SAFETY DATA SHEET
PicoMaxx High Fidelity PCR System, Part Number 600420

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

1.1 Product identifier

Product name: PicoMaxx High Fidelity PCR System, Part Number 600420
Part no. (chemical kit): 600420
Part no.: PicoMaxx High Fidelity PCR System 600420-51
10X PicoMaxx Reaction Buffer 600420-52

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

Identified uses: Analytical reagent.

PicoMaxx High Fidelity PCR System: 0.04 ml (100 U 2.5 U/µl)
10X PicoMaxx Reaction Buffer: 1 ml

Uses advised against: None known.

1.3 Details of the supplier of the safety data sheet

Agilent Technologies LDA UK Ltd.
5500 Lakeside Cheadle Royal Business Park,
Cheadle, Cheshire, SK8 3GR
United Kingdom
Tel: +44 (0) 345 712 5292
0800 603 1000

e-mail address of person responsible for this SDS: pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation): CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition: PicoMaxx High Fidelity PCR System Mixture
10X PicoMaxx Reaction Buffer Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
PicoMaxx High Fidelity PCR System
H412 LONG-TERM (CHRONIC) AQUATIC HAZARD Category 3

Ingredients of unknown toxicity

Ingredients of unknown ecotoxicity

See Section 16 for the full text of the H statements declared above.

Date of issue/Date of revision: 05/10/2022
Date of previous issue: 24/11/2019
Version: 3
### SECTION 2: Hazards identification

See Section 11 for more detailed information on health effects and symptoms.

#### 2.2 Label elements

<table>
<thead>
<tr>
<th>Signal word</th>
<th>:—</th>
<th>:—</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>No signal word.</td>
<td>No signal word.</td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazard statements</th>
<th>:—</th>
<th>:—</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>H412 - Harmful to aquatic life with long lasting effects.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Precautionary statements**

**Prevention**

<table>
<thead>
<tr>
<th>Prevention</th>
<th>:—</th>
<th>:—</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>P273 - Avoid release to the environment.</td>
<td></td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>

**Response**

<table>
<thead>
<tr>
<th>Response</th>
<th>:—</th>
<th>:—</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>

**Storage**

<table>
<thead>
<tr>
<th>Storage</th>
<th>:—</th>
<th>:—</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>

**Disposal**

<table>
<thead>
<tr>
<th>Disposal</th>
<th>:—</th>
<th>:—</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>

**Supplemental label elements**

<table>
<thead>
<tr>
<th>Supplemental label elements</th>
<th>:—</th>
<th>:—</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td></td>
<td>Safety data sheet available on request.</td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

| :— | :— |
| :— | :— |
| PicoMaxx High Fidelity PCR System | Not applicable. |
| 10X PicoMaxx Reaction Buffer | Not applicable. |

**Special packaging requirements**

<table>
<thead>
<tr>
<th>Containers to be fitted with child-resistant fastenings</th>
<th>:—</th>
<th>:—</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tactile warning of danger</th>
<th>:—</th>
<th>:—</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>

#### 2.3 Other hazards

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII**

| :— | :— |
| :— | :— |
| PicoMaxx High Fidelity PCR System | This mixture does not contain any substances that are assessed to be a PBT or a vPvB. |
| 10X PicoMaxx Reaction Buffer | This mixture does not contain any substances that are assessed to be a PBT or a vPvB. |

**Other hazards which do not result in classification**

| :— | :— |
| :— | :— |
| PicoMaxx High Fidelity PCR System | None known. |
| 10X PicoMaxx Reaction Buffer | None known. |
SECTION 2: Hazards identification

<table>
<thead>
<tr>
<th>Substances identified as having endocrine disruptor properties</th>
<th>Ingredient name</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-</td>
<td>Environment</td>
</tr>
</tbody>
</table>

SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>%</th>
<th>Classification</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>EC: 200-289-5</td>
<td>≥50 - ≤75</td>
<td>Not classified.</td>
<td>[2]</td>
</tr>
<tr>
<td></td>
<td>CAS: 56-81-5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CAS: 9036-19-5</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>&lt;1</td>
<td></td>
<td>Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=1)</td>
<td>[1]  [3]</td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>EC: 201-064-4</td>
<td>&lt;10</td>
<td>Skin Irrit. 2, H315 Eye Irrit. 2, H319</td>
<td>[1]</td>
</tr>
<tr>
<td></td>
<td>CAS: 77-86-1</td>
<td></td>
<td>See Section 16 for the full text of the H statements declared above.</td>
<td></td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type


10X PicoMaxx Reaction Buffer: [1] Substance classified with a health or environmental hazard

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

PicoMaxx High Fidelity PCR System

10X PicoMaxx Reaction Buffer

Immediate 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 PicoMaxx Reaction Buffer

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

PicoMaxx High Fidelity PCR System

10X PicoMaxx Reaction Buffer

Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.
SECTION 4: First aid measures

Skin contact: 
PicoMaxx High Fidelity PCR System
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

10X PicoMaxx Reaction Buffer
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion: 
PicoMaxx High Fidelity PCR System
Wash out mouth with water. 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.

10X PicoMaxx Reaction Buffer
Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Protection of first-aiders: 
PicoMaxx High Fidelity PCR System
No action shall be taken involving any personal risk or without suitable training.

10X PicoMaxx Reaction Buffer
No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact: 
PicoMaxx High Fidelity PCR System
No specific data.

10X PicoMaxx Reaction Buffer
No specific data.

Inhalation: 
PicoMaxx High Fidelity PCR System
No specific data.

10X PicoMaxx Reaction Buffer
No specific data.

Skin contact: 
PicoMaxx High Fidelity PCR System
No specific data.

10X PicoMaxx Reaction Buffer
No specific data.

Ingestion: 
PicoMaxx High Fidelity PCR System
No specific data.

10X PicoMaxx Reaction Buffer
No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: 
PicoMaxx High Fidelity PCR System
Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

10X PicoMaxx 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.

Specific treatments: 
PicoMaxx High Fidelity PCR System
No specific treatment.

10X PicoMaxx Reaction Buffer
No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: 
PicoMaxx High Fidelity PCR System
Use an extinguishing agent suitable for the surrounding fire.

10X PicoMaxx Reaction Buffer
Use an extinguishing agent suitable for the surrounding fire.
SECTION 5: Firefighting measures

### Unsuitable extinguishing media

- **PicoMaxx High Fidelity PCR System**
- **10X PicoMaxx Reaction Buffer**: None known.

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

#### Hazards from the substance or mixture

- **PicoMaxx High Fidelity PCR System**: 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.
- **10X PicoMaxx Reaction Buffer**: In a fire or if heated, a pressure increase will occur and the container may burst.

#### Hazardous combustion products

- **PicoMaxx High Fidelity PCR System**: Decomposition products may include the following materials:
  - carbon dioxide
  - carbon monoxide
- **10X PicoMaxx Reaction Buffer**: Decomposition products may include the following materials:
  - carbon dioxide
  - carbon monoxide
  - nitrogen oxides
  - sulfur oxides
  - halogenated compounds
  - metal oxide/oxides

### 5.3 Advice for firefighters

#### Special protective actions for fire-fighters

- **PicoMaxx High Fidelity PCR System**: 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 PicoMaxx 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.

#### Special protective equipment for fire-fighters

- **PicoMaxx High Fidelity PCR System**: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- **10X PicoMaxx 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.

### SECTION 6: Accidental release measures

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

##### For non-emergency personnel

- **PicoMaxx High Fidelity PCR System**: 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 PicoMaxx 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. Put on appropriate personal protective equipment.

##### For emergency responders

- **PicoMaxx High Fidelity PCR System**: 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 PicoMaxx 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".

**Date of issue/Date of revision**: 05/10/2022  **Date of previous issue**: 24/11/2019  **Version**: 3  **5/18**
## SECTION 6: Accidental release measures

### 6.2 Environmental precautions

**Methods for cleaning up**

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). Water polluting material. May be harmful to the environment if released in large quantities.

**10X PicoMaxx 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).

### 6.3 Methods and material for containment and cleaning up

**Methods for cleaning up**

- **PicoMaxx High Fidelity PCR System**
  - 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. May be harmful to the environment if released. Dispose of spillages under controlled conditions.

- **10X PicoMaxx 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.

### 6.4 Reference to other sections

- **See Section 1 for emergency contact information.**
- **See Section 8 for information on appropriate personal protective equipment.**
- **See Section 13 for additional waste treatment information.**

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

**Protective measures**

- **PicoMaxx High Fidelity PCR System**
  - Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour 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.

- **10X PicoMaxx Reaction Buffer**
  - Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene**

- **PicoMaxx High Fidelity PCR System**
  - 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 PicoMaxx 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.

### 7.2 Conditions for safe storage, including any incompatibilities
SECTION 7: Handling and storage

7.3 Specific end use(s)

Recommendations:

- **PicoMaxx High Fidelity PCR System**
  - Industrial applications, Professional applications.

- **10X PicoMaxx Reaction Buffer**
  - Industrial applications, Professional applications.

Industrial sector specific solutions:

- **PicoMaxx High Fidelity PCR System**
  - Not available.

- **10X PicoMaxx Reaction Buffer**
  - Not available.

Storage:

- **PicoMaxx High Fidelity PCR System**
  - 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 PicoMaxx 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 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/personal protection

8.1 Control parameters

**Occupational exposure limits**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Exposure limit values</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PicoMaxx High Fidelity PCR System</strong></td>
<td>EH40/2005 WELs (United Kingdom (UK), 1/2020).</td>
</tr>
<tr>
<td>Glycerol</td>
<td>TWA: 10 mg/m³ 8 hours. Form: Mist</td>
</tr>
</tbody>
</table>

**Biological exposure indices**

No exposure indices known.

**Recommended monitoring procedures**:

Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**DNELs/DMELs**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Type</th>
<th>Exposure</th>
<th>Value</th>
<th>Population</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PicoMaxx High Fidelity PCR System</strong></td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>33 mg/m³</td>
<td>General population</td>
<td>Local</td>
</tr>
<tr>
<td>Glycerol</td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>56 mg/m³</td>
<td>Workers</td>
<td>Local</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Oral</td>
<td>229 mg/kg bw/day</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td><strong>10X PicoMaxx Reaction Buffer</strong></td>
<td>DNEL</td>
<td>Long term Oral</td>
<td>8.3 mg/kg</td>
<td>General</td>
<td>Systemic</td>
</tr>
</tbody>
</table>
SECTION 8: Exposure controls/personal protection

|                | DNEL | Long term Inhalation | 29 mg/m³ | population General population | Systemic | Long term Dermal | 83.3 mg/kg bw/day | General population | Systemic | Long term Inhalation | 117.5 mg/m³ | Workers | Systemic | Long term Dermal | 166.7 mg/kg bw/day | Workers | Systemic |
|----------------|------|----------------------|----------|-------------------------------|----------|------------------|------------------|-------------------|----------|----------------------|            |         |----------|------------------|------------------|         |----------|

PNECs
No PNECs available

8.2 Exposure controls

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

Individual protection measures

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

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

Skin protection

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

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

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

**Appearance**

<table>
<thead>
<tr>
<th>Physical state</th>
<th>PicoMaxx High Fidelity PCR System</th>
<th>Liquid.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10X PicoMaxx Reaction Buffer</td>
<td>Liquid.</td>
</tr>
</tbody>
</table>

Date of issue/Date of revision : 05/10/2022  Date of previous issue : 24/11/2019  Version : 3
## SECTION 9: Physical and chemical properties

### Melting point/freezing point
- **PicoMaxx High Fidelity PCR System**: Not available.
- **10X PicoMaxx Reaction Buffer**: Not available.

### Initial boiling point and boiling range
- **PicoMaxx High Fidelity PCR System**: Not available.
- **10X PicoMaxx Reaction Buffer**: Not available.

### Odour
- **PicoMaxx High Fidelity PCR System**: Not available.
- **10X PicoMaxx Reaction Buffer**: Not available.

### Odour threshold
- **PicoMaxx High Fidelity PCR System**: Not available.
- **10X PicoMaxx Reaction Buffer**: Not available.

### Flammability
- **PicoMaxx High Fidelity PCR System**: Not applicable.
- **10X PicoMaxx Reaction Buffer**: Not applicable.

### Upper/lower flammability or explosive limits
- **PicoMaxx High Fidelity PCR System**: Not available.
- **10X PicoMaxx Reaction Buffer**: Not available.

### Flash point

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Closed cup</th>
<th>Open cup</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PicoMaxx High Fidelity PCR System</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>10X PicoMaxx Reaction Buffer</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sorbitan monolaurate, ethoxylated</td>
<td>275</td>
<td>290</td>
</tr>
</tbody>
</table>

### Auto-ignition temperature

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>°C</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PicoMaxx High Fidelity PCR System</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>370</td>
<td></td>
</tr>
</tbody>
</table>

### Decomposition temperature
- **PicoMaxx High Fidelity PCR System**: Not available.
- **10X PicoMaxx Reaction Buffer**: Not available.

### pH
- **PicoMaxx High Fidelity PCR System**: 8
- **10X PicoMaxx Reaction Buffer**: 8.83

### Viscosity
- **PicoMaxx High Fidelity PCR System**: Not available.
- **10X PicoMaxx Reaction Buffer**: Not available.

---

**Date of issue/Date of revision**: 05/10/2022  **Date of previous issue**: 24/11/2019  **Version**: 3
### SECTION 9: Physical and chemical properties

#### Solubility(ies)

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Media</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>water</td>
<td>Soluble</td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>water</td>
<td>Soluble</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Media</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>

#### Vapour pressure

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Vapour Pressure at 20°C</th>
<th>Vapour pressure at 50°C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mm Hg</td>
<td>kPa</td>
</tr>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>water</td>
<td>23.8</td>
</tr>
<tr>
<td>Glycerol</td>
<td>0.000075</td>
<td>0.00001</td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>water</td>
<td>23.8</td>
</tr>
<tr>
<td>Sorbitan monolaurate, ethoxylated</td>
<td>&lt;1</td>
<td>&lt;0.13</td>
</tr>
</tbody>
</table>

#### Evaporation rate

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Media</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>

#### Relative density

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Media</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>

#### Vapour density

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Media</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>

#### Explosive properties

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Media</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>

#### Oxidising properties

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Media</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>

#### Particle characteristics

**Median particle size**

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Media</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>

#### 9.2 Other information

No additional information.
SECTION 10: Stability and reactivity

10.1 Reactivity
- PicoMaxx High Fidelity PCR System
- 10X PicoMaxx Reaction Buffer
No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability
- PicoMaxx High Fidelity PCR System
- 10X PicoMaxx Reaction Buffer
The product is stable.

10.3 Possibility of hazardous reactions
- PicoMaxx High Fidelity PCR System
- 10X PicoMaxx Reaction Buffer
Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid
- PicoMaxx High Fidelity PCR System
- 10X PicoMaxx Reaction Buffer
No specific data.

10.5 Incompatible materials
- PicoMaxx High Fidelity PCR System
- 10X PicoMaxx Reaction Buffer
May react or be incompatible with oxidising materials.

10.6 Hazardous decomposition products
- PicoMaxx High Fidelity PCR System
- 10X PicoMaxx Reaction Buffer
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>PicoMaxx High Fidelity PCR System</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>12600 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Glycerol</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2800 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Poly(oxy-1,2-ethanediyl), .alpha-.[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Trometamol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 (vapours) (mg/l)</th>
<th>Inhalation (dusts and mists) (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>12600 500</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Glycerol</td>
<td>N/A</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></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Irritation/Corrosion

Date of issue/Date of revision : 05/10/2022 Date of previous issue : 24/11/2019 Version : 3
SECTION 11: Toxicological information

<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><strong>PicoMaxx High Fidelity PCR System</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</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>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>
<tr>
<td><strong>10X PicoMaxx Reaction Buffer</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trometamol</td>
<td>Skin - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>25 %</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>500 mg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Sensitiser**

**Conclusion/Summary**: 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 likely routes of exposure**

PicoMaxx High Fidelity PCR System

Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

10X PicoMaxx Reaction Buffer

Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

**Potential acute health effects**

**Inhalation**

PicoMaxx High Fidelity PCR System

10X PicoMaxx Reaction Buffer

No known significant effects or critical hazards.

**Ingestion**

PicoMaxx High Fidelity PCR System

10X PicoMaxx Reaction Buffer

No known significant effects or critical hazards.

**Skin contact**

PicoMaxx High Fidelity PCR System

10X PicoMaxx Reaction Buffer

No known significant effects or critical hazards.

**Eye contact**

PicoMaxx High Fidelity PCR System

10X PicoMaxx Reaction Buffer

No known significant effects or critical hazards.

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

Date of issue/Date of revision: 05/10/2022
Date of previous issue: 24/11/2019
Version: 3
SECTION 11: Toxicological information

Inhalation: PicoMaxx High Fidelity PCR System 10X PicoMaxx Reaction Buffer
Ingestion: PicoMaxx High Fidelity PCR System 10X PicoMaxx Reaction Buffer
Skin contact: PicoMaxx High Fidelity PCR System 10X PicoMaxx Reaction Buffer
Eye contact: PicoMaxx High Fidelity PCR System 10X PicoMaxx Reaction Buffer

Potential chronic health effects

General: No specific data.
Carcinogenicity: No specific data.
Mutagenicity: No specific data.
Reproductive toxicity: No specific data.

SECTION 12: Ecological information

12.1 Toxicty

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System Glycerol</td>
<td>Acute LC50 54000 mg/l Fresh water</td>
<td>Fish - Trout - Oncorhynchus mykiss, Algae - Green algae - Selenastrum sp.</td>
<td>96 hours</td>
</tr>
<tr>
<td>Poly(oxy-1,2-ethanediyl), .alpha.-[1,1,3,3-tetramethylbutyl] phenyl]-.omega.-hydroxy-</td>
<td>Acute EC50 210 μg/l Fresh water</td>
<td>96 hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute LC50 10800 μg/l Marine water</td>
<td>Crustaceans - Aesop shrimp -</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

Date of issue/Date of revision: 05/10/2022 Date of previous issue: 24/11/2019 Version: 3
## SECTION 12: Ecological information

### 12.2 Persistence and degradability

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Dose</th>
<th>Inoculum</th>
</tr>
</thead>
</table>
| **PicoMaxx High Fidelity PCR System**  
Glycerol | 301D Ready Biodegradability - Closed Bottle Test | 93 % - 30 days | - | - |
| **10X PicoMaxx Reaction Buffer**  
Trometamol | OECD 301F Ready Biodegradability - Manometric Respirometry Test | 97.1 % - Readily - 28 days | 30 mg/l | - |

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
</table>
| **10X PicoMaxx Reaction Buffer**  
Trometamol | - | - | Readily |

### 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>
</table>
| **PicoMaxx High Fidelity PCR System**  
Glycerol | -1.76, 2.7 | -78.67 | low, low |
| Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy- | - | - | |
| **10X PicoMaxx Reaction Buffer**  
Trometamol | -2.31 | - | low |

### 12.4 Mobility in soil

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

### 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
SECTION 12: Ecological information

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

Hazardous waste: The classification of the product may meet the criteria for a hazardous waste.

Packaging
Methods of disposal: The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions: Dispose of material(s) and residues under controlled conditions. 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

<table>
<thead>
<tr>
<th>14.1 UN number</th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2 UN proper shipping name</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14.3 Transport hazard class(es)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14.5 Environmental hazards</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
</tbody>
</table>

Additional information

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

14.7 Transport in bulk according to IMO instruments: Not available.

SECTION 15: Regulatory information

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

UK (GB)/REACH
Annex XIV - List of substances subject to authorisation
Annex XIV
None of the components are listed.

Substances of very high concern
SECTION 15: Regulatory information

<table>
<thead>
<tr>
<th>Intrinsic property</th>
<th>Ingredient name</th>
<th>Status</th>
<th>Reference number</th>
<th>Date of revision</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PicoMaxx High Fidelity PCR System</strong> Substance of equivalent concern for environment</td>
<td>4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated covering well-defined substances and UVCB substances, polymers and homologues</td>
<td>Candidate</td>
<td>-</td>
<td>12/19/2012</td>
</tr>
</tbody>
</table>

**Ozone depleting substances**
Not listed.

**Prior Informed Consent (PIC)**
Not listed.

**Persistent Organic Pollutants**
Not listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**
Not listed.

**Label**
- **PicoMaxx High Fidelity PCR System** Not applicable.
- **10X PicoMaxx Reaction Buffer** Not applicable.

**Seveso Directive**
This product is not controlled under the Seveso Directive.

**EU regulations**
**Industrial emissions (integrated pollution prevention and control) - Air**
- Not listed
**Industrial emissions (integrated pollution prevention and control) - Water**
- Not listed

**15.2 Chemical safety assessment**
This product contains substances for which Chemical Safety Assessments might still be required.

**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.
SECTION 15: Regulatory information

Eurasian Economic Union:
- Russian Federation inventory: Not determined.

Japan:
- Japan inventory (CSCL): Not determined.
- Japan inventory (ISHL): Not determined.

New Zealand:
- Not determined.

Philippines:
- Not determined.

Republic of Korea:
- Not determined.

Taiwan:
- All components are listed or exempted.

Thailand:
- Not determined.

Turkey:
- Not determined.

United States:
- All components are active or exempted.

Viet Nam:
- Not determined.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms:
- ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- N/A = Not available
- PBT = Persistent, Bioaccumulative and Toxic
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number
- vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

Full text of abbreviated H statements

PicoMaxx High Fidelity PCR System

H302  Harmful if swallowed.
H315  Causes skin irritation.
H318  Causes serious eye damage.
H400  Very toxic to aquatic life.
H410  Very toxic to aquatic life with long lasting effects.
H412  Harmful to aquatic life with long lasting effects.

10X PicoMaxx Reaction Buffer

H315  Causes skin irritation.
H319  Causes serious eye irritation.

Full text of classifications

PicoMaxx High Fidelity PCR System

Acute Tox. 4  ACUTE TOXICITY - Category 4
Aquatic Acute 1  SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1  LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 3  LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Eye Dam. 1  SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Skin Irrit. 2  SKIN CORROSION/IRRITATION - Category 2

Date of issue/Date of revision: 05/10/2022  Date of previous issue: 24/11/2019  Version: 3
SECTION 16: Other information

10X PicoMaxx Reaction Buffer

Eye Irrit. 2

SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2

Skin Irrit. 2

SKIN CORROSION/IRRITATION - Category 2

Date of issue/Date of revision : 05/10/2022

Date of previous issue : 24/11/2019

Version : 3

Notice to reader

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