Section 1. Identification

1.1 Product identifier
Product name : StrataClone Mammalian Expression Untagged Vector System, Part Number 240228
Part No. (Chemical Kit): 240228
Part No.: StrataClone pCMV-SC Vector Mix 240228-51
StrataClone Blunt Cloning Buffer 240207-54
StrataClone CAM Blunt Control Insert 240224-59
StrataClone SoloPack Competent Cells 200185-59
StrataClone CAM Blunt Control Insert 200185-59
pUC 18 DNA Control Plasmid 200231-42

1.2 Relevant identified uses of the substance or mixture and uses advised against
Material uses: Analytical reagent.

<table>
<thead>
<tr>
<th>Material Uses</th>
<th>Volume/Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone pCMV-SC Vector Mix</td>
<td>0.021 ml (Use 1 µl)</td>
</tr>
<tr>
<td>StrataClone Blunt Cloning Buffer</td>
<td>0.063 ml</td>
</tr>
<tr>
<td>StrataClone CAM Blunt Control Insert</td>
<td>1 ml (50 ng 5 ng/µl)</td>
</tr>
<tr>
<td>StrataClone SoloPack Competent Cells</td>
<td>1.05 ml (21 x 50 µl)</td>
</tr>
<tr>
<td>pUC 18 DNA Control Plasmid</td>
<td>0.01 ml (0.1 ng/µl)</td>
</tr>
</tbody>
</table>

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

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

Section 2. Hazards identification

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

Classification of the substance or mixture

Date of issue : 03/29/2017
Section 2. Hazards identification

**StrataClone pCMV-SC Vector Mix**

H320 EYE IRRITATION - Category 2B

**StrataClone Blunt Cloning Buffer**

H319 EYE IRRITATION - Category 2A

**StrataClone SoloPack Competent Cells**

H319 EYE IRRITATION - Category 2A

**Ingredients of unknown toxicity**

StrataClone SoloPack Competent Cells

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 1.1%

2.2 GHS label elements

**Hazard pictograms**

[Exclamation mark]

**Signal word**

StrataClone pCMV-SC Vector Mix Warning
StrataClone Blunt Cloning Buffer Warning
StrataClone CAM Blunt Control Insert No signal word.
StrataClone SoloPack Competent Cells Warning
pUC 18 DNA Control Plasmid No signal word.

**Hazard statements**

StrataClone pCMV-SC Vector Mix H320 - Causes eye irritation.
StrataClone Blunt Cloning Buffer GHS SYMBOL - Exclamation mark -
StrataClone CAM Blunt Control Insert H319 - Causes serious eye irritation.
StrataClone SoloPack Competent Cells No known significant effects or critical hazards.
pUC 18 DNA Control Plasmid H319 - Causes serious eye irritation.

**Precautionary statements**

**Prevention**

StrataClone pCMV-SC Vector Mix P264 - Wash hands thoroughly after handling.
P280 - Wear eye or face protection.
StrataClone Blunt Cloning Buffer P264 - Wash hands thoroughly after handling.
Not applicable.
StrataClone CAM Blunt Control Insert P280 - Wear eye or face protection.
StrataClone SoloPack Competent Cells P264 - Wash hands thoroughly after handling.
Not applicable.
pUC 18 DNA Control Plasmid Not applicable.

**Response**

StrataClone pCMV-SC Vector Mix P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical attention.
StrataClone Blunt Cloning Buffer P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Date of issue: 03/29/2017
Section 2. Hazards identification

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>P337 + P313 - If eye irritation persists: Get medical attention.</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone CAM Blunt Control Insert</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>StrataClone SoloPack Competent Cells</td>
<td>P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</td>
</tr>
<tr>
<td>pUC 18 DNA Control Plasmid</td>
<td>P337 + P313 - If eye irritation persists: Get medical attention.</td>
</tr>
</tbody>
</table>

Storage:

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone pCMV-SC Vector Mix</td>
<td></td>
</tr>
<tr>
<td>StrataClone Blunt Cloning Buffer</td>
<td></td>
</tr>
<tr>
<td>StrataClone CAM Blunt Control Insert</td>
<td></td>
</tr>
<tr>
<td>StrataClone SoloPack Competent Cells</td>
<td></td>
</tr>
<tr>
<td>pUC 18 DNA Control Plasmid</td>
<td></td>
</tr>
</tbody>
</table>

Disposal:

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone pCMV-SC Vector Mix</td>
<td></td>
</tr>
<tr>
<td>StrataClone Blunt Cloning Buffer</td>
<td></td>
</tr>
<tr>
<td>StrataClone CAM Blunt Control Insert</td>
<td></td>
</tr>
<tr>
<td>StrataClone SoloPack Competent Cells</td>
<td></td>
</tr>
<tr>
<td>pUC 18 DNA Control Plasmid</td>
<td></td>
</tr>
</tbody>
</table>

Supplemental label elements:

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>None known.</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone pCMV-SC Vector Mix</td>
<td></td>
</tr>
<tr>
<td>StrataClone Blunt Cloning Buffer</td>
<td></td>
</tr>
<tr>
<td>StrataClone CAM Blunt Control Insert</td>
<td></td>
</tr>
<tr>
<td>StrataClone SoloPack Competent Cells</td>
<td></td>
</tr>
<tr>
<td>pUC 18 DNA Control Plasmid</td>
<td></td>
</tr>
</tbody>
</table>

2.3 Other hazards

Hazards not otherwise classified:

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>None known.</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone pCMV-SC Vector Mix</td>
<td></td>
</tr>
<tr>
<td>StrataClone Blunt Cloning Buffer</td>
<td></td>
</tr>
<tr>
<td>StrataClone CAM Blunt Control Insert</td>
<td></td>
</tr>
<tr>
<td>StrataClone SoloPack Competent Cells</td>
<td></td>
</tr>
<tr>
<td>pUC 18 DNA Control Plasmid</td>
<td></td>
</tr>
</tbody>
</table>

Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone pCMV-SC Vector Mix</td>
<td></td>
</tr>
<tr>
<td>StrataClone Blunt Cloning Buffer</td>
<td></td>
</tr>
<tr>
<td>StrataClone CAM Blunt Control Insert</td>
<td></td>
</tr>
<tr>
<td>StrataClone SoloPack Competent Cells</td>
<td></td>
</tr>
<tr>
<td>pUC 18 DNA Control Plasmid</td>
<td></td>
</tr>
</tbody>
</table>
Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>StrataClone pCMV-SC Vector Mix</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>≥25 - ≤50</td>
<td>56-81-5</td>
</tr>
<tr>
<td><strong>StrataClone Blunt Cloning Buffer</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polyethylene glycol</td>
<td>≥25 - ≤50</td>
<td>25322-68-3</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>≤10</td>
<td>7647-14-5</td>
</tr>
<tr>
<td><strong>StrataClone SoloPack Competent Cells</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>≥10 - ≤25</td>
<td>56-81-5</td>
</tr>
<tr>
<td>Calcium chloride (CaCl₂), dihydrate</td>
<td>≤3</td>
<td>10035-04-8</td>
</tr>
</tbody>
</table>

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

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

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

Section 4. First aid measures

4.1 Description of necessary first aid measures

**Eye contact**

- **StrataClone pCMV-SC Vector Mix**: 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. If irritation persists, get medical attention.
- **StrataClone Blunt Cloning Buffer**: 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. Get medical attention.
- **StrataClone CAM Blunt Control Insert**: 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.
- **StrataClone SoloPack Competent Cells**: 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. Get medical attention.
- **pUC 18 DNA Control Plasmid**: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

**Inhalation**

- **StrataClone pCMV-SC Vector Mix**: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. 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.
- **StrataClone Blunt Cloning Buffer**: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not
Section 4. First aid measures

breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. 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.

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

StrataClone SoloPack Competent Cells
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. 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.

pUC 18 DNA Control Plasmid
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact:

- StrataClone pCMV-SC Vector Mix
  Flush contaminated skin with plenty of water.
  Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

- StrataClone Blunt Cloning Buffer
  Flush contaminated skin with plenty of water.
  Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

- StrataClone CAM Blunt Control Insert
  Flush contaminated skin with plenty of water.
  Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

- StrataClone SoloPack Competent Cells
  Flush contaminated skin with plenty of water.
  Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

- pUC 18 DNA Control Plasmid
  Flush contaminated skin with plenty of water.
  Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion:

- StrataClone pCMV-SC Vector Mix
  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. Get medical attention if
Section 4. First aid measures

adverse health effects persist or are severe. 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.

StrataClone Blunt Cloning Buffer
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. Get medical attention if adverse health effects persist or are severe. 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.

StrataClone CAM Blunt Control Insert
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.

StrataClone SoloPack Competent Cells
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. Get medical attention if adverse health effects persist or are severe. 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.

pUC 18 DNA Control Plasmid
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.

4.2 Most important symptoms/effects, acute and delayed
Potential acute health effects

Date of issue : 03/29/2017
## Section 4. First aid measures

### Inhalation

<table>
<thead>
<tr>
<th>Item</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone pCMV-SC Vector Mix</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>StrataClone Blunt Cloning Buffer</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>StrataClone CAM Blunt Control Insert</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>StrataClone SoloPack Competent Cells</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>pUC 18 DNA Control Plasmid</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

### Skin contact

<table>
<thead>
<tr>
<th>Item</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone pCMV-SC Vector Mix</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>StrataClone Blunt Cloning Buffer</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>StrataClone CAM Blunt Control Insert</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>StrataClone SoloPack Competent Cells</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>pUC 18 DNA Control Plasmid</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

### Ingestion

<table>
<thead>
<tr>
<th>Item</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone pCMV-SC Vector Mix</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>StrataClone Blunt Cloning Buffer</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>StrataClone CAM Blunt Control Insert</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>StrataClone SoloPack Competent Cells</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>pUC 18 DNA Control Plasmid</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

### Over-exposure signs/symptoms

#### Eye contact

<table>
<thead>
<tr>
<th>Item</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone pCMV-SC Vector Mix</td>
<td>Adverse symptoms may include the following: irritation, watering, redness</td>
</tr>
<tr>
<td>StrataClone Blunt Cloning Buffer</td>
<td>Adverse symptoms may include the following: pain or irritation, watering, redness</td>
</tr>
<tr>
<td>StrataClone CAM Blunt Control Insert</td>
<td>No specific data.</td>
</tr>
<tr>
<td>StrataClone SoloPack Competent Cells</td>
<td>Adverse symptoms may include the following: pain or irritation, watering, redness</td>
</tr>
<tr>
<td>pUC 18 DNA Control Plasmid</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

#### Inhalation

<table>
<thead>
<tr>
<th>Item</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone pCMV-SC Vector Mix</td>
<td>No specific data.</td>
</tr>
<tr>
<td>StrataClone Blunt Cloning Buffer</td>
<td>No specific data.</td>
</tr>
<tr>
<td>StrataClone CAM Blunt Control Insert</td>
<td>No specific data.</td>
</tr>
<tr>
<td>StrataClone SoloPack Competent Cells</td>
<td>No specific data.</td>
</tr>
<tr>
<td>pUC 18 DNA Control Plasmid</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>
## Section 4. First aid measures

<table>
<thead>
<tr>
<th>Skin contact</th>
<th>StrataClone pCMV-SC Vector Mix</th>
<th>StrataClone Blunt Cloning Buffer</th>
<th>StrataClone CAM Blunt Control Insert</th>
<th>StrataClone SoloPack Competent Cells</th>
<th>pUC 18 DNA Control Plasmid</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No specific data.</td>
<td>No specific data.</td>
<td>No specific data.</td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

**Ingestion**

<table>
<thead>
<tr>
<th>StrataClone pCMV-SC Vector Mix</th>
<th>StrataClone Blunt Cloning Buffer</th>
<th>StrataClone CAM Blunt Control Insert</th>
<th>StrataClone SoloPack Competent Cells</th>
<th>pUC 18 DNA Control Plasmid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes to physician</td>
<td>StrataClone pCMV-SC Vector Mix</td>
<td>StrataClone Blunt Cloning Buffer</td>
<td>StrataClone CAM Blunt Control Insert</td>
<td>StrataClone SoloPack Competent Cells</td>
</tr>
<tr>
<td></td>
<td>Treat symptomatically.</td>
<td>Treat symptomatically.</td>
<td>Treat symptomatically.</td>
<td>Treat symptomatically.</td>
</tr>
<tr>
<td></td>
<td>Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</td>
<td>Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</td>
<td>Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</td>
<td>Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</td>
</tr>
</tbody>
</table>

**Specific treatments**

<table>
<thead>
<tr>
<th>StrataClone pCMV-SC Vector Mix</th>
<th>StrataClone Blunt Cloning Buffer</th>
<th>StrataClone CAM Blunt Control Insert</th>
<th>StrataClone SoloPack Competent Cells</th>
<th>pUC 18 DNA Control Plasmid</th>
</tr>
</thead>
</table>

**Protection of first-aiders**

<table>
<thead>
<tr>
<th>StrataClone pCMV-SC Vector Mix</th>
<th>StrataClone Blunt Cloning Buffer</th>
<th>StrataClone CAM Blunt Control Insert</th>
<th>StrataClone SoloPack Competent Cells</th>
<th>pUC 18 DNA Control Plasmid</th>
</tr>
</thead>
<tbody>
<tr>
<td>No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.</td>
<td>No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.</td>
<td>No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.</td>
<td>No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.</td>
<td>No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.</td>
</tr>
</tbody>
</table>

4.3 **Indication of immediate medical attention and special treatment needed, if necessary**

**See toxicological information (Section 11)**

**Date of issue**: 03/29/2017
Section 5. Fire-fighting measures

5.1 Extinguishing media

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Suitable extinguishing media</th>
<th>Unsuitable extinguishing media</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone pCMV-SC Vector Mix</td>
<td>Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. None known.</td>
<td></td>
</tr>
<tr>
<td>StrataClone Blunt Cloning Buffer</td>
<td>Use an extinguishing agent suitable for the surrounding fire. None known. None known.</td>
<td></td>
</tr>
<tr>
<td>StrataClone CAM Blunt Control Insert</td>
<td>Use an extinguishing agent suitable for the surrounding fire. None known. None known.</td>
<td></td>
</tr>
<tr>
<td>StrataClone SoloPack Competent Cells</td>
<td>Use an extinguishing agent suitable for the surrounding fire. None known. None known.</td>
<td></td>
</tr>
<tr>
<td>pUC 18 DNA Control Plasmid</td>
<td>Use an extinguishing agent suitable for the surrounding fire. None known. None known.</td>
<td></td>
</tr>
</tbody>
</table>

5.2 Special hazards arising from the substance or mixture

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Specific hazards arising from the chemical</th>
<th>Hazardous thermal decomposition products</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone pCMV-SC Vector Mix</td>
<td>In a fire or if heated, a pressure increase will occur and the container may burst. Decomposition products may include the following materials: carbon dioxide carbon monoxide</td>
<td>Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides No specific data.</td>
</tr>
<tr>
<td>StrataClone Blunt Cloning Buffer</td>
<td>In a fire or if heated, a pressure increase will occur and the container may burst. Decomposition products may include the following materials: carbon dioxide carbon monoxide</td>
<td>Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides No specific data.</td>
</tr>
<tr>
<td>StrataClone CAM Blunt Control Insert</td>
<td>In a fire or if heated, a pressure increase will occur and the container may burst. Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides No specific data.</td>
<td></td>
</tr>
<tr>
<td>StrataClone SoloPack Competent Cells</td>
<td>In a fire or if heated, a pressure increase will occur and the container may burst. Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides No specific data.</td>
<td></td>
</tr>
<tr>
<td>pUC 18 DNA Control Plasmid</td>
<td>In a fire or if heated, a pressure increase will occur and the container may burst. Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides No specific data.</td>
<td></td>
</tr>
</tbody>
</table>

5.3 Advice for firefighters
Section 5. Fire-fighting measures

Special protective actions for fire-fighters:

- **StrataClone pCMV-SC Vector Mix**: 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.

- **StrataClone Blunt Cloning Buffer**: 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.

- **StrataClone CAM Blunt Control Insert**: 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.

- **StrataClone SoloPack Competent Cells**: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

- **pUC 18 DNA Control Plasmid**: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters:

- **StrataClone pCMV-SC Vector Mix**: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

- **StrataClone Blunt Cloning Buffer**: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

- **StrataClone CAM Blunt Control Insert**: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

- **StrataClone SoloPack Competent Cells**: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

- **pUC 18 DNA Control Plasmid**: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:

- **StrataClone pCMV-SC Vector Mix**: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

- **StrataClone Blunt Cloning Buffer**: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation.
### Section 6. Accidental release measures

<table>
<thead>
<tr>
<th>Product</th>
<th>Accidental release measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone CAM Blunt Control Insert</td>
<td>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.</td>
</tr>
<tr>
<td>StrataClone SoloPack Competent Cells</td>
<td>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.</td>
</tr>
<tr>
<td>pUC 18 DNA Control Plasmid</td>
<td>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.</td>
</tr>
</tbody>
</table>

**For emergency responders**

<table>
<thead>
<tr>
<th>Product</th>
<th>Accidental release measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone pCMV-SC Vector Mix</td>
<td>If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in &quot;For non-emergency personnel&quot;.</td>
</tr>
<tr>
<td>StrataClone Blunt Cloning Buffer</td>
<td>If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in &quot;For non-emergency personnel&quot;.</td>
</tr>
<tr>
<td>StrataClone CAM Blunt Control Insert</td>
<td>If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in &quot;For non-emergency personnel&quot;.</td>
</tr>
<tr>
<td>StrataClone SoloPack Competent Cells</td>
<td>If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in &quot;For non-emergency personnel&quot;.</td>
</tr>
<tr>
<td>pUC 18 DNA Control Plasmid</td>
<td>If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in &quot;For non-emergency personnel&quot;.</td>
</tr>
</tbody>
</table>

### 6.2 Environmental precautions

<table>
<thead>
<tr>
<th>Product</th>
<th>Accidental release measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone pCMV-SC Vector Mix</td>
<td>Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</td>
</tr>
<tr>
<td>StrataClone Blunt Cloning Buffer</td>
<td>Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</td>
</tr>
<tr>
<td>StrataClone CAM Blunt Control Insert</td>
<td>Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</td>
</tr>
</tbody>
</table>
Section 6. Accidental release measures

caused environmental pollution (sewers, waterways, soil or air).

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

pUC 18 DNA Control Plasmid

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up

StrataClone pCMV-SC Vector Mix
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.

StrataClone Blunt Cloning Buffer
Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

StrataClone CAM Blunt Control Insert
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.

StrataClone SoloPack Competent Cells
Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

pUC 18 DNA Control Plasmid
Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures

StrataClone pCMV-SC Vector Mix
Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. 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.

StrataClone Blunt Cloning Buffer
Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with
### Section 7. Handling and storage

**Advice on general occupational hygiene**

- *StrataClone pCMV-SC Vector Mix*
  - 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.

<table>
<thead>
<tr>
<th>Product</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone CAM Blunt Control Insert</td>
<td>Put on appropriate personal protective equipment (see Section 8).</td>
</tr>
<tr>
<td>StrataClone SoloPack Competent Cells</td>
<td>Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. 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.</td>
</tr>
<tr>
<td>pUC 18 DNA Control Plasmid</td>
<td>Put on appropriate personal protective equipment (see Section 8).</td>
</tr>
</tbody>
</table>

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

*StrataClone Blunt Cloning Buffer*

*StrataClone CAM Blunt Control Insert*

*StrataClone SoloPack Competent Cells*

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

*pUC 18 DNA Control Plasmid*

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
## Section 7. Handling and storage

### 7.2 Conditions for safe storage, including any incompatibilities

<table>
<thead>
<tr>
<th>Product</th>
<th>Storage Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone pCMV-SC Vector Mix</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 unlabeled containers. Use appropriate containment to avoid environmental contamination.</td>
</tr>
<tr>
<td>StrataClone Blunt Cloning Buffer</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 unlabeled containers. Use appropriate containment to avoid environmental contamination.</td>
</tr>
<tr>
<td>StrataClone CAM Blunt Control Insert</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 unlabeled containers. Use appropriate containment to avoid environmental contamination.</td>
</tr>
<tr>
<td>StrataClone SoloPack Competent 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.</td>
</tr>
<tr>
<td>pUC 18 DNA Control Plasmid</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 unlabeled containers. Use appropriate containment to avoid environmental contamination.</td>
</tr>
</tbody>
</table>

### 7.3 Specific end use(s)

**Date of issue:** 03/29/2017
Section 7. Handling and storage

**Recommendations**

- StrataClone pCMV-SC Vector Mix
- StrataClone Blunt Cloning Buffer
- StrataClone CAM Blunt Control Insert
- StrataClone SoloPack Competent Cells
- StrataClone CAM Blunt Control Insert
- StrataClone Blunt Cloning Buffer
- pUC 18 DNA Control Plasmid

**Industrial sector specific solutions**

- StrataClone pCMV-SC Vector Mix
- StrataClone Blunt Cloning Buffer
- StrataClone CAM Blunt Control Insert
- StrataClone SoloPack Competent Cells
- pUC 18 DNA Control Plasmid

Section 8. Exposure controls/personal protection

### 8.1 Control parameters

**Occupational exposure limits**

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>StrataClone pCMV-SC Vector Mix</strong></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction  TWA: 10 mg/m³ 8 hours. Form: Total dust</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>StrataClone Blunt Cloning Buffer</strong></td>
<td></td>
</tr>
<tr>
<td>Polyethylene glycol</td>
<td>AIHA WEEL (United States, 10/2011). TWA: 10 mg/m³ 8 hours. Form: Aerosol</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>None.</td>
</tr>
<tr>
<td><strong>StrataClone SoloPack Competent Cells</strong></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction  TWA: 10 mg/m³ 8 hours. Form: Total dust</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Calcium chloride (CaCl₂), dihydrate</td>
<td></td>
</tr>
</tbody>
</table>

### 8.2 Exposure controls

**Appropriate engineering controls**

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

**Environmental exposure controls**

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

**Individual protection measures**

**Date of issue**: 03/29/2017
Section 8. Exposure controls/personal protection

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: chemical splash goggles.

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

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance
StrataClone Blunt Cloning Buffer Liquid.
StrataClone CAM Blunt Control Insert Liquid.
StrataClone SoloPack Competent Cells Liquid.
pUC 18 DNA Control Plasmid Liquid.

Color: StrataClone pCMV-SC Vector Mix Not available.
StrataClone Blunt Cloning Buffer Not available.
StrataClone CAM Blunt Control Insert Not available.
StrataClone SoloPack Competent Cells Not available.
pUC 18 DNA Control Plasmid Not available.

Odor: StrataClone pCMV-SC Vector Mix Not available.
StrataClone Blunt Cloning Buffer Not available.
StrataClone CAM Blunt Control Insert Not available.
StrataClone SoloPack Competent Cells Not available.
pUC 18 DNA Control Plasmid Not available.
### Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>StrataClone pCMV-SC Vector Mix</th>
<th>StrataClone Blunt Cloning Buffer</th>
<th>StrataClone CAM Blunt Control Insert</th>
<th>StrataClone SoloPack Competent Cells</th>
<th>pUC 18 DNA Control Plasmid</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>pH</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
<td>7.5</td>
</tr>
<tr>
<td><strong>Melting point</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>0°C (32°F)</td>
<td>Not available.</td>
<td>0°C (32°F)</td>
</tr>
<tr>
<td><strong>Boiling point</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>100°C (212°F)</td>
<td>Not available.</td>
<td>100°C (212°F)</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Lower and upper explosive (flammable) limits</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>
## Section 9. Physical and chemical properties

### Vapor pressure
- StrataClone pCMV-SC Vector Mix: Not available.
- StrataClone Blunt Cloning Buffer: Not available.
- StrataClone CAM Blunt Control Insert: Not available.
- StrataClone SoloPack Competent Cells: Not available.
- pUC 18 DNA Control Plasmid: Not available.

### Vapor density
- StrataClone pCMV-SC Vector Mix: Not available.
- StrataClone Blunt Cloning Buffer: Not available.
- StrataClone CAM Blunt Control Insert: Not available.
- StrataClone SoloPack Competent Cells: Not available.
- pUC 18 DNA Control Plasmid: Not available.

### Relative density
- StrataClone pCMV-SC Vector Mix: Not available.
- StrataClone Blunt Cloning Buffer: Not available.
- StrataClone CAM Blunt Control Insert: Not available.
- StrataClone SoloPack Competent Cells: Not available.
- pUC 18 DNA Control Plasmid: Not available.

### Solubility
- StrataClone pCMV-SC Vector Mix: Soluble in the following materials: cold water and hot water.
- StrataClone Blunt Cloning Buffer: Soluble in the following materials: cold water and hot water.
- StrataClone CAM Blunt Control Insert: Easily soluble in the following materials: cold water and hot water.
- StrataClone SoloPack Competent Cells: Soluble in the following materials: cold water and hot water.
- pUC 18 DNA Control Plasmid: Easily soluble in the following materials: cold water and hot water.

### Partition coefficient: n-octanol/water
- StrataClone pCMV-SC Vector Mix: Not available.
- StrataClone Blunt Cloning Buffer: Not available.
- StrataClone CAM Blunt Control Insert: Not available.
- StrataClone SoloPack Competent Cells: Not available.
- pUC 18 DNA Control Plasmid: Not available.

### Auto-ignition temperature
- StrataClone pCMV-SC Vector Mix: Not available.
- StrataClone Blunt Cloning Buffer: Not available.
- StrataClone CAM Blunt Control Insert: Not available.
- StrataClone SoloPack Competent Cells: Not available.
- pUC 18 DNA Control Plasmid: Not available.

### Decomposition temperature
- StrataClone pCMV-SC Vector Mix: Not available.
- StrataClone Blunt Cloning Buffer: Not available.
- StrataClone CAM Blunt Control Insert: Not available.
- StrataClone SoloPack Competent Cells: Not available.
- pUC 18 DNA Control Plasmid: Not available.
Section 9. Physical and chemical properties

Viscosity
- StrataClone pCMV-SC Vector Mix: Not available.
- StrataClone Blunt Cloning Buffer: Not available.
- StrataClone CAM Blunt Control Insert: Not available.
- StrataClone SoloPack Competent Cells: Not available.
- pUC 18 DNA Control Plasmid: Not available.

Section 10. Stability and reactivity

10.1 Reactivity
- StrataClone pCMV-SC Vector Mix: No specific test data related to reactivity available for this product or its ingredients.
- StrataClone Blunt Cloning Buffer: No specific test data related to reactivity available for this product or its ingredients.
- StrataClone CAM Blunt Control Insert: No specific test data related to reactivity available for this product or its ingredients.
- StrataClone SoloPack Competent Cells: No specific test data related to reactivity available for this product or its ingredients.
- pUC 18 DNA Control Plasmid: No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability
- StrataClone pCMV-SC Vector Mix: The product is stable.
- StrataClone Blunt Cloning Buffer: The product is stable.
- StrataClone CAM Blunt Control Insert: The product is stable.
- StrataClone SoloPack Competent Cells: The product is stable.
- pUC 18 DNA Control Plasmid: The product is stable.

10.3 Possibility of hazardous reactions
- StrataClone pCMV-SC Vector Mix: Under normal conditions of storage and use, hazardous reactions will not occur.
- StrataClone Blunt Cloning Buffer: Under normal conditions of storage and use, hazardous reactions will not occur.
- StrataClone CAM Blunt Control Insert: Under normal conditions of storage and use, hazardous reactions will not occur.
- StrataClone SoloPack Competent Cells: Under normal conditions of storage and use, hazardous reactions will not occur.
- pUC 18 DNA Control Plasmid: Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid
- StrataClone pCMV-SC Vector Mix: No specific data.
- StrataClone Blunt Cloning Buffer: No specific data.
- StrataClone CAM Blunt Control Insert: No specific data.
- StrataClone SoloPack Competent Cells: No specific data.
- pUC 18 DNA Control Plasmid: No specific data.

10.5 Incompatible materials
- StrataClone pCMV-SC Vector Mix: May react or be incompatible with oxidizing materials.
- StrataClone Blunt Cloning Buffer: May react or be incompatible with oxidizing materials.
- StrataClone CAM Blunt Control Insert: May react or be incompatible with oxidizing materials.
- StrataClone SoloPack Competent Cells: May react or be incompatible with oxidizing materials.
- pUC 18 DNA Control Plasmid: May react or be incompatible with oxidizing materials.

Date of issue: 03/29/2017
Section 10. Stability and reactivity

10.6 Hazardous decomposition products

- StrataClone pCMV-SC Vector Mix
- StrataClone Blunt Cloning Buffer
- StrataClone CAM Blunt Control Insert
- StrataClone SoloPack Competent Cells
- pUC 18 DNA Control Plasmid

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>StrataClone pCMV-SC Vector Mix</td>
<td>LD50 Oral Glycerol</td>
<td>Rat</td>
<td>12600 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>StrataClone Blunt Cloning Buffer</td>
<td>LD50 Oral Sodium chloride</td>
<td>Rat</td>
<td>3000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>StrataClone SoloPack Competent Cells</td>
<td>LD50 Oral Glycerol</td>
<td>Rat</td>
<td>12600 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Irritation/Corrosion**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone pCMV-SC Vector Mix</td>
<td>Eyes - Mild irritant Glycerol</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>StrataClone Blunt Cloning Buffer</td>
<td>Eyes - Mild irritant Polyethylene glycol</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>10 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

Date of issue: 03/29/2017
Section 11. Toxicological information

<table>
<thead>
<tr>
<th>StrataClone SoloPack Competent Cells</th>
<th>Skin - Mild irritant</th>
<th>Rabbit</th>
<th>-</th>
<th>24 hours 500 milligrams</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

**Sensitization**
Not available.

**Mutagenicity**
Not available.

**Carcinogenicity**
Not available.

**Reproductive toxicity**
Not available.

**Teratogenicity**
Not available.

**Specific target organ toxicity (single exposure)**
Not available.

**Specific target organ toxicity (repeated exposure)**
Not available.

**Aspiration hazard**
Not available.

**Information on the likely routes of exposure**
- StrataClone pCMV-SC Vector Mix
  - Routes of entry anticipated: Oral, Dermal, Inhalation.
- StrataClone Blunt Cloning Buffer
  - Routes of entry anticipated: Oral, Dermal, Inhalation.
- StrataClone CAM Blunt Control Insert
  - Not available.
- StrataClone SoloPack Competent Cells
  - Routes of entry anticipated: Oral, Dermal, Inhalation.
- pUC 18 DNA Control Plasmid
  - Not available.

**Potential acute health effects**

**Eye contact**
- StrataClone pCMV-SC Vector Mix
  - Causes eye irritation.
- StrataClone Blunt Cloning Buffer
  - Causes serious eye irritation.
- StrataClone CAM Blunt Control Insert
  - Causes serious eye irritation.
- StrataClone SoloPack Competent Cells
  - No known significant effects or critical hazards.
- pUC 18 DNA Control Plasmid
  - No known significant effects or critical hazards.

**Inhalation**
- StrataClone pCMV-SC Vector Mix
  - No known significant effects or critical hazards.
- StrataClone Blunt Cloning Buffer
  - No known significant effects or critical hazards.
- StrataClone CAM Blunt Control Insert
  - No known significant effects or critical hazards.
- StrataClone SoloPack Competent Cells
  - No known significant effects or critical hazards.
- pUC 18 DNA Control Plasmid
  - No known significant effects or critical hazards.

**Date of issue:** 03/29/2017
## Section 11. Toxicological information

### Skin contact
- StrataClone pCMV-SC Vector Mix
- StrataClone Blunt Cloning Buffer
- StrataClone CAM Blunt Control Insert
- StrataClone SoloPack Competent Cells
- pUC 18 DNA Control Plasmid

No known significant effects or critical hazards.

### Ingestion
- StrataClone pCMV-SC Vector Mix
- StrataClone Blunt Cloning Buffer
- StrataClone CAM Blunt Control Insert
- StrataClone SoloPack Competent Cells
- pUC 18 DNA Control Plasmid

No known significant effects or critical hazards.

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

#### Eye contact
- StrataClone pCMV-SC Vector Mix
- StrataClone Blunt Cloning Buffer
- StrataClone CAM Blunt Control Insert
- StrataClone SoloPack Competent Cells
- pUC 18 DNA Control Plasmid

Adverse symptoms may include the following:
- irritation
- watering
- redness

#### Inhalation
- StrataClone pCMV-SC Vector Mix
- StrataClone Blunt Cloning Buffer
- StrataClone CAM Blunt Control Insert
- StrataClone SoloPack Competent Cells
- pUC 18 DNA Control Plasmid

No specific data.

#### Skin contact
- StrataClone pCMV-SC Vector Mix
- StrataClone Blunt Cloning Buffer
- StrataClone CAM Blunt Control Insert
- StrataClone SoloPack Competent Cells
- pUC 18 DNA Control Plasmid

No specific data.

#### Ingestion
- StrataClone pCMV-SC Vector Mix
- StrataClone Blunt Cloning Buffer
- StrataClone CAM Blunt Control Insert
- StrataClone SoloPack Competent Cells
- pUC 18 DNA Control Plasmid

No specific data.

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

#### Short term exposure

Date of issue: 03/29/2017
### Section 11. Toxicological information

**Potential immediate effects**
- StrataClone pCMV-SC Vector Mix: Not available.
- StrataClone Blunt Cloning Buffer: Not available.
- StrataClone CAM Blunt Control Insert: Not available.
- StrataClone SoloPack Competent Cells: Not available.
- pUC 18 DNA Control Plasmid: Not available.

**Carcinogenicity**
- StrataClone pCMV-SC Vector Mix: No known significant effects or critical hazards.
- StrataClone Blunt Cloning Buffer: No known significant effects or critical hazards.
- StrataClone CAM Blunt Control Insert: No known significant effects or critical hazards.
- StrataClone SoloPack Competent Cells: No known significant effects or critical hazards.
- pUC 18 DNA Control Plasmid: No known significant effects or critical hazards.

**Mutagenicity**
- StrataClone pCMV-SC Vector Mix: No known significant effects or critical hazards.
- StrataClone Blunt Cloning Buffer: No known significant effects or critical hazards.
- StrataClone CAM Blunt Control Insert: No known significant effects or critical hazards.
- StrataClone SoloPack Competent Cells: No known significant effects or critical hazards.
- pUC 18 DNA Control Plasmid: No known significant effects or critical hazards.

**Teratogenicity**
- StrataClone pCMV-SC Vector Mix: No known significant effects or critical hazards.
- StrataClone Blunt Cloning Buffer: No known significant effects or critical hazards.
- StrataClone CAM Blunt Control Insert: No known significant effects or critical hazards.
- StrataClone SoloPack Competent Cells: No known significant effects or critical hazards.
- pUC 18 DNA Control Plasmid: No known significant effects or critical hazards.

**Developmental effects**
- StrataClone pCMV-SC Vector Mix: No known significant effects or critical hazards.
- StrataClone Blunt Cloning Buffer: No known significant effects or critical hazards.
- StrataClone CAM Blunt Control Insert: No known significant effects or critical hazards.
- StrataClone SoloPack Competent Cells: No known significant effects or critical hazards.
- pUC 18 DNA Control Plasmid: No known significant effects or critical hazards.

**Fertility effects**
- StrataClone pCMV-SC Vector Mix: No known significant effects or critical hazards.
- StrataClone Blunt Cloning Buffer: No known significant effects or critical hazards.
- StrataClone CAM Blunt Control Insert: No known significant effects or critical hazards.
- StrataClone SoloPack Competent Cells: No known significant effects or critical hazards.
- pUC 18 DNA Control Plasmid: No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**

---

**Date of issue:** 03/29/2017
### Section 11. Toxicological information

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone Blunt Cloning Buffer</td>
<td>49180.3 mg/kg</td>
</tr>
</tbody>
</table>

### Section 12. Ecological information

#### 12.1 Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>StrataClone pCMV-SC Vector Mix</strong></td>
<td>Acute LC50 54000 mg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
<tr>
<td>Glycerol</td>
<td>Acute LC50 &gt;1000000 µg/l Fresh water</td>
<td>Fish - Salmo salar - Parr</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 2430000 µg/l Fresh water</td>
<td>Algae - Navicula seminulum</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 28.85 mg/dm3 Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 519.6 mg/l Fresh water</td>
<td>Crustaceans - Cypris subglobosa</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute IC50 6.87 g/L Fresh water</td>
<td>Aquatic plants - Lemna minor</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1.56 g/L Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1000000 µg/l Fresh water</td>
<td>Fish - Morone saxatilis - Larvae</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic LC10 781 mg/l Fresh water</td>
<td>Crustaceans - Hyalella azteca - Juvenile</td>
<td>3 weeks</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 6 g/L Fresh water</td>
<td>(Fledgling, Hatchling, Weanling)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.314 g/L Fresh water</td>
<td>Aquatic plants - Lemna minor</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 100 mg/l Fresh water</td>
<td>Daphnia - Daphnia pulex</td>
<td>21 days</td>
</tr>
<tr>
<td><strong>StrataClone Blunt Cloning Buffer</strong></td>
<td>Acute LC50 54000 mg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
<tr>
<td>Polyethylene glycol</td>
<td>Acute EC50 29000 mg/l Fresh water</td>
<td>Algae</td>
<td>72 hours</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>Acute NOEC 2000 mg/l Fresh water</td>
<td>Daphnia</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

#### 12.2 Persistence and degradability

Not available.

#### 12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogPow</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>StrataClone pCMV-SC Vector Mix</strong></td>
<td>-1.76</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>StrataClone Blunt Cloning Buffer</strong></td>
<td></td>
<td>3.2</td>
<td>low</td>
</tr>
<tr>
<td>Polyethylene glycol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>StrataClone SoloPack Competent Cells</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>-1.76</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

**Date of issue:** 03/29/2017
Section 12. Ecological information

12.4 Mobility in soil

Soil/water partition coefficient ($K_{OC}$) : Not available.

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

Section 13. Disposal considerations

13.1 Waste treatment methods

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

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

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

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

Section 14. Transport information

Regulatory information

DOT / IMDG / IATA : Not regulated.

Section 15. Regulatory information

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

U.S. Federal regulations :

- TSCA 8(a) PAIR: Polyoxyethylene octyl phenyl ether
- United States inventory (TSCA 8b): All components are listed or exempted.
- Clean Water Act (CWA) 311: Edetic acid; Potassium hydroxide

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

Date of issue : 03/29/2017
Section 15. Regulatory information

**DEA List II Chemicals**
(Effective Chemicals)

**SARA 302/304**
**Composition/information on ingredients**

No products were found.

**SARA 304 RQ**
: Not applicable.

**SARA 311/312**
**Classification**
: Immediate (acute) health hazard

**Composition/information on ingredients**

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Fire hazard</th>
<th>Sudden release of pressure</th>
<th>Reactive</th>
<th>Immediate (acute) health hazard</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>StrataClone SoloPack Competent Cells Calcium chloride (CaCl₂), dihydrate</td>
<td>≤3</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
</tbody>
</table>

**State regulations**

**Massachusetts**
: The following components are listed: GLYCERINE MIST

**New York**
: None of the components are listed.

**New Jersey**
: The following components are listed: GLYCERIN; 1,2,3-PROPA ETRIOL

**Pennsylvania**
: The following components are listed: 1,2,3-PROPA ETRIOL

**California Prop. 65**

No products were found.

**International regulations**

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

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

**Stockholm Convention on Persistent Organic Pollutants**

Not listed.

**Rotterdam Convention on Prior Informed Consent (PIC)**

Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**

Not listed.

**Inventory list**

**Australia**
: All components are listed or exempted.

**Canada inventory**
: All components are listed or exempted.

**Date of issue:** 03/29/2017
Section 15. Regulatory information

<table>
<thead>
<tr>
<th>Country</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Europe</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Japan</td>
<td>Japan inventory (ENCS): Not determined.</td>
</tr>
<tr>
<td></td>
<td>Japan inventory (ISHL): Not determined.</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Not determined.</td>
</tr>
<tr>
<td>New Zealand</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Philippines</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Taiwan</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Turkey</td>
<td>Not determined.</td>
</tr>
</tbody>
</table>

Section 16. Other information

History

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of issue</td>
<td>03/29/2017</td>
</tr>
<tr>
<td>Date of previous issue</td>
<td>12/08/2014</td>
</tr>
<tr>
<td>Version</td>
<td>4</td>
</tr>
</tbody>
</table>

*Indicates information that has changed from previously issued version.*

Notice to reader

Disclaimer: The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.