Section 1. Identification

Product identifier : pET 11a-d Vectors, Part Number 211523
Part no. (chemical kit) : 211523
Part no. : pET-11a Vector 211523-51
pET-11b Vector 211523-52
pET-11c Vector 211523-53
pET-11d Vector 211523-54

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

Material uses : Analytical reagent.
pET-11a Vector 20 µl (20 µg 1 µg/µl)
pET-11b Vector 20 µl (20 µg 1 µg/µl)
pET-11c Vector 20 µl (20 µg 1 µg/µl)
pET-11d Vector 20 µl (20 µg 1 µg/µl)

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

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

Section 2. Hazard(s) identification

Classification of the substance or mixture
Not classified.

GHS label elements

Signal word : No signal word.
pET-11a Vector
pET-11b Vector
pET-11c Vector
pET-11d Vector

Hazard statements : No known significant effects or critical hazards.
pET-11a Vector
pET-11b Vector
pET-11c Vector
pET-11d Vector

Precautionary statements

Prevention : Not applicable.
pET-11a Vector
pET-11b Vector
pET-11c Vector
pET-11d Vector

Response : Not applicable.
pET-11a Vector
pET-11b Vector
pET-11c Vector
pET-11d Vector

Storage : Not applicable.
pET-11a Vector
pET-11b Vector
pET-11c Vector
pET-11d Vector
Section 2. Hazard(s) identification

<table>
<thead>
<tr>
<th>Disposal</th>
<th>pET-11a Vector</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pET-11b Vector</td>
<td>Not applicable.</td>
</tr>
<tr>
<td></td>
<td>pET-11c Vector</td>
<td>Not applicable.</td>
</tr>
<tr>
<td></td>
<td>pET-11d Vector</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

Supplemental label elements

<table>
<thead>
<tr>
<th>Additional warning phrases</th>
<th>pET-11a Vector</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pET-11b Vector</td>
<td>Not applicable.</td>
</tr>
<tr>
<td></td>
<td>pET-11c Vector</td>
<td>Not applicable.</td>
</tr>
<tr>
<td></td>
<td>pET-11d Vector</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

Other hazards which do not result in classification

<table>
<thead>
<tr>
<th>Other hazards which do not result in classification</th>
<th>pET-11a Vector</th>
<th>None known.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pET-11b Vector</td>
<td>None known.</td>
</tr>
<tr>
<td></td>
<td>pET-11c Vector</td>
<td>None known.</td>
</tr>
<tr>
<td></td>
<td>pET-11d Vector</td>
<td>None known.</td>
</tr>
</tbody>
</table>

Section 3. Composition and ingredient information

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>pET-11a Vector</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pET-11b Vector</td>
<td>Mixture</td>
</tr>
<tr>
<td></td>
<td>pET-11c Vector</td>
<td>Mixture</td>
</tr>
<tr>
<td></td>
<td>pET-11d Vector</td>
<td>Mixture</td>
</tr>
</tbody>
</table>

CAS number/other identifiers

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 and hence require reporting in this section.

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

Section 4. First aid measures

<table>
<thead>
<tr>
<th>Description of necessary first aid measures</th>
<th>pET-11a Vector</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pET-11b Vector</td>
<td>Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.</td>
</tr>
<tr>
<td></td>
<td>pET-11c Vector</td>
<td>Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.</td>
</tr>
<tr>
<td></td>
<td>pET-11d Vector</td>
<td>Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.</td>
</tr>
</tbody>
</table>

Inhalation

<table>
<thead>
<tr>
<th>pET-11a Vector</th>
<th>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</th>
</tr>
</thead>
<tbody>
<tr>
<td>pET-11b Vector</td>
<td>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td>pET-11c Vector</td>
<td>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td>pET-11d Vector</td>
<td>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</td>
</tr>
</tbody>
</table>
Section 4. First aid measures

**Skin contact**
- **pET-11a Vector**
  - Flush contaminated skin with plenty of water.
  - Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- **pET-11b Vector**
  - Flush contaminated skin with plenty of water.
  - Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- **pET-11c Vector**
  - Flush contaminated skin with plenty of water.
  - Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- **pET-11d Vector**
  - Flush contaminated skin with plenty of water.
  - Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

**Ingestion**
- **pET-11a 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.
- **pET-11b 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.
- **pET-11c 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.
- **pET-11d 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.

**Most important symptoms/effects, acute and delayed**

**Potential acute health effects**

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>pET-11a Vector</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pET-11b Vector</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>pET-11c Vector</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>pET-11d Vector</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>pET-11a Vector</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pET-11b Vector</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>pET-11c Vector</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>pET-11d Vector</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skin contact</th>
<th>pET-11a Vector</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pET-11b Vector</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>pET-11c Vector</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>pET-11d Vector</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingestion</th>
<th>pET-11a Vector</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pET-11b Vector</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>pET-11c Vector</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>pET-11d Vector</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

**Over-exposure signs/symptoms**

Date of issue/Date of revision : 16/04/2019  Date of previous issue : 27/03/2017  Version : 5  3/15
Section 4. First aid measures

Eye contact:
- **pET-11a Vector**: No specific data.
- **pET-11b Vector**: No specific data.
- **pET-11c Vector**: No specific data.
- **pET-11d Vector**: No specific data.

Inhalation:
- **pET-11a Vector**: No specific data.
- **pET-11b Vector**: No specific data.
- **pET-11c Vector**: No specific data.
- **pET-11d Vector**: No specific data.

Skin contact:
- **pET-11a Vector**: No specific data.
- **pET-11b Vector**: No specific data.
- **pET-11c Vector**: No specific data.
- **pET-11d Vector**: No specific data.

Ingestion:
- **pET-11a Vector**: No specific data.
- **pET-11b Vector**: No specific data.
- **pET-11c Vector**: No specific data.
- **pET-11d Vector**: No specific data.

Notes to physician:
- **pET-11a Vector**: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- **pET-11b Vector**: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- **pET-11c Vector**: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- **pET-11d Vector**: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments:
- **pET-11a Vector**: No specific treatment.
- **pET-11b Vector**: No specific treatment.
- **pET-11c Vector**: No specific treatment.
- **pET-11d Vector**: No specific treatment.

Protection of first-aiders:
- **pET-11a Vector**: No action shall be taken involving any personal risk or without suitable training.
- **pET-11b Vector**: No action shall be taken involving any personal risk or without suitable training.
- **pET-11c Vector**: No action shall be taken involving any personal risk or without suitable training.
- **pET-11d Vector**: No action shall be taken involving any personal risk or without suitable training.

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

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media:
- **pET-11a Vector**: Use an extinguishing agent suitable for the surrounding fire.
- **pET-11b Vector**: Use an extinguishing agent suitable for the surrounding fire.
- **pET-11c Vector**: Use an extinguishing agent suitable for the surrounding fire.
- **pET-11d Vector**: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media:
- **pET-11a Vector**: None known.
- **pET-11b Vector**: None known.
- **pET-11c Vector**: None known.
- **pET-11d Vector**: None known.

See toxicological information (Section 11)
Section 5. Firefighting measures

Specific hazards arising from the chemical
- pET-11a Vector: In a fire or if heated, a pressure increase will occur and the container may burst.
- pET-11b Vector: In a fire or if heated, a pressure increase will occur and the container may burst.
- pET-11c Vector: In a fire or if heated, a pressure increase will occur and the container may burst.
- pET-11d Vector: In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products
- pET-11a Vector: No specific data.
- pET-11b Vector: No specific data.
- pET-11c Vector: No specific data.
- pET-11d Vector: No specific data.

Special protective actions for fire-fighters
- pET-11a 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.
- pET-11b 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.
- pET-11c 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.
- pET-11d 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
- pET-11a Vector: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- pET-11b Vector: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- pET-11c Vector: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- pET-11d Vector: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
- pET-11a 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.
- pET-11b 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.
## Section 6. Accidental release measures

<table>
<thead>
<tr>
<th>Vector</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>pET-11c</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 spilt material. Put on appropriate personal protective equipment.</td>
</tr>
<tr>
<td>pET-11d</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 spilt material. Put on appropriate personal protective equipment.</td>
</tr>
</tbody>
</table>

### Environmental precautions

<table>
<thead>
<tr>
<th>Vector</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>pET-11c</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>pET-11d</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>

### Methods and material for containment and cleaning up

#### Methods for cleaning up

<table>
<thead>
<tr>
<th>Vector</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>pET-11a</td>
<td>Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.</td>
</tr>
<tr>
<td>pET-11b</td>
<td>Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.</td>
</tr>
</tbody>
</table>
Section 6. Accidental release measures

Disposal contractor.

pET-11c 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.

pET-11d 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.

Section 7. Handling and storage

Precautions for safe handling

Protective measures:
- pET-11a Vector: Put on appropriate personal protective equipment (see Section 8).
- pET-11b Vector: Put on appropriate personal protective equipment (see Section 8).
- pET-11c Vector: Put on appropriate personal protective equipment (see Section 8).
- pET-11d Vector: Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene:
- pET-11a 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.
- pET-11b 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.
- pET-11c 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.
- pET-11d 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.

Conditions for safe storage, including any incompatibilities:
- pET-11a Vector: 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
Section 7. Handling and storage

**pET-11b Vector**
Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

**pET-11c Vector**
Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

**pET-11d Vector**
Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls and personal protection

**Control parameters**

**Occupational exposure limits**
None.

**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**

**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.
Section 8. Exposure controls and personal protection

### Skin protection

#### Hand protection
Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Ensure that workers are trained and follow a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

#### 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

### Appearance

#### Physical state
- pET-11a Vector: Liquid.
- pET-11b Vector: Liquid.
- pET-11c Vector: Liquid.
- pET-11d Vector: Liquid.

#### Colour
- pET-11a Vector: Not available.
- pET-11b Vector: Not available.
- pET-11c Vector: Not available.
- pET-11d Vector: Not available.

#### Odour
- pET-11a Vector: Not available.
- pET-11b Vector: Not available.
- pET-11c Vector: Not available.
- pET-11d Vector: Not available.

#### Odour threshold
- pET-11a Vector: Not available.
- pET-11b Vector: Not available.
- pET-11c Vector: Not available.
- pET-11d Vector: Not available.

#### pH
- pET-11a Vector: 7.5
- pET-11b Vector: 7.5
- pET-11c Vector: 7.5
- pET-11d Vector: 7.5

#### Melting point
- pET-11a Vector: 0°C (32°F)
- pET-11b Vector: 0°C (32°F)
- pET-11c Vector: 0°C (32°F)
- pET-11d Vector: 0°C (32°F)

#### Boiling point
- pET-11a Vector: 100°C (212°F)
- pET-11b Vector: 100°C (212°F)
- pET-11c Vector: 100°C (212°F)
- pET-11d Vector: 100°C (212°F)

#### Flash point
- pET-11a Vector: Not available.
- pET-11b Vector: Not available.
- pET-11c Vector: Not available.
- pET-11d Vector: Not available.

#### Evaporation rate
- pET-11a Vector: Not available.
- pET-11b Vector: Not available.
- pET-11c Vector: Not available.
- pET-11d Vector: Not available.

#### Flammability (solid, gas)
- pET-11a Vector: Not applicable.
- pET-11b Vector: Not applicable.
- pET-11c Vector: Not applicable.
- pET-11d Vector: Not applicable.
Section 9. Physical and chemical properties

Lower and upper explosive (flammable) limits
- pET-11a Vector: Not available.
- pET-11b Vector: Not available.
- pET-11c Vector: Not available.
- pET-11d Vector: Not available.

Vapour pressure
- pET-11a Vector: Not available.
- pET-11b Vector: Not available.
- pET-11c Vector: Not available.
- pET-11d Vector: Not available.

Vapour density
- pET-11a Vector: Not available.
- pET-11b Vector: Not available.
- pET-11c Vector: Not available.
- pET-11d Vector: Not available.

Relative density
- pET-11a Vector: Not available.
- pET-11b Vector: Not available.
- pET-11c Vector: Not available.
- pET-11d Vector: Not available.

Solubility
- pET-11a Vector: Easily soluble in the following materials: cold water and hot water.
- pET-11b Vector: Easily soluble in the following materials: cold water and hot water.
- pET-11c Vector: Easily soluble in the following materials: cold water and hot water.
- pET-11d Vector: Easily soluble in the following materials: cold water and hot water.

Partition coefficient: n-octanol/water
- pET-11a Vector: Not available.
- pET-11b Vector: Not available.
- pET-11c Vector: Not available.
- pET-11d Vector: Not available.

Auto-ignition temperature
- pET-11a Vector: Not available.
- pET-11b Vector: Not available.
- pET-11c Vector: Not available.
- pET-11d Vector: Not available.

Decomposition temperature
- pET-11a Vector: Not available.
- pET-11b Vector: Not available.
- pET-11c Vector: Not available.
- pET-11d Vector: Not available.

Viscosity
- pET-11a Vector: Not available.
- pET-11b Vector: Not available.
- pET-11c Vector: Not available.
- pET-11d Vector: Not available.

Section 10. Stability and reactivity

Reactivity
- pET-11a Vector: No specific test data related to reactivity available for this product or its ingredients.
- pET-11b Vector: No specific test data related to reactivity available for this product or its ingredients.
- pET-11c Vector: No specific test data related to reactivity available for this product or its ingredients.
- pET-11d Vector: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability
- pET-11a Vector: The product is stable.
- pET-11b Vector: The product is stable.
- pET-11c Vector: The product is stable.
- pET-11d Vector: The product is stable.
Section 10. Stability and reactivity

### Possibility of hazardous reactions

<table>
<thead>
<tr>
<th>Vector</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>pET-11a Vector</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
<tr>
<td>pET-11b Vector</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
<tr>
<td>pET-11c Vector</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
<tr>
<td>pET-11d Vector</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
</tbody>
</table>

### Conditions to avoid

<table>
<thead>
<tr>
<th>Vector</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>pET-11a Vector</td>
<td>No specific data.</td>
</tr>
<tr>
<td>pET-11b Vector</td>
<td>No specific data.</td>
</tr>
<tr>
<td>pET-11c Vector</td>
<td>No specific data.</td>
</tr>
<tr>
<td>pET-11d Vector</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

### Incompatible materials

<table>
<thead>
<tr>
<th>Vector</th>
<th>Incompatible materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>pET-11a Vector</td>
<td>May react or be incompatible with oxidising materials.</td>
</tr>
<tr>
<td>pET-11b Vector</td>
<td>May react or be incompatible with oxidising materials.</td>
</tr>
<tr>
<td>pET-11c Vector</td>
<td>May react or be incompatible with oxidising materials.</td>
</tr>
<tr>
<td>pET-11d Vector</td>
<td>May react or be incompatible with oxidising materials.</td>
</tr>
</tbody>
</table>

### Hazardous decomposition products

<table>
<thead>
<tr>
<th>Vector</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>pET-11a Vector</td>
<td>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</td>
</tr>
<tr>
<td>pET-11b Vector</td>
<td>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</td>
</tr>
<tr>
<td>pET-11c Vector</td>
<td>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</td>
</tr>
<tr>
<td>pET-11d Vector</td>
<td>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</td>
</tr>
</tbody>
</table>

Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity
Not available.

#### Irritation/Corrosion
Not available.

#### Sensitisation
Not available.

#### Mutagenicity

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

#### Carcinogenicity

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

#### Reproductive toxicity

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

#### Teratogenicity

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

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

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

#### Aspiration hazard
Not available.

**Date of issue/Date of revision**: 16/04/2019  
**Date of previous issue**: 27/03/2017  
**Version**: 5  
**Page**: 11/15
Section 11. Toxicological information

Not available.

Information on likely routes of exposure:
- **pET-11a Vector**: No known significant effects or critical hazards.
- **pET-11b Vector**: No known significant effects or critical hazards.
- **pET-11c Vector**: No known significant effects or critical hazards.
- **pET-11d Vector**: No known significant effects or critical hazards.

Potential acute health effects:

**Eye contact**
- **pET-11a Vector**: No known significant effects or critical hazards.
- **pET-11b Vector**: No known significant effects or critical hazards.
- **pET-11c Vector**: No known significant effects or critical hazards.
- **pET-11d Vector**: No known significant effects or critical hazards.

**Inhalation**
- **pET-11a Vector**: No known significant effects or critical hazards.
- **pET-11b Vector**: No known significant effects or critical hazards.
- **pET-11c Vector**: No known significant effects or critical hazards.
- **pET-11d Vector**: No known significant effects or critical hazards.

**Skin contact**
- **pET-11a Vector**: No known significant effects or critical hazards.
- **pET-11b Vector**: No known significant effects or critical hazards.
- **pET-11c Vector**: No known significant effects or critical hazards.
- **pET-11d Vector**: No known significant effects or critical hazards.

**Ingestion**
- **pET-11a Vector**: No known significant effects or critical hazards.
- **pET-11b Vector**: No known significant effects or critical hazards.
- **pET-11c Vector**: No known significant effects or critical hazards.
- **pET-11d Vector**: No known significant effects or critical hazards.

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

**Eye contact**
- **pET-11a Vector**: No specific data.
- **pET-11b Vector**: No specific data.
- **pET-11c Vector**: No specific data.
- **pET-11d Vector**: No specific data.

**Inhalation**
- **pET-11a Vector**: No specific data.
- **pET-11b Vector**: No specific data.
- **pET-11c Vector**: No specific data.
- **pET-11d Vector**: No specific data.

**Skin contact**
- **pET-11a Vector**: No specific data.
- **pET-11b Vector**: No specific data.
- **pET-11c Vector**: No specific data.
- **pET-11d Vector**: No specific data.

**Ingestion**
- **pET-11a Vector**: No specific data.
- **pET-11b Vector**: No specific data.
- **pET-11c Vector**: No specific data.
- **pET-11d Vector**: No specific data.

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

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

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

**Potential chronic health effects**
- **General**: No known significant effects or critical hazards.
### Section 11. Toxicological information

<table>
<thead>
<tr>
<th>Category</th>
<th>pET-11a Vector</th>
<th>pET-11b Vector</th>
<th>pET-11c Vector</th>
<th>pET-11d Vector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carcinogenicity</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Teratogenicity</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Developmental effects</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Fertility effects</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

#### Numerical measures of toxicity

**Acute toxicity estimates**

N/A

### Section 12. Ecological information

**Toxicity**

Not available.

**Persistence and degradability**

Not available.

**Bioaccumulative potential**

Not available.

**Mobility in soil**

| Soil/water partition coefficient (K<sub>oc</sub>) | Not available.                     |

**Other adverse effects**

No known significant effects or critical hazards.

### Section 13. Disposal considerations

**Disposal methods**

The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and
Section 13. Disposal considerations

contact with soil, waterways, drains and sewers.

Section 14. Transport information

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

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

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

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons
Not regulated.

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

International regulations

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

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

Stockholm Convention on Persistent Organic Pollutants
Not listed.

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

UNECE Aarhus Protocol on POPs and Heavy Metals
Not listed.

Inventory list

Australia : All components are listed or exempted.
Canada : All components are listed or exempted.
China : All components are listed or exempted.
Europe : All components are listed or exempted.
Japan : Japan inventory (ENCS): All components are listed or exempted. Japan inventory (ISHL): All components are listed or exempted.

New Zealand : All components are listed or exempted.
Philippines : All components are listed or exempted.
Republic of Korea : All components are listed or exempted.
Taiwan : All components are listed or exempted.
Thailand : Not determined.
Turkey : Not determined.
United States : All components are listed or exempted.
Viet Nam : Not determined.
Section 16. Any other relevant information

History

Date of issue/Date of revision : 16/04/2019
Date of previous issue : 27/03/2017
Version : 5

Key to abbreviations :
- ADG = Australian Dangerous Goods
- ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- N/A = Not available
- SUSMP = Standard Uniform Schedule of Medicine and Poisons
- UN = United Nations

Procedure used to derive the classification

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

References :
- Not available.

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.