Section 1. Identification

1.1 Product identifier

Product name: QC-Plex
Part no. (chemical kit): QC-0521.100
Part no.: PCR Mix I-1228
Taq DNA Polymerase I-1229
Validation date: 2/24/2020

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


PCR Mix: 4 x 0.325 ml
Taq DNA Polymerase: 0.015 ml

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer: Agilent Technologies Belgium
De Kleetlaan 5 bus 9
1831 Diegem
Belgium
Tel.: +32(0)2 404 90 00

1.4 Emergency telephone number

In case of emergency: CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

2.1 Classification of the substance or mixture

OSHA/HCS status: PCR Mix

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

PCR Mix
H320 - Causes eye irritation.
H412 - Harmful to aquatic life with long lasting effects.

Taq DNA Polymerase
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

2.2 GHS label elements

Signal word: PCR Mix
Taq DNA Polymerase
No signal word.
Warning

Hazard statements: PCR Mix
Taq DNA Polymerase
No known significant effects or critical hazards.
H320 - Causes eye irritation.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention: PCR Mix
Taq DNA Polymerase
Not applicable.
P273 - Avoid release to the environment.

Date of issue: 02/24/2020
Section 2. Hazards identification

Response:
- PCR Mix
- Taq DNA Polymerase
  Not applicable.

Storage:
- PCR Mix
- Taq DNA Polymerase
  Not applicable.

Disposal:
- PCR Mix
- Taq DNA Polymerase
  Not applicable.

Supplemental label elements:
- PCR Mix
- Taq DNA Polymerase
  None known.

2.3 Other hazards

Hazard not otherwise classified:
- PCR Mix
- Taq DNA Polymerase
  None known.

Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>PCR Mix</th>
<th>Taq DNA Polymerase</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taq DNA Polymerase</td>
<td>56-81-5</td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>≥25 - ≤50</td>
<td></td>
</tr>
<tr>
<td>Poly(oxy-1,2-ethanediyl).alpha-[(1,1,3,3-tetramethylbutyl)phenyl].omega.-hydroxy-</td>
<td>&lt;1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9036-19-5</td>
<td></td>
</tr>
</tbody>
</table>

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

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

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

Section 4. First aid measures

4.1 Description of necessary first aid measures

Eye contact:
- PCR Mix
- Taq 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.

Inhalation:
- PCR Mix
- Taq DNA Polymerase
  Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. 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.

Date of issue: 02/24/2020
Section 4. First aid measures

Skin contact

<table>
<thead>
<tr>
<th>Substance</th>
<th>First Aid Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCR Mix</td>
<td>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 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.</td>
</tr>
<tr>
<td>Taq DNA Polymerase</td>
<td>Wash out mouth with water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.</td>
</tr>
</tbody>
</table>

Ingestion

<table>
<thead>
<tr>
<th>Substance</th>
<th>First Aid Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCR Mix</td>
<td>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.</td>
</tr>
<tr>
<td>Taq DNA Polymerase</td>
<td>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.</td>
</tr>
</tbody>
</table>

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

<table>
<thead>
<tr>
<th>Contact Type</th>
<th>Substance</th>
<th>Symptoms/Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>PCR Mix</td>
<td>No known significant effects or critical hazards. Causes eye irritation.</td>
</tr>
<tr>
<td></td>
<td>Taq DNA Polymerase</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>PCR Mix</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>Taq DNA Polymerase</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>PCR Mix</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>Taq DNA Polymerase</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>PCR Mix</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>Taq DNA Polymerase</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

Over-exposure signs/symptoms

Date of issue: 02/24/2020
## Section 4. First aid measures

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>PCR Mix</th>
<th>Taq DNA Polymerase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No specific data.</td>
<td>Adverse symptoms may include the following: irritation watering redness</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>PCR Mix</th>
<th>Taq DNA Polymerase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skin contact</th>
<th>PCR Mix</th>
<th>Taq DNA Polymerase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingestion</th>
<th>PCR Mix</th>
<th>Taq DNA Polymerase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Notes to physician</th>
<th>PCR Mix</th>
<th>Taq DNA Polymerase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>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.</td>
<td>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specific treatments</th>
<th>PCR Mix</th>
<th>Taq DNA Polymerase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No specific treatment.</td>
<td>No specific treatment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Protection of first-aiders</th>
<th>PCR Mix</th>
<th>Taq DNA Polymerase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No action shall be taken involving any personal risk or without suitable training.</td>
<td>No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.</td>
</tr>
</tbody>
</table>

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>PCR Mix</th>
<th>Taq DNA Polymerase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Use an extinguishing agent suitable for the surrounding fire.</td>
<td>Use an extinguishing agent suitable for the surrounding fire.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unsuitable extinguishing media</th>
<th>PCR Mix</th>
<th>Taq DNA Polymerase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None known.</td>
<td>None known.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Specific hazards arising from the chemical</th>
<th>PCR Mix</th>
<th>Taq DNA Polymerase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In a fire or if heated, a pressure increase will occur and the container may burst.</td>
<td>In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.</td>
</tr>
</tbody>
</table>

Date of issue: 02/24/2020
## Section 5. Fire-fighting measures

| Hazardous thermal decomposition products | PCR Mix | Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
phosphorus oxides |
|----------------------------------------|---------|--------------------------------------------------|
| Taq DNA Polymerase | Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide |

### 5.3 Advice for firefighters

<table>
<thead>
<tr>
<th>Special protective actions for firefighters</th>
<th>PCR Mix</th>
<th>Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taq DNA Polymerase</td>
<td>Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Special protective equipment for firefighters</th>
<th>PCR Mix</th>
<th>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taq DNA Polymerase</td>
<td>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</td>
<td></td>
</tr>
</tbody>
</table>

## Section 6. Accidental release measures

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

<table>
<thead>
<tr>
<th>For non-emergency personnel</th>
<th>PCR Mix</th>
<th>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taq DNA Polymerase</td>
<td>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>For emergency responders</th>
<th>PCR Mix</th>
<th>If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in &quot;For non-emergency personnel&quot;.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taq DNA Polymerase</td>
<td>If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in &quot;For non-emergency personnel&quot;.</td>
<td></td>
</tr>
</tbody>
</table>
Section 6. Accidental release measures

6.2 Environmental precautions

PCR Mix

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

Taq DNA Polymerase

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up

PCR Mix

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

Taq 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.

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures

PCR Mix

Put on appropriate personal protective equipment (see Section 8). Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Avoid release to the environment. 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.

Taq DNA Polymerase

Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Avoid release to the environment. 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.

Advice on general occupational hygiene

PCR Mix

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

Taq 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.
Section 7. Handling and storage

7.2 Conditions for safe storage, including any incompatibilities

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

**Taq 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

**Recommendations**

**Industrial sector specific solutions**

**PCR Mix**
Not applicable.

**Taq DNA Polymerase**
Not applicable.

Industrial applications, Professional applications.

Industrial applications, Professional applications.

8.1 Control parameters

**Ingredient name**

**Glycerol**

**Exposure limits**

TWA: 5 mg/m³ 8 hours. Form: Respirable fraction
TWA: 10 mg/m³ 8 hours. Form: Total dust
OSHA PEL (United States, 5/2018).
TWA: 5 mg/m³ 8 hours. Form: Respirable fraction
TWA: 15 mg/m³ 8 hours. Form: Total dust
None.

Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-

8.2 Exposure controls

**Appropriate engineering controls**

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

**Environmental exposure controls**

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

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Section 8. Exposure controls/personal protection

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

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

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

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

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

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state: PCR Mix Liquid.
Taq DNA Polymerase Liquid. [Clear. / solution]

Color: PCR Mix Not available.
Taq DNA Polymerase Colorless.

Odor: PCR Mix Not available.
Taq DNA Polymerase Not available.

Odor threshold: PCR Mix Not available.
Taq DNA Polymerase Not available.

pH: PCR Mix Not available.
Taq DNA Polymerase Not available.

Melting point: PCR Mix Not available.
Taq DNA Polymerase Not available.

Boiling point: PCR Mix Not available.
Taq DNA Polymerase Not available.

Flash point: PCR Mix Not available.
Taq DNA Polymerase Not available.

Evaporation rate: PCR Mix Not available.
Taq DNA Polymerase Not available.

Flammability (solid, gas): PCR Mix Not applicable.
Taq DNA Polymerase Not applicable.
# Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>PCR Mix</th>
<th>Taq DNA Polymerase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower and upper explosive (flammable) limits</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>PCR Mix</td>
<td>Taq DNA Polymerase</td>
</tr>
<tr>
<td>Relative density</td>
<td>PCR Mix</td>
<td>Taq DNA Polymerase</td>
</tr>
<tr>
<td>Solubility</td>
<td>PCR Mix</td>
<td>Taq DNA Polymerase</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>PCR Mix</td>
<td>Taq DNA Polymerase</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>PCR Mix</td>
<td>Taq DNA Polymerase</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>PCR Mix</td>
<td>Taq DNA Polymerase</td>
</tr>
<tr>
<td>Viscosity</td>
<td>PCR Mix</td>
<td>Taq DNA Polymerase</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

**Solubility**

Easily soluble in the following materials: cold water and hot water. Soluble in the following materials: cold water and hot water.

**Partition coefficient: n-octanol/water**

Not available.

**Auto-ignition temperature**

Not available.

**Decomposition temperature**

Not available.

**Viscosity**

Not available.

---

# Section 10. Stability and reactivity

**10.1 Reactivity**

No specific test data related to reactivity available for this product or its ingredients.

**10.2 Chemical stability**

The product is stable.

**10.3 Possibility of hazardous reactions**

Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid**

No specific data.

**10.5 Incompatible materials**

May react or be incompatible with oxidizing materials.

**10.6 Hazardous decomposition products**

Under normal conditions of storage and use, hazardous decomposition products should not be produced.
# Section 11. Toxicological information

## 11.1 Information on toxicological effects

### Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taq DNA Polymerase</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>12600 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Poly(oxy-1,2-ethanediyl), (\alpha)-[(1,1,3,3-tetramethylbutyl)phenyl]-(\omega)-hydroxy-</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2800 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

### Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taq DNA Polymerase</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 mg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 mg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>1 %</td>
<td>-</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poly(oxy-1,2-ethanediyl), (\alpha)-[(1,1,3,3-tetramethylbutyl)phenyl]-(\omega)-hydroxy-</td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>1 %</td>
<td>-</td>
</tr>
</tbody>
</table>

### Sensitization

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.

### Information on the likely routes of exposure

- **PCR Mix**: Not available.
- **Taq DNA Polymerase**: Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential acute health effects

<table>
<thead>
<tr>
<th>Route</th>
<th>Product/ingredient name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>PCR Mix</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>Taq DNA Polymerase</td>
<td>Causes eye irritation.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>PCR Mix</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>Taq DNA Polymerase</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>PCR Mix</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>Taq DNA Polymerase</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

Date of issue: 02/24/2020
Section 11. Toxicological information

Ingestion:
- PCR Mix: No known significant effects or critical hazards.
- Taq DNA Polymerase: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact:
- PCR Mix: No specific data.
- Taq DNA Polymerase: No specific data.

Inhalation:
- PCR Mix: No specific data.
- Taq DNA Polymerase: No specific data.

Skin contact:
- PCR Mix: No specific data.
- Taq DNA Polymerase: No specific data.

Ingestion:
- PCR Mix: No specific data.
- Taq DNA Polymerase: No specific data.

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

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

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

Potential chronic health effects

General:
- PCR Mix: No known significant effects or critical hazards.
- Taq DNA Polymerase: No known significant effects or critical hazards.

Carcinogenicity:
- PCR Mix: No known significant effects or critical hazards.
- Taq DNA Polymerase: No known significant effects or critical hazards.

Mutagenicity:
- PCR Mix: No known significant effects or critical hazards.
- Taq DNA Polymerase: No known significant effects or critical hazards.

Teratogenicity:
- PCR Mix: No known significant effects or critical hazards.
- Taq DNA Polymerase: No known significant effects or critical hazards.

Developmental effects:
- PCR Mix: No known significant effects or critical hazards.
- Taq DNA Polymerase: No known significant effects or critical hazards.

Fertility effects:
- PCR Mix: No known significant effects or critical hazards.
- Taq DNA Polymerase: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Oral (mg/kg)</th>
<th>Dermal (mg/kg)</th>
<th>Inhalation (gases) (ppm)</th>
<th>Inhalation (vapors) (mg/l)</th>
<th>Inhalation (dusts and mists) (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taq DNA Polymerase</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>12600</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-</td>
<td>2800</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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Section 12. Ecological information

12.1 Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taq DNA Polymerase</td>
<td>Acute LC50 54000 mg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
<tr>
<td>Glycerol</td>
<td>Acute EC50 210 µg/l Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 10800 µg/l Marine water</td>
<td>Crustaceans - Pandalus montagui - Adult</td>
<td>48 hours</td>
</tr>
<tr>
<td>Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-</td>
<td>Acute LC50 8600 µg/l Fresh water</td>
<td>Daphnia - Daphnia magna - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 7200 µg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taq DNA Polymerase</td>
<td>301D Ready Biodegradability - Closed Bottle Test</td>
<td>93 % - 30 days</td>
<td>-</td>
</tr>
<tr>
<td>Glycerol</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taq DNA Polymerase</td>
<td>-1.76</td>
<td>78.67</td>
<td>low</td>
</tr>
<tr>
<td>Glycerol</td>
<td>3.77</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

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

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

Section 13. Disposal considerations

13.1 Waste treatment methods

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

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

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

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

Section 14. Transport information

DOT / TDG / Mexico / IMDG / IATA

: Not regulated.

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 IMO instruments

: Not available.

Section 15. Regulatory information

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

U.S. Federal regulations

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)

: Not listed

Clean Air Act Section 602 Class I Substances

: Not listed

Clean Air Act Section 602 Class II Substances

: Not listed

DEA List I Chemicals (Precursor Chemicals)

: Not listed

DEA List II Chemicals (Essential Chemicals)

: Not listed

SARA 302/304

Composition/information on ingredients

: No products were found.

SARA 304 RQ

: Not applicable.

SARA 311/312

Classification

: PCR Mix

Taq DNA Polymerase

: EYE IRRITATION - Category 2B

Composition/information on ingredients

Date of issue: 02/24/2020
Section 15. Regulatory information

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taq DNA Polymerase</td>
<td>≥25 - ≤50</td>
<td>EYE IRRITATION - Category 2B</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

State regulations

Massachusetts: The following components are listed: GLYCERINE MIST
New York: None of the components are listed.
New Jersey: The following components are listed: GLYCERIN; 1,2,3-PROPANETRIOL
Pennsylvania: The following components are listed: 1,2,3-PROPANETRIOL

California Prop. 65
This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

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

Montreal Protocol
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: Not determined.
China: Not determined.
Europe: Not determined.
Japan: Japan inventory (ENCS): Not determined.
          Japan inventory (ISHL): Not determined.
New Zealand: Not determined.
Philippines: Not determined.
Republic of Korea: Not determined.
Taiwan: Not determined.
Thailand: Not determined.
Turkey: Not determined.
United States: Not determined.
Viet Nam: Not determined.

Date of issue: 02/24/2020
Section 16. Other information

History

Date of issue : 02/24/2020
Date of previous issue : 08/30/2017
Version : 2

Key to abbreviations :
- 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
- UN = United Nations

Procedure used to derive the classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>EYE IRRITATION - Category 2B</td>
<td>Calculation method</td>
</tr>
<tr>
<td>AQUATIC HAZARD (LONG-TERM) - Category 3</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

Indicates information that has changed from previously issued version.

Notice to reader

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