Type Lambda DNA c1857 ind 1 Sam7</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>VCS257 E. coli Strain</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Substance</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Wild-Type Lambda DNA c1857 ind 1 Sam7</td>
<td>No specific data.</td>
</tr>
<tr>
<td>VCS257 E. coli Strain</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

## 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.

## Potential chronic health effects

### General

<table>
<thead>
<tr>
<th>Substance</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gigapack III packaging extract</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Wild-Type Lambda DNA c1857 ind 1 Sam7</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>VCS257 E. coli Strain</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>
Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II - United Kingdom (UK)

Gigapack III Plus-4 Packaging Extract, Part Number 200204

SECTION 11: Toxicological information

Carcinogenicity: No known significant effects or critical hazards.
- Gigapack III packaging extract
- Wild-Type Lambda DNA c1857ind 1 Sam7
- VCS257 E. coli Strain

Mutagenicity: No known significant effects or critical hazards.
- Gigapack III packaging extract
- Wild-Type Lambda DNA c1857ind 1 Sam7
- VCS257 E. coli Strain

Teratogenicity: No known significant effects or critical hazards.
- Gigapack III packaging extract
- Wild-Type Lambda DNA c1857ind 1 Sam7
- VCS257 E. coli Strain

Developmental effects: No known significant effects or critical hazards.
- Gigapack III packaging extract
- Wild-Type Lambda DNA c1857ind 1 Sam7
- VCS257 E. coli Strain

Fertility effects: No known significant effects or critical hazards.
- Gigapack III packaging extract
- Wild-Type Lambda DNA c1857ind 1 Sam7
- VCS257 E. coli Strain

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>VCS257 E. coli Strain</td>
<td>Sodium chloride</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute EC50 2430000 μg/l</td>
<td>Algae - Navicula seminulum</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 28.85 mg/dm3</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 519.6 mg/l</td>
<td>Crustaceans - Cypris subglobosa</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute IC50 6.87 g/L</td>
<td>Aquatic plants - Lemna minor</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1661 mg/l</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1000000 μg/l</td>
<td>Fish - Morone saxatilis - Larvae</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic LC10 781 mg/l</td>
<td>Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>3 weeks</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 6 g/L</td>
<td>Aquatic plants - Lemna minor</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.314 g/L</td>
<td>Daphnia - Daphnia pulex</td>
<td>21 days</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 100 mg/l</td>
<td>Fish - Gambusia holbrooki - Adult</td>
<td>8 weeks</td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability
Not available.

12.3 Bioaccumulative potential
Not available.

12.4 Mobility in soil

<table>
<thead>
<tr>
<th>Soil/water partition coefficient (KOC)</th>
<th>Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not available.</td>
</tr>
</tbody>
</table>

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SECTION 12: Ecological information

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

Packaging
Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of 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 and the IBC Code : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
EU Regulation (EC) No. 1907/2006 (REACH)
Annex XIV - List of substances subject to authorisation
Annex XIV
None of the components are listed.

Substances of very high concern
None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
Gigapack III packaging extract : Not applicable.
Wild-Type Lambda DNA c1857ind 1 Sam7 : Not applicable.
VCS257 E. coli Strain : Not applicable.

Other EU regulations
Europe inventory : All components are listed or exempted.
Seveso Directive

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SECTION 15: Regulatory information

This product is not controlled under the Seveso Directive.

National 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: Not determined.
Canada: At least one component is not listed in DSL but all such components are listed in NDSL.
China: Not determined.
Japan: Japan inventory (ENCS): Not determined.
Japan inventory (ISHL): Not determined.
Malaysia: Not determined.
New Zealand: All components are listed or exempted.
Philippines: Not determined.
Republic of Korea: Not determined.
Taiwan: All components are listed or exempted.
Turkey: Not determined.
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.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms

ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

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

Full text of abbreviated H statements: VCS257 E. coli Strain H319
Causes serious eye irritation.

Full text of classifications [CLP/GHS]: VCS257 E. coli Strain Eye Irrit. 2, H319
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2

Date of issue/ Date of revision: 29/02/2016

Date of issue/ Date of revision: 29/02/2016
SECTION 16: Other information

Date of previous issue : No previous validation.
Version : 1

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