

# SAFETY DATA SHEET

PCR Polishing Kit, Part Number 200409

## Section 1. Identification

|                                |   |  |
|--------------------------------|---|--|
| <b>Product identifier</b>      | : | PCR Polishing Kit, Part Number 200409    |
| <b>Part no. (chemical kit)</b> | : | 200409                                   |
| <b>Part no.</b>                | : | Cloned Pfu DNA Polymerase 600153-81      |
|                                |   | 10X Cloned Pfu Reaction Buffer 600153-82 |
|                                |   | 10 mM dNTP Mix (2.5 mM each) 200409-51   |
|                                |   | Control DNA (pUC 19) 200409-52           |

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

|                      |   |  |
|----------------------|---|--|
| <b>Material uses</b> | : | Analytical reagent.  |
|                      |   | <input checked="" type="checkbox"/> Cloned Pfu DNA Polymerase 0.04 ml (100 U 2.5 U/μl) |
|                      |   | 10X Cloned Pfu Reaction Buffer 1 ml  |
|                      |   | 10 mM dNTP Mix (2.5 mM each) 0.05 ml   |
|                      |   | Control DNA (pUC 19) 1 ml (500 ng 10 ng/μl)  |

|                              |   |   |
|------------------------------|---|---|
| <b>Supplier/Manufacturer</b> | : | Agilent Technologies Australia Pty Ltd<br>679 Springvale Road<br>Mulgrave<br>Victoria 3170, Australia<br>1800 802 402 |
|------------------------------|---|---|

|   |   |                            |
|---|---|----------------------------|
| <b>Emergency telephone number (with hours of operation)</b> | : | CHEMTREC®: +(61)-290372994 |
|---|---|----------------------------|

## Section 2. Hazard(s) identification

### Classification of the substance or mixture

#### 10X Cloned Pfu Reaction

#### Buffer

H319

SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A

|  |   |
|--|---|
| <input checked="" type="checkbox"/> Cloned Pfu DNA Polymerase      | Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%            |
| 10X Cloned Pfu Reaction Buffer                                     | Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%                 |
|  | Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%             |
|  | Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%                   |
| <input checked="" type="checkbox"/> 10X Cloned Pfu Reaction Buffer | Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 3.2% |

### GHS label elements

#### Hazard pictograms

|   |  |
|---|--|
| : | <input checked="" type="checkbox"/> 10X Cloned Pfu Reaction Buffer |
|---|--|



#### Signal word

|   |   |                 |
|---|---|-----------------|
| : | <input checked="" type="checkbox"/> Cloned Pfu DNA Polymerase | No signal word. |
|   | 10X Cloned Pfu Reaction Buffer                                | WARNING         |
|   | 10 mM dNTP Mix (2.5 mM each)                                  | No signal word. |
|   | Control DNA (pUC 19)  | No signal word. |

## Section 2. Hazard(s) identification

|  |  |   |
|--|--|---|
| <b>Hazard statements</b>                                   | : <input checked="" type="checkbox"/> Cloned Pfu DNA Polymerase<br>10X Cloned Pfu Reaction<br>Buffer<br>10 mM dNTP Mix (2.5 mM each)<br>Control DNA (pUC 19)     | No known significant effects or critical hazards.<br>H319 - Causes serious eye irritation.<br><br>No known significant effects or critical hazards.<br><br>No known significant effects or critical hazards.  |
| <b>Precautionary statements</b>                            |  |   |
| <b>Prevention</b>  | : <input checked="" type="checkbox"/> Cloned Pfu DNA Polymerase<br>10X Cloned Pfu Reaction<br>Buffer<br><br>10 mM dNTP Mix (2.5 mM each)<br>Control DNA (pUC 19) | Not applicable.<br>P280 - Wear eye or face protection.<br><br>P264 - Wash hands thoroughly after handling.<br>Not applicable.<br><br>Not applicable.  |
| <b>Response</b>  | : <input checked="" type="checkbox"/> Cloned Pfu DNA Polymerase<br>10X Cloned Pfu Reaction<br>Buffer<br><br>10 mM dNTP Mix (2.5 mM each)<br>Control DNA (pUC 19) | Not applicable.<br>P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br>P337 + P313 - If eye irritation persists: Get medical attention.<br><br>Not applicable. |
| <b>Storage</b>   | : <input checked="" type="checkbox"/> Cloned Pfu DNA Polymerase<br>10X Cloned Pfu Reaction<br>Buffer<br>10 mM dNTP Mix (2.5 mM each)<br>Control DNA (pUC 19)     | Not applicable.<br>Not applicable.<br><br>Not applicable.<br><br>Not applicable.  |
| <b>Disposal</b>  | : <input checked="" type="checkbox"/> Cloned Pfu DNA Polymerase<br>10X Cloned Pfu Reaction<br>Buffer<br>10 mM dNTP Mix (2.5 mM each)<br>Control DNA (pUC 19)     | Not applicable.<br>Not applicable.<br><br>Not applicable.<br><br>Not applicable.  |
| <b>Supplemental label elements</b>                         |  |   |
| <b>Additional warning phrases</b>                          | : <input checked="" type="checkbox"/> Cloned Pfu DNA Polymerase<br>10X Cloned Pfu Reaction<br>Buffer<br>10 mM dNTP Mix (2.5 mM each)<br>Control DNA (pUC 19)     | Not applicable.<br>Not applicable.<br><br>Not applicable.<br><br>Not applicable.  |
| <b>Other hazards which do not result in classification</b> | : <input checked="" type="checkbox"/> Cloned Pfu DNA Polymerase<br>10X Cloned Pfu Reaction<br>Buffer<br>10 mM dNTP Mix (2.5 mM each)<br>Control DNA (pUC 19)     | None known.<br>None known.<br><br>None known.<br><br>None known.  |

## Section 3. Composition and ingredient information

|                          |  |  |
|--------------------------|--|--|
| <b>Substance/mixture</b> | : Cloned Pfu DNA Polymerase<br>10X Cloned Pfu Reaction<br>Buffer<br>10 mM dNTP Mix (2.5 mM each)<br>Control DNA (pUC 19) | Mixture<br>Mixture<br><br>Mixture<br><br>Mixture |
|--------------------------|--|--|

## Section 3. Composition and ingredient information

### CAS number/other identifiers

| Ingredient name  | % (w/w)   | CAS number |
|--|-----------|------------|
| Cloned Pfu DNA Polymerase<br>Glycerol                                | ≥30 - ≤60 | 56-81-5    |
| 10X Cloned Pfu Reaction Buffer<br>Polyoxyethylene octyl phenyl ether | ≤2.3      | 9002-93-1  |

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

### Description of necessary first aid measures

|                    |                                |  |
|--------------------|--------------------------------|--|
| <b>Eye contact</b> | : Cloned Pfu DNA Polymerase    | 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.  |
|                    | 10X Cloned Pfu Reaction 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.  |
|                    | 10 mM dNTP Mix (2.5 mM each)   | 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.  |
|                    | Control DNA (pUC 19)           | 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.  |
| <b>Inhalation</b>  | : Cloned Pfu DNA Polymerase    | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.  |
|                    | 10X Cloned Pfu Reaction Buffer | 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
|                    | 10 mM dNTP Mix (2.5 mM each)   | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.  |
|                    | Control DNA (pUC 19)           | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.  |

## Section 4. First aid measures

|                     |          |                                |   |
|---------------------|----------|--------------------------------|---|
| <b>Skin contact</b> | <b>:</b> | Cloned Pfu DNA Polymerase      | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.  |
|                     |          | 10X Cloned Pfu Reaction 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.   |
|                     |          | 10 mM dNTP Mix (2.5 mM each)   | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.  |
|                     |          | Control DNA (pUC 19)           | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.  |
| <b>Ingestion</b>    | <b>:</b> | Cloned Pfu DNA Polymerase      | 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.   |
|                     |          | 10X Cloned Pfu Reaction 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. |
|                     |          | 10 mM dNTP Mix (2.5 mM each)   | 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.   |
|                     |          | Control DNA (pUC 19)           | 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

|                    |          |                                |   |
|--------------------|----------|--------------------------------|---|
| <b>Eye contact</b> | <b>:</b> | Cloned Pfu DNA Polymerase      | No known significant effects or critical hazards. |
|                    |          | 10X Cloned Pfu Reaction Buffer | Causes serious eye irritation.                    |
|                    |          | 10 mM dNTP Mix (2.5 mM each)   | No known significant effects or critical hazards. |
|                    |          | Control DNA (pUC 19)           | No known significant effects or critical hazards. |

## Section 4. First aid measures

|                     |   |                                |   |
|---------------------|---|--------------------------------|---|
| <b>Inhalation</b>   | : | Cloned Pfu DNA Polymerase      | No known significant effects or critical hazards. |
|                     |   | 10X Cloned Pfu Reaction Buffer | No known significant effects or critical hazards. |
|                     |   | 10 mM dNTP Mix (2.5 mM each)   | No known significant effects or critical hazards. |
|                     |   | Control DNA (pUC 19)           | No known significant effects or critical hazards. |
| <b>Skin contact</b> | : | Cloned Pfu DNA Polymerase      | No known significant effects or critical hazards. |
|                     |   | 10X Cloned Pfu Reaction Buffer | No known significant effects or critical hazards. |
|                     |   | 10 mM dNTP Mix (2.5 mM each)   | No known significant effects or critical hazards. |
|                     |   | Control DNA (pUC 19)           | No known significant effects or critical hazards. |
| <b>Ingestion</b>    | : | Cloned Pfu DNA Polymerase      | No known significant effects or critical hazards. |
|                     |   | 10X Cloned Pfu Reaction Buffer | No known significant effects or critical hazards. |
|                     |   | 10 mM dNTP Mix (2.5 mM each)   | No known significant effects or critical hazards. |
|                     |   | Control DNA (pUC 19)           | No known significant effects or critical hazards. |

### Over-exposure signs/symptoms

|                     |   |                                |  |
|---------------------|---|--------------------------------|--|
| <b>Eye contact</b>  | : | Cloned Pfu DNA Polymerase      | No specific data.  |
|                     |   | 10X Cloned Pfu Reaction Buffer | Adverse symptoms may include the following:<br><br>pain or irritation<br>watering<br>redness |
|                     |   | 10 mM dNTP Mix (2.5 mM each)   | No specific data.  |
|                     |   | Control DNA (pUC 19)           | No specific data.  |
| <b>Inhalation</b>   | : | Cloned Pfu DNA Polymerase      | No specific data.  |
|                     |   | 10X Cloned Pfu Reaction Buffer | No specific data.  |
|                     |   | 10 mM dNTP Mix (2.5 mM each)   | No specific data.  |
|                     |   | Control DNA (pUC 19)           | No specific data.  |
| <b>Skin contact</b> | : | Cloned Pfu DNA Polymerase      | No specific data.  |
|                     |   | 10X Cloned Pfu Reaction Buffer | No specific data.  |
|                     |   | 10 mM dNTP Mix (2.5 mM each)   | No specific data.  |
|                     |   | Control DNA (pUC 19)           | No specific data.  |
| <b>Ingestion</b>    | : | Cloned Pfu DNA Polymerase      | No specific data.  |
|                     |   | 10X Cloned Pfu Reaction Buffer | No specific data.  |
|                     |   | 10 mM dNTP Mix (2.5 mM each)   | No specific data.  |
|                     |   | Control DNA (pUC 19)           | No specific data.  |

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

|                           |   |                                |   |
|---------------------------|---|--------------------------------|---|
| <b>Notes to physician</b> | : | Cloned Pfu DNA Polymerase      | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.   |
|                           |   | 10X Cloned Pfu Reaction Buffer | In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
|                           |   | 10 mM dNTP Mix (2.5 mM each)   | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.   |
|                           |   | Control DNA (pUC 19)           | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.   |

## Section 4. First aid measures

|                                   |   |  |
|-----------------------------------|---|--|
| <b>Specific treatments</b>        | : Cloned Pfu DNA Polymerase<br>10X Cloned Pfu Reaction Buffer<br>10 mM dNTP Mix (2.5 mM each)<br>Control DNA (pUC 19)         | No specific treatment.<br>No specific treatment.<br>No specific treatment.<br>No specific treatment.   |
| <b>Protection of first-aiders</b> | : Cloned Pfu DNA Polymerase<br><br>10X Cloned Pfu Reaction Buffer<br><br>10 mM dNTP Mix (2.5 mM each)<br>Control DNA (pUC 19) | No action shall be taken involving any personal risk or without suitable training.<br>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.<br>No action shall be taken involving any personal risk or without suitable training.<br>No action shall be taken involving any personal risk or without suitable training. |

See toxicological information (Section 11)

## Section 5. Firefighting measures

### Extinguishing media

|   |   |  |
|---|---|--|
| <b>Suitable extinguishing media</b>               | : Cloned Pfu DNA Polymerase<br><br>10X Cloned Pfu Reaction Buffer<br>10 mM dNTP Mix (2.5 mM each)<br>Control DNA (pUC 19)     | Use an extinguishing agent suitable for the surrounding fire.<br>Use an extinguishing agent suitable for the surrounding fire.<br>Use an extinguishing agent suitable for the surrounding fire.<br>Use an extinguishing agent suitable for the surrounding fire.   |
| <b>Unsuitable extinguishing media</b>             | : Cloned Pfu DNA Polymerase<br>10X Cloned Pfu Reaction Buffer<br>10 mM dNTP Mix (2.5 mM each)<br>Control DNA (pUC 19)         | None known.<br>None known.<br>None known.<br>None known.   |
| <b>Specific hazards arising from the chemical</b> | : Cloned Pfu DNA Polymerase<br><br>10X Cloned Pfu Reaction Buffer<br>10 mM dNTP Mix (2.5 mM each)<br>Control DNA (pUC 19)     | In a fire or if heated, a pressure increase will occur and the container may burst.<br>In a fire or if heated, a pressure increase will occur and the container may burst.<br>In a fire or if heated, a pressure increase will occur and the container may burst.<br>In a fire or if heated, a pressure increase will occur and the container may burst. |
| <b>Hazardous thermal decomposition products</b>   | : Cloned Pfu DNA Polymerase<br><br>10X Cloned Pfu Reaction Buffer<br><br>10 mM dNTP Mix (2.5 mM each)<br>Control DNA (pUC 19) | Decomposition products may include the following materials:<br>carbon dioxide<br>carbon monoxide<br>Decomposition products may include the following materials:<br>carbon dioxide<br>carbon monoxide<br>nitrogen oxides<br>sulfur oxides<br>halogenated compounds<br>No specific data.<br>No specific data.  |

## Section 5. Firefighting measures

|   |                                |   |
|---|--------------------------------|---|
| <b>Special protective actions for fire-fighters</b>   | : Cloned Pfu DNA Polymerase    | 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. |
|   | 10X Cloned Pfu Reaction 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. |
|   | 10 mM dNTP Mix (2.5 mM each)   | 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. |
|   | Control DNA (pUC 19)           | 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. |
| <b>Special protective equipment for fire-fighters</b> | : Cloned Pfu DNA Polymerase    | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.                         |
|   | 10X Cloned Pfu Reaction Buffer | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.                         |
|   | 10 mM dNTP Mix (2.5 mM each)   | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.                         |
|   | Control DNA (pUC 19)           | 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

|                                    |                                |   |
|------------------------------------|--------------------------------|---|
| <b>For non-emergency personnel</b> | : Cloned Pfu DNA Polymerase    | 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.   |
|                                    | 10X Cloned Pfu Reaction 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 spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
|                                    | 10 mM dNTP Mix (2.5 mM each)   | 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.   |
|                                    | Control DNA (pUC 19)           | 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

**For emergency responders** : Cloned Pfu DNA Polymerase 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".

10X Cloned Pfu Reaction Buffer 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".

10 mM dNTP Mix (2.5 mM each) 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".

Control DNA (pUC 19) 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".

**Environmental precautions** : Cloned Pfu DNA Polymerase 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).

10X Cloned Pfu Reaction Buffer 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).

10 mM dNTP Mix (2.5 mM each) 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).

Control DNA (pUC 19) 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).

### Methods and material for containment and cleaning up

**Methods for cleaning up** : Cloned Pfu DNA Polymerase 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.

10X Cloned Pfu Reaction 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.

10 mM dNTP Mix (2.5 mM each) 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.

Control DNA (pUC 19) 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 6. Accidental release measures

disposal contractor.

## Section 7. Handling and storage

### Precautions for safe handling

|                            |                                |  |
|----------------------------|--------------------------------|--|
| <b>Protective measures</b> | : Cloned Pfu DNA Polymerase    | Put on appropriate personal protective equipment (see Section 8).  |
|                            | 10X Cloned Pfu Reaction Buffer | Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour 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. |
|                            | 10 mM dNTP Mix (2.5 mM each)   | Put on appropriate personal protective equipment (see Section 8).  |
|                            | Control DNA (pUC 19)           | Put on appropriate personal protective equipment (see Section 8).  |

|   |                                |   |
|---|--------------------------------|---|
| <b>Advice on general occupational hygiene</b> | : Cloned Pfu DNA Polymerase    | 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. |
|   | 10X Cloned Pfu Reaction Buffer | 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. |
|   | 10 mM dNTP Mix (2.5 mM each)   | 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. |
|   | Control DNA (pUC 19)           | 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. |

|   |                                |   |
|---|--------------------------------|---|
| <b>Conditions for safe storage, including any incompatibilities</b> | : Cloned Pfu DNA Polymerase    | 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. |
|   | 10X Cloned Pfu Reaction Buffer | 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  |

## Section 7. Handling and storage

10 mM dNTP Mix (2.5 mM each)

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.

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.

Control DNA (pUC 19)

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](#)

| <b>Ingredient name</b>                | <b>Exposure limits</b>  |
|---------------------------------------|---|
| Cloned Pfu DNA Polymerase<br>Glycerol | <b>Safe Work Australia (Australia, 1/2014).</b><br>TWA: 10 mg/m <sup>3</sup> 8 hours. |

**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: chemical splash goggles.

### [Skin protection](#)

## Section 8. Exposure controls and personal 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

### Appearance

- Physical state** : Cloned Pfu DNA Polymerase Liquid.  
10X Cloned Pfu Reaction Liquid.  
Buffer  
10 mM dNTP Mix (2.5 mM each) Liquid.  
Control DNA (pUC 19) Liquid.
- Colour** : Cloned Pfu DNA Polymerase Not available.  
10X Cloned Pfu Reaction Not available.  
Buffer  
10 mM dNTP Mix (2.5 mM each) Not available.  
Control DNA (pUC 19) Not available.
- Odour** : Cloned Pfu DNA Polymerase Not available.  
10X Cloned Pfu Reaction Not available.  
Buffer  
10 mM dNTP Mix (2.5 mM each) Not available.  
Control DNA (pUC 19) Not available.
- Odour threshold** : Cloned Pfu DNA Polymerase Not available.  
10X Cloned Pfu Reaction Not available.  
Buffer  
10 mM dNTP Mix (2.5 mM each) Not available.  
Control DNA (pUC 19) Not available.
- pH** : Cloned Pfu DNA Polymerase 8.2  
10X Cloned Pfu Reaction 8.8  
Buffer  
10 mM dNTP Mix (2.5 mM each) Not available.  
Control DNA (pUC 19) 7.5
- Melting point** : Cloned Pfu DNA Polymerase Not available.  
10X Cloned Pfu Reaction Not available.  
Buffer  
10 mM dNTP Mix (2.5 mM each) 0°C (32°F)  
Control DNA (pUC 19) 0°C (32°F)

## Section 9. Physical and chemical properties

|   |                              |  |
|---|------------------------------|--|
| <b>Boiling point</b>                                | : Cloned Pfu DNA Polymerase  | Not available.   |
|   | 10X Cloned Pfu Reaction      | Not available.   |
|   | Buffer                       |  |
|   | 10 mM dNTP Mix (2.5 mM each) | 100°C (212°F)  |
| <b>Flash point</b>                                  | : Cloned Pfu DNA Polymerase  | Not available.   |
|   | 10X Cloned Pfu Reaction      | Not available.   |
|   | Buffer                       |  |
|   | 10 mM dNTP Mix (2.5 mM each) | Not available.   |
| <b>Evaporation rate</b>                             | : Cloned Pfu DNA Polymerase  | Not available.   |
|   | 10X Cloned Pfu Reaction      | Not available.   |
|   | Buffer                       |  |
|   | 10 mM dNTP Mix (2.5 mM each) | Not available.   |
| <b>Flammability (solid, gas)</b>                    | : Cloned Pfu DNA Polymerase  | Not applicable.  |
|   | 10X Cloned Pfu Reaction      | Not applicable.  |
|   | Buffer                       |  |
|   | 10 mM dNTP Mix (2.5 mM each) | Not applicable.  |
| <b>Lower and upper explosive (flammable) limits</b> | : Cloned Pfu DNA Polymerase  | Not available.   |
|   | 10X Cloned Pfu Reaction      | Not available.   |
|   | Buffer                       |  |
|   | 10 mM dNTP Mix (2.5 mM each) | Not available.   |
| <b>Vapour pressure</b>                              | : Cloned Pfu DNA Polymerase  | Not available.   |
|   | 10X Cloned Pfu Reaction      | Not available.   |
|   | Buffer                       |  |
|   | 10 mM dNTP Mix (2.5 mM each) | Not available.   |
| <b>Vapour density</b>                               | : Cloned Pfu DNA Polymerase  | Not available.   |
|   | 10X Cloned Pfu Reaction      | Not available.   |
|   | Buffer                       |  |
|   | 10 mM dNTP Mix (2.5 mM each) | Not available.   |
| <b>Relative density</b>                             | : Cloned Pfu DNA Polymerase  | Not available.   |
|   | 10X Cloned Pfu Reaction      | Not available.   |
|   | Buffer                       |  |
|   | 10 mM dNTP Mix (2.5 mM each) | Not available.   |
| <b>Solubility</b>                                   | : Cloned Pfu DNA Polymerase  | Soluble in the following materials: cold water and hot water.        |
|   | 10X Cloned Pfu Reaction      | Easily soluble in the following materials: cold water and hot water. |
|   | Buffer                       |  |
|   | 10 mM dNTP Mix (2.5 mM each) | Easily soluble in the following materials: cold water and hot water. |
|   | Control DNA (pUC 19)         | Easily soluble in the following materials: cold water and hot water. |

## Section 9. Physical and chemical properties

|   |                                |                |
|---|--------------------------------|----------------|
| <b>Partition coefficient: n-octanol/water</b> | : Cloned Pfu DNA Polymerase    | Not available. |
|   | 10X Cloned Pfu Reaction Buffer | Not available. |
|   | 10 mM dNTP Mix (2.5 mM each)   | Not available. |
|   | Control DNA (pUC 19)           | Not available. |
| <b>Auto-ignition temperature</b>              | : Cloned Pfu DNA Polymerase    | Not available. |
|   | 10X Cloned Pfu Reaction Buffer | Not available. |
|   | 10 mM dNTP Mix (2.5 mM each)   | Not available. |
|   | Control DNA (pUC 19)           | Not available. |
| <b>Decomposition temperature</b>              | : Cloned Pfu DNA Polymerase    | Not available. |
|   | 10X Cloned Pfu Reaction Buffer | Not available. |
|   | 10 mM dNTP Mix (2.5 mM each)   | Not available. |
|   | Control DNA (pUC 19)           | Not available. |
| <b>Viscosity</b>                              | : Cloned Pfu DNA Polymerase    | Not available. |
|   | 10X Cloned Pfu Reaction Buffer | Not available. |
|   | 10 mM dNTP Mix (2.5 mM each)   | Not available. |
|   | Control DNA (pUC 19)           | Not available. |

## Section 10. Stability and reactivity

|   |   |  |
|---|---|--|
| <b>Reactivity</b>                         | : <input checked="" type="checkbox"/> Cloned Pfu DNA Polymerase | No specific test data related to reactivity available for this product or its ingredients. |
|   | 10X Cloned Pfu Reaction Buffer                                  | No specific test data related to reactivity available for this product or its ingredients. |
|   | 10 mM dNTP Mix (2.5 mM each)                                    | No specific test data related to reactivity available for this product or its ingredients. |
|   | Control DNA (pUC 19)  | No specific test data related to reactivity available for this product or its ingredients. |
|   |   |  |
| <b>Chemical stability</b>                 | : <input checked="" type="checkbox"/> Cloned Pfu DNA Polymerase | The product is stable.   |
|   | 10X Cloned Pfu Reaction Buffer                                  | The product is stable.   |
|   | 10 mM dNTP Mix (2.5 mM each)                                    | The product is stable.   |
|   | Control DNA (pUC 19)  | The product is stable.   |
|   |   |  |
| <b>Possibility of hazardous reactions</b> | : <input checked="" type="checkbox"/> Cloned Pfu DNA Polymerase | Under normal conditions of storage and use, hazardous reactions will not occur.            |
|   | 10X Cloned Pfu Reaction Buffer                                  | Under normal conditions of storage and use, hazardous reactions will not occur.            |
|   | 10 mM dNTP Mix (2.5 mM each)                                    | Under normal conditions of storage and use, hazardous reactions will not occur.            |
|   | Control DNA (pUC 19)  | Under normal conditions of storage and use, hazardous reactions will not occur.            |
|   |   |  |
| <b>Conditions to avoid</b>                | : <input checked="" type="checkbox"/> Cloned Pfu DNA Polymerase | No specific data.  |
|   | 10X Cloned Pfu Reaction Buffer                                  | No specific data.  |
|   | 10 mM dNTP Mix (2.5 mM each)                                    | No specific data.  |
|   | Control DNA (pUC 19)  | No specific data.  |
|   |   |  |

## Section 10. Stability and reactivity

|                               |                                |  |
|-------------------------------|--------------------------------|--|
| <b>Incompatible materials</b> | : Cloned Pfu DNA Polymerase    | May react or be incompatible with oxidising materials. |
|                               | 10X Cloned Pfu Reaction Buffer | May react or be incompatible with oxidising materials. |
|                               | 10 mM dNTP Mix (2.5 mM each)   | May react or be incompatible with oxidising materials. |
|                               | Control DNA (pUC 19)           | May react or be incompatible with oxidising materials. |

|   |                                |  |
|---|--------------------------------|--|
| <b>Hazardous decomposition products</b> | : Cloned Pfu DNA Polymerase    | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
|   | 10X Cloned Pfu Reaction Buffer | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
|   | 10 mM dNTP Mix (2.5 mM each)   | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
|   | Control DNA (pUC 19)           | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

| Product/ingredient name  | Result    | Species | Dose        | Exposure |
|--|-----------|---------|-------------|----------|
| Cloned Pfu DNA Polymerase<br>Glycerol                                | LD50 Oral | Rat     | 12600 mg/kg | -        |
| 10X Cloned Pfu Reaction Buffer<br>Polyoxyethylene octyl phenyl ether | LD50 Oral | Rat     | 1800 mg/kg  | -        |

#### Irritation/Corrosion

| Product/ingredient name  | Result                   | Species | Score | Exposure                 | Observation |
|--|--------------------------|---------|-------|--------------------------|-------------|
| Cloned Pfu DNA Polymerase<br>Glycerol                                | Eyes - Mild irritant     | Rabbit  | -     | 24 hours 500 milligrams  | -           |
|  | Skin - Mild irritant     | Rabbit  | -     | 24 hours 500 milligrams  | -           |
| 10X Cloned Pfu Reaction Buffer<br>Polyoxyethylene octyl phenyl ether | Eyes - Moderate irritant | Rabbit  | -     | 24 hours 10 microliters  | -           |
|  | Skin - Mild irritant     | Rabbit  | -     | 24 hours 500 microliters | -           |

#### Sensitisation

Not available.

#### Mutagenicity

**Conclusion/Summary** : Not available.

#### Carcinogenicity

**Conclusion/Summary** : Not available.

#### Reproductive toxicity

**Conclusion/Summary** : Not available.

#### Teratogenicity

## Section 11. Toxicological information

**Conclusion/Summary** : Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on likely routes of exposure** : Cloned Pfu DNA Polymerase Routes of entry anticipated: Oral, Dermal, Inhalation.  
 10X Cloned Pfu Reaction Buffer Routes of entry anticipated: Oral, Dermal, Inhalation.  
 10 mM dNTP Mix (2.5 mM each) Not available.  
 Control DNA (pUC 19) Not available.

### Potential acute health effects

**Eye contact** :  Cloned Pfu DNA Polymerase No known significant effects or critical hazards.  
 10X Cloned Pfu Reaction Buffer Causes serious eye irritation.  
 10 mM dNTP Mix (2.5 mM each) No known significant effects or critical hazards.  
 Control DNA (pUC 19) No known significant effects or critical hazards.

**Inhalation** :  Cloned Pfu DNA Polymerase No known significant effects or critical hazards.  
 10X Cloned Pfu Reaction Buffer No known significant effects or critical hazards.  
 10 mM dNTP Mix (2.5 mM each) No known significant effects or critical hazards.  
 Control DNA (pUC 19) No known significant effects or critical hazards.

**Skin contact** :  Cloned Pfu DNA Polymerase No known significant effects or critical hazards.  
 10X Cloned Pfu Reaction Buffer No known significant effects or critical hazards.  
 10 mM dNTP Mix (2.5 mM each) No known significant effects or critical hazards.  
 Control DNA (pUC 19) No known significant effects or critical hazards.

**Ingestion** :  Cloned Pfu DNA Polymerase No known significant effects or critical hazards.  
 10X Cloned Pfu Reaction Buffer No known significant effects or critical hazards.  
 10 mM dNTP Mix (2.5 mM each) No known significant effects or critical hazards.  
 Control DNA (pUC 19) No known significant effects or critical hazards.

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

**Eye contact** :  Cloned Pfu DNA Polymerase No specific data.  
 10X Cloned Pfu Reaction Buffer Adverse symptoms may include the following:  
 pain or irritation  
 watering  
 redness  
 10 mM dNTP Mix (2.5 mM each) No specific data.  
 Control DNA (pUC 19) No specific data.

**Inhalation** :  Cloned Pfu DNA Polymerase No specific data.  
 10X Cloned Pfu Reaction Buffer No specific data.  
 10 mM dNTP Mix (2.5 mM each) No specific data.  
 Control DNA (pUC 19) No specific data.

## Section 11. Toxicological information

|                     |                                |                   |
|---------------------|--------------------------------|-------------------|
| <b>Skin contact</b> | : Cloned Pfu DNA Polymerase    | No specific data. |
|                     | 10X Cloned Pfu Reaction Buffer | No specific data. |
|                     | 10 mM dNTP Mix (2.5 mM each)   | No specific data. |
|                     | Control DNA (pUC 19)           | No specific data. |
| <b>Ingestion</b>    | : Cloned Pfu DNA Polymerase    | No specific data. |
|                     | 10X Cloned Pfu Reaction Buffer | No specific data. |
|                     | 10 mM dNTP Mix (2.5 mM each)   | No specific data. |
|                     | Control DNA (pUC 19)           | 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

|                              |                                |   |
|------------------------------|--------------------------------|---|
| <b>General</b>               | : Cloned Pfu DNA Polymerase    | No known significant effects or critical hazards. |
|                              | 10X Cloned Pfu Reaction Buffer | No known significant effects or critical hazards. |
|                              | 10 mM dNTP Mix (2.5 mM each)   | No known significant effects or critical hazards. |
|                              | Control DNA (pUC 19)           | No known significant effects or critical hazards. |
| <b>Carcinogenicity</b>       | : Cloned Pfu DNA Polymerase    | No known significant effects or critical hazards. |
|                              | 10X Cloned Pfu Reaction Buffer | No known significant effects or critical hazards. |
|                              | 10 mM dNTP Mix (2.5 mM each)   | No known significant effects or critical hazards. |
|                              | Control DNA (pUC 19)           | No known significant effects or critical hazards. |
| <b>Mutagenicity</b>          | : Cloned Pfu DNA Polymerase    | No known significant effects or critical hazards. |
|                              | 10X Cloned Pfu Reaction Buffer | No known significant effects or critical hazards. |
|                              | 10 mM dNTP Mix (2.5 mM each)   | No known significant effects or critical hazards. |
|                              | Control DNA (pUC 19)           | No known significant effects or critical hazards. |
| <b>Teratogenicity</b>        | : Cloned Pfu DNA Polymerase    | No known significant effects or critical hazards. |
|                              | 10X Cloned Pfu Reaction Buffer | No known significant effects or critical hazards. |
|                              | 10 mM dNTP Mix (2.5 mM each)   | No known significant effects or critical hazards. |
|                              | Control DNA (pUC 19)           | No known significant effects or critical hazards. |
| <b>Developmental effects</b> | : Cloned Pfu DNA Polymerase    | No known significant effects or critical hazards. |
|                              | 10X Cloned Pfu Reaction Buffer | No known significant effects or critical hazards. |
|                              | 10 mM dNTP Mix (2.5 mM each)   | No known significant effects or critical hazards. |
|                              | Control DNA (pUC 19)           | No known significant effects or critical hazards. |
| <b>Fertility effects</b>     | : Cloned Pfu DNA Polymerase    | No known significant effects or critical hazards. |
|                              | 10X Cloned Pfu Reaction Buffer | No known significant effects or critical hazards. |
|                              | 10 mM dNTP Mix (2.5 mM each)   | No known significant effects or critical hazards. |
|                              | Control DNA (pUC 19)           | No known significant effects or critical hazards. |



## Section 11. Toxicological information

### Numerical measures of toxicity

#### Acute toxicity estimates

| Route                                  | ATE value    |
|--|--------------|
| 10X Cloned Pfu Reaction Buffer<br>Oral | 180000 mg/kg |

## Section 12. Ecological information

### Toxicity

| Product/ingredient name  | Result                            | Species   | Exposure |
|--|-----------------------------------|---|----------|
| Cloned Pfu DNA<br>Polymerase<br>Glycerol                                   | Acute LC50 54000 mg/l Fresh water | Fish - Oncorhynchus mykiss                      | 96 hours |
| 10X Cloned Pfu Reaction<br>Buffer<br>Polyoxyethylene octyl phenyl<br>ether | Acute LC50 5.85 mg/l Fresh water  | Crustaceans - Ceriodaphnia<br>rigaudi - Neonate | 48 hours |
|  | Acute LC50 11.2 mg/l Fresh water  | Daphnia - Daphnia magna -<br>Neonate            | 48 hours |
|  | Acute LC50 4500 µg/l Fresh water  | Fish - Pimephales promelas                      | 96 hours |

### Persistence and degradability

| Product/ingredient name                  | Test  | Result         | Dose | Inoculum |
|--|---|----------------|------|----------|
| Cloned Pfu DNA<br>Polymerase<br>Glycerol | 301D Ready<br>Biodegradability -<br>Closed Bottle<br>Test | 93 % - 30 days | -    | -        |

  

| Product/ingredient name  | Aquatic half-life | Photolysis | Biodegradability |
|--|-------------------|------------|------------------|
| 10X Cloned Pfu Reaction<br>Buffer<br>Polyoxyethylene octyl phenyl<br>ether | -                 | -          | Readily          |

### Bioaccumulative potential

| Product/ingredient name  | LogP <sub>ow</sub> | BCF | Potential |
|--|--------------------|-----|-----------|
| Cloned Pfu DNA<br>Polymerase<br>Glycerol                                   | -1.76              | -   | low       |
| 10X Cloned Pfu Reaction<br>Buffer<br>Polyoxyethylene octyl phenyl<br>ether | 4.86               | -   | high      |

### Mobility in soil

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

## Section 12. Ecological information

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

## Section 14. Transport information

**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** : Not determined.  
**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):** Not determined.  
**Japan inventory (ISHL):** Not determined.  
**Malaysia** : Not determined.

## Section 15. Regulatory information

|                          |   |
|--------------------------|---|
| <b>New Zealand</b>       | : All components are listed or exempted.              |
| <b>Philippines</b>       | : All components are listed or exempted.              |
| <b>Republic of Korea</b> | : Not determined.                                     |
| <b>Taiwan</b>            | : All components are listed or exempted.              |
| <b>Thailand</b>          | : <input checked="" type="checkbox"/> Not determined. |
| <b>Turkey</b>            | : Not determined.                                     |
| <b>United States</b>     | : All components are listed or exempted.              |
| <b>Viet Nam</b>          | : <input checked="" type="checkbox"/> Not determined. |

## Section 16. Any other relevant information

### History

|                                       |              |
|---------------------------------------|--------------|
| <b>Date of issue/Date of revision</b> | : 16/02/2018 |
| <b>Date of previous issue</b>         | : 29/02/2016 |
| <b>Version</b>                        | : 5          |

### Key to abbreviations

|   |
|---|
| : ADG = Australian Dangerous Goods  |
| : 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   |
| : MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) |
| : NOHSC = National Occupational Health and Safety Commission  |
| : SUSMP = Standard Uniform Schedule of Medicine and Poisons   |
| : UN = United Nations   |

### Procedure used to derive the classification

| Classification   | Justification      |
|--|--------------------|
| <b>10X Cloned Pfu Reaction Buffer</b><br>Eye Irrit. 2A, H319 | Calculation method |

**References** : Not available.

Indicates information that has changed from previously issued version.

### Notice to reader

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