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

1.1 Product identifier

Product name: VariFlex C-Terminal SET Vector Set, Part Number 240184
Part No. (Kit): 240184
Part No.:
- pBEc-SET1 Vector: 240184-51
- pBEc-SET2 Vector: 240184-52
- pBEc-SET3 Vector: 240184-53

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

Identified uses:
- Analytical reagent.
- pBEc-SET1 Vector: 0.02 ml
- pBEc-SET2 Vector: 0.02 ml
- pBEc-SET3 Vector: 0.02 ml

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:
- pBEc-SET1 Vector: Mixture
- pBEc-SET2 Vector: Mixture
- pBEc-SET3 Vector: Mixture

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

Classification according to Directive 1999/45/EC [DPD]

- pBEc-SET1 Vector: The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
- pBEc-SET2 Vector: The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
- pBEc-SET3 Vector: The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification:
- pBEc-SET1 Vector: Not classified.
- pBEc-SET2 Vector: Not classified.
- pBEc-SET3 Vector: Not classified.

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

Date of issue/Date of revision: 29/09/2015
## SECTION 2: Hazards identification

### 2.2 Label elements

<table>
<thead>
<tr>
<th>Risk phrase</th>
<th>pBEc-SET1 Vector</th>
<th>pBEc-SET2 Vector</th>
<th>pBEc-SET3 Vector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disposal</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Precautionary statements

<table>
<thead>
<tr>
<th>Risk phrase</th>
<th>pBEc-SET1 Vector</th>
<th>pBEc-SET2 Vector</th>
<th>pBEc-SET3 Vector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disposal</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Hazardous ingredients

- No hazardous ingredient

### Supplemental label elements

- No signal word.

### Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

- Not applicable.

### Special packaging requirements

- Tactile warning of danger: Not applicable.

### 2.3 Other hazards

<table>
<thead>
<tr>
<th>Risk phrase</th>
<th>pBEc-SET1 Vector</th>
<th>pBEc-SET2 Vector</th>
<th>pBEc-SET3 Vector</th>
</tr>
</thead>
<tbody>
<tr>
<td>No known significant effects or critical hazards.</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>pBEc-SET1 Vector</th>
<th>pBEc-SET2 Vector</th>
<th>pBEc-SET3 Vector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixture</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

### Type

1. Substance classified with a health or environmental hazard
2. Substance with a workplace exposure limit
3. Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
4. Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
5. Substance of equivalent concern

### Date of issue/Date of revision

- 29/09/2015
SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : pBEc-SET1 Vector
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.

pBEc-SET2 Vector
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.

pBEc-SET3 Vector
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 : pBEc-SET1 Vector
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

pBEc-SET2 Vector
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

pBEc-SET3 Vector
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact : pBEc-SET1 Vector
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

pBEc-SET2 Vector
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

pBEc-SET3 Vector
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion : pBEc-SET1 Vector
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.

pBEc-SET2 Vector
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.

pBEc-SET3 Vector
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 : pBEc-SET1 Vector
No action shall be taken involving any personal risk or without suitable training.

pBEc-SET2 Vector
No action shall be taken involving any personal risk or without suitable training.

pBEc-SET3 Vector
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 : pBEc-SET1 Vector
No known significant effects or critical hazards.

pBEc-SET2 Vector
No known significant effects or critical hazards.

pBEc-SET3 Vector
No known significant effects or critical hazards.

Inhalation : pBEc-SET1 Vector
No known significant effects or critical hazards.

pBEc-SET2 Vector
No known significant effects or critical hazards.

pBEc-SET3 Vector
No known significant effects or critical hazards.

Date of issue/Date of revision : 29/09/2015
SECTION 4: First aid measures

Skin contact:
- PBEc-SET1 Vector: No known significant effects or critical hazards.
- PBEc-SET2 Vector: No known significant effects or critical hazards.
- PBEc-SET3 Vector: No known significant effects or critical hazards.

Ingestion:
- PBEc-SET1 Vector: No known significant effects or critical hazards.
- PBEc-SET2 Vector: No known significant effects or critical hazards.
- PBEc-SET3 Vector: No known significant effects or critical hazards.

Over-exposure signs/symptoms:

Eye contact:
- PBEc-SET1 Vector: No specific data.
- PBEc-SET2 Vector: No specific data.
- PBEc-SET3 Vector: No specific data.

Inhalation:
- PBEc-SET1 Vector: No specific data.
- PBEc-SET2 Vector: No specific data.
- PBEc-SET3 Vector: No specific data.

Skin contact:
- PBEc-SET1 Vector: No specific data.
- PBEc-SET2 Vector: No specific data.
- PBEc-SET3 Vector: No specific data.

Ingestion:
- PBEc-SET1 Vector: No specific data.
- PBEc-SET2 Vector: No specific data.
- PBEc-SET3 Vector: No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician:
- PBEc-SET1 Vector: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- PBEc-SET2 Vector: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- PBEc-SET3 Vector: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments:
- PBEc-SET1 Vector: No specific treatment.
- PBEc-SET3 Vector: No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>PBEc-SET1 Vector</th>
<th>Use an extinguishing agent suitable for the surrounding fire.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PBEc-SET2 Vector</td>
<td>Use an extinguishing agent suitable for the surrounding fire.</td>
</tr>
<tr>
<td></td>
<td>PBEc-SET3 Vector</td>
<td>Use an extinguishing agent suitable for the surrounding fire.</td>
</tr>
</tbody>
</table>

Unsuitable extinguishing media:
- PBEc-SET1 Vector: None known.
- PBEc-SET2 Vector: None known.
- PBEc-SET3 Vector: None known.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products:
- PBEc-SET1 Vector: No specific data.
- PBEc-SET2 Vector: No specific data.
- PBEc-SET3 Vector: No specific data.

5.3 Advice for firefighters
## SECTION 5: Firefighting measures

### Special precautions for fire-fighters

- **pBEc-SET1 Vector** 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.

- **pBEc-SET2 Vector** 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.

- **pBEc-SET3 Vector** 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

- **pBEc-SET1 Vector** 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.

- **pBEc-SET2 Vector** 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.

- **pBEc-SET3 Vector** 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.

## SECTION 6: Accidental release measures

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

**For non-emergency personnel**

- **pBEc-SET1 Vector** 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.

- **pBEc-SET2 Vector** 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.

- **pBEc-SET3 Vector** 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**

- **pBEc-SET1 Vector** 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".

- **pBEc-SET2 Vector** 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".

- **pBEc-SET3 Vector** 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**: 29/09/2015
# SECTION 6: Accidental release measures

<table>
<thead>
<tr>
<th>6.2 Environmental precautions</th>
<th>pBEc-SET1 Vector</th>
<th>Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</th>
</tr>
</thead>
<tbody>
<tr>
<td>pBEc-SET2 Vector</td>
<td></td>
<td>Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</td>
</tr>
<tr>
<td>pBEc-SET3 Vector</td>
<td></td>
<td>Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</td>
</tr>
</tbody>
</table>

## 6.3 Methods and material for containment and cleaning up

### Methods for cleaning up : pBEc-SET1 Vector
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.

### pBEc-SET2 Vector
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.

### pBEc-SET3 Vector
Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## 6.4 Reference to other sections
See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

# SECTION 7: Handling and storage

## 7.1 Precautions for safe handling

### Protective measures : pBEc-SET1 Vector
Put on appropriate personal protective equipment (see Section 8).

### pBEc-SET2 Vector
Put on appropriate personal protective equipment (see Section 8).

### pBEc-SET3 Vector
Put on appropriate personal protective equipment (see Section 8).

### Advice on general occupational hygiene : pBEc-SET1 Vector
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.

### pBEc-SET2 Vector
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.

### pBEc-SET3 Vector
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.

Date of issue/Date of revision : 29/09/2015
SECTION 7: Handling and storage

7.2 Conditions for safe storage, including any incompatibilities

<table>
<thead>
<tr>
<th>Vector Type</th>
<th>Storage Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>pBEc-SET1 Vector</td>
<td>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.</td>
</tr>
<tr>
<td>pBEc-SET2 Vector</td>
<td>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.</td>
</tr>
<tr>
<td>pBEc-SET3 Vector</td>
<td>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.</td>
</tr>
</tbody>
</table>

7.3 Specific end use(s)

<table>
<thead>
<tr>
<th>Vector Type</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>pBEc-SET1 Vector</td>
<td>Industrial applications.</td>
</tr>
<tr>
<td>pBEc-SET2 Vector</td>
<td>Industrial applications.</td>
</tr>
<tr>
<td>pBEc-SET3 Vector</td>
<td>Industrial applications.</td>
</tr>
</tbody>
</table>

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

**Occupational exposure limits**

No exposure limit value known.

**Recommended monitoring procedures**

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**DNELs/DMELs**

No DNELs available.

**PNECs**

No PNECs available.

8.2 Exposure controls

Date of issue/Date of revision: 29/09/2015
## SECTION 8: Exposure controls/personal protection

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

### Individual protection measures

#### Hygiene measures
- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### Eye/face protection
- Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

#### Skin protection

##### Hand protection
- Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

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

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

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

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

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

<table>
<thead>
<tr>
<th>Property</th>
<th>pBEc-SET1 Vector</th>
<th>pBEc-SET2 Vector</th>
<th>pBEc-SET3 Vector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odour</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>7.5</td>
<td>7.5</td>
<td>7.5</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>0°C</td>
<td>0°C</td>
<td>0°C</td>
</tr>
<tr>
<td>Initial boiling point</td>
<td>100°C</td>
<td>100°C</td>
<td>100°C</td>
</tr>
<tr>
<td>boiling range</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION 9: Physical and chemical properties

Flash point
- pBEc-SET1 Vector: Not available.
- pBEc-SET2 Vector: Not available.
- pBEc-SET3 Vector: Not available.

Evaporation rate
- pBEc-SET1 Vector: Not available.
- pBEc-SET2 Vector: Not available.
- pBEc-SET3 Vector: Not available.

Flammability (solid, gas)
- pBEc-SET1 Vector: Not applicable.
- pBEc-SET2 Vector: Not applicable.
- pBEc-SET3 Vector: Not applicable.

Upper/lower flammability or explosive limits
- pBEc-SET1 Vector: Not available.
- pBEc-SET2 Vector: Not available.
- pBEc-SET3 Vector: Not available.

Vapour pressure
- pBEc-SET1 Vector: Not available.
- pBEc-SET2 Vector: Not available.
- pBEc-SET3 Vector: Not available.

Vapour density
- pBEc-SET1 Vector: Not available.
- pBEc-SET2 Vector: Not available.
- pBEc-SET3 Vector: Not available.

Relative density
- pBEc-SET1 Vector: Not available.
- pBEc-SET2 Vector: Not available.
- pBEc-SET3 Vector: Not available.

Solubility(ies)
- pBEc-SET1 Vector: Easily soluble in the following materials: cold water and hot water.
  pBEc-SET2 Vector: Easily soluble in the following materials: cold water and hot water.
  pBEc-SET3 Vector: Easily soluble in the following materials: cold water and hot water.

Partition coefficient: n-octanol/water
- pBEc-SET1 Vector: Not available.
- pBEc-SET2 Vector: Not available.
- pBEc-SET3 Vector: Not available.

Auto-ignition temperature
- pBEc-SET1 Vector: Not available.
- pBEc-SET2 Vector: Not available.
- pBEc-SET3 Vector: Not available.

Decomposition temperature
- pBEc-SET1 Vector: Not available.
- pBEc-SET2 Vector: Not available.
- pBEc-SET3 Vector: Not available.

Viscosity
- pBEc-SET1 Vector: Not available.
- pBEc-SET2 Vector: Not available.
- pBEc-SET3 Vector: Not available.

Explosive properties
- pBEc-SET1 Vector: Not available.
- pBEc-SET2 Vector: Not available.
- pBEc-SET3 Vector: Not available.

Oxidising properties
- pBEc-SET1 Vector: Not available.
- pBEc-SET2 Vector: Not available.
- pBEc-SET3 Vector: Not available.

9.2 Other information
No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity
- pBEc-SET1 Vector: No specific test data related to reactivity available for this product or its ingredients.
- pBEc-SET2 Vector: No specific test data related to reactivity available for this product or its ingredients.
- pBEc-SET3 Vector: No specific test data related to reactivity available for this product or its ingredients.
### SECTION 10: Stability and reactivity

**10.2 Chemical stability**
- pBEc-SET1 Vector: The product is stable.
- pBEc-SET2 Vector: The product is stable.
- pBEc-SET3 Vector: The product is stable.

**10.3 Possibility of hazardous reactions**
- pBEc-SET1 Vector: Under normal conditions of storage and use, hazardous reactions will not occur.
- pBEc-SET2 Vector: Under normal conditions of storage and use, hazardous reactions will not occur.
- pBEc-SET3 Vector: Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid**
- pBEc-SET1 Vector: No specific data.
- pBEc-SET2 Vector: No specific data.
- pBEc-SET3 Vector: No specific data.

**10.5 Incompatible materials**
- pBEc-SET1 Vector: May react or be incompatible with oxidising materials.
- pBEc-SET2 Vector: May react or be incompatible with oxidising materials.
- pBEc-SET3 Vector: May react or be incompatible with oxidising materials.

**10.6 Hazardous decomposition products**
- pBEc-SET1 Vector: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- pBEc-SET2 Vector: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- pBEc-SET3 Vector: 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**
- Not available.

**Acute toxicity estimates**
- Not available.

**Irritation/Corrosion**
- Conclusion/Summary: Not available.

**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 the likely routes of exposure**
- pBEc-SET1 Vector: Not available.
- pBEc-SET2 Vector: Not available.
- pBEc-SET3 Vector: Not available.

**Potential acute health effects**
- pBEc-SET1 Vector: No known significant effects or critical hazards.
- pBEc-SET2 Vector: No known significant effects or critical hazards.
- pBEc-SET3 Vector: No known significant effects or critical hazards.

**Inhalation**
- pBEc-SET1 Vector: No known significant effects or critical hazards.
- pBEc-SET2 Vector: No known significant effects or critical hazards.
- pBEc-SET3 Vector: No known significant effects or critical hazards.

**Ingestion**
- pBEc-SET1 Vector: No known significant effects or critical hazards.
- pBEc-SET2 Vector: No known significant effects or critical hazards.
- pBEc-SET3 Vector: No known significant effects or critical hazards.

**Date of issue/Date of revision**: 29/09/2015
## SECTION 11: Toxicological information

### Skin contact
- **pBEc-SET1 Vector**: No known significant effects or critical hazards.
- **pBEc-SET2 Vector**: No known significant effects or critical hazards.
- **pBEc-SET3 Vector**: No known significant effects or critical hazards.

### Eye contact
- **pBEc-SET1 Vector**: No known significant effects or critical hazards.
- **pBEc-SET2 Vector**: No known significant effects or critical hazards.
- **pBEc-SET3 Vector**: No known significant effects or critical hazards.

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

#### Inhalation
- **pBEc-SET1 Vector**: No specific data.
- **pBEc-SET2 Vector**: No specific data.
- **pBEc-SET3 Vector**: No specific data.

#### Ingestion
- **pBEc-SET1 Vector**: No specific data.
- **pBEc-SET2 Vector**: No specific data.
- **pBEc-SET3 Vector**: No specific data.

#### Skin contact
- **pBEc-SET1 Vector**: No specific data.
- **pBEc-SET2 Vector**: No specific data.
- **pBEc-SET3 Vector**: No specific data.

#### Eye contact
- **pBEc-SET1 Vector**: No specific data.
- **pBEc-SET2 Vector**: No specific data.
- **pBEc-SET3 Vector**: No specific data.

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

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

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

### Potential chronic health effects

#### General
- **pBEc-SET1 Vector**: No known significant effects or critical hazards.
- **pBEc-SET2 Vector**: No known significant effects or critical hazards.
- **pBEc-SET3 Vector**: No known significant effects or critical hazards.

#### Carcinogenicity
- **pBEc-SET1 Vector**: No known significant effects or critical hazards.
- **pBEc-SET2 Vector**: No known significant effects or critical hazards.
- **pBEc-SET3 Vector**: No known significant effects or critical hazards.

#### Mutagenicity
- **pBEc-SET1 Vector**: No known significant effects or critical hazards.
- **pBEc-SET2 Vector**: No known significant effects or critical hazards.
- **pBEc-SET3 Vector**: No known significant effects or critical hazards.

#### Teratogenicity
- **pBEc-SET1 Vector**: No known significant effects or critical hazards.
- **pBEc-SET2 Vector**: No known significant effects or critical hazards.
- **pBEc-SET3 Vector**: No known significant effects or critical hazards.

#### Developmental effects
- **pBEc-SET1 Vector**: No known significant effects or critical hazards.
- **pBEc-SET2 Vector**: No known significant effects or critical hazards.
- **pBEc-SET3 Vector**: No known significant effects or critical hazards.

#### Fertility effects
- **pBEc-SET1 Vector**: No known significant effects or critical hazards.
- **pBEc-SET2 Vector**: No known significant effects or critical hazards.
- **pBEc-SET3 Vector**: No known significant effects or critical hazards.

### Toxicokinetics

#### Absorption
- **pBEc-SET1 Vector**: Not available.
- **pBEc-SET2 Vector**: Not available.
- **pBEc-SET3 Vector**: Not available.

#### Distribution
- **pBEc-SET1 Vector**: Not available.
- **pBEc-SET2 Vector**: Not available.
- **pBEc-SET3 Vector**: Not available.

**Date of issue/Date of revision**: 29/09/2015
SECTION 11: Toxicological information

<table>
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<th>Metabolism</th>
<th>pBEc-SET1 Vector</th>
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<td>Elimination</td>
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<tr>
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12.1 Toxicity
Conclusion/Summary : Not available.

12.2 Persistence and degradability
Conclusion/Summary : Not available.

12.3 Bioaccumulative potential
Not available.

12.4 Mobility in soil
Soil/water partition coefficient (Koc) : Not available.
Mobility : Not available.

12.5 Results of PBT and vPvB assessment
PBT : Not applicable.
vPvB : Not applicable.

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product
Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

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 73/78 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

: Not applicable.

Other EU regulations

Europe inventory : All components are listed or exempted.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia : All components are listed or exempted.

Canada : All components are listed or exempted.

China : All components are listed or exempted.

Japan : All components are listed or exempted.

Malaysia : Not determined.

New Zealand : All components are listed or exempted.

Date of issue/Date of revision : 29/09/2015
SECTION 15: Regulatory information

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<td>All components are listed or exempted.</td>
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<tr>
<td>United States</td>
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</tbody>
</table>

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]

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<th>Justification</th>
</tr>
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Date of previous issue: 18/04/2013.
Version: 2.01

Notice to reader

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