SAFETY DATA SHEET
PicoMaxx High Fidelity PCR System, Part Number 600422

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 600422
Part No. (Kit): 600422
Part No.: PicoMaxx High Fidelity 600422-51
10X PicoMaxx Reaction Buffer 600420-52

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

<table>
<thead>
<tr>
<th>Identified uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytical reagent.</td>
</tr>
<tr>
<td>PicoMaxx High Fidelity PCR System 0.2 ml (500 U 2.5 U/µl)</td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer 1 ml</td>
</tr>
</tbody>
</table>

1.3 Details of the supplier of the safety data sheet
Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

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

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Product definition: PicoMaxx High Fidelity Mixture
PCR System
10X PicoMaxx Reaction Mixture
Buffer

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

Ingredients of unknown toxicity
- PicoMaxx High Fidelity PCR System
- 10X PicoMaxx Reaction Buffer

Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%
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: 10 - 30%
Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%

Ingredients of unknown ecotoxicity
- 10X PicoMaxx Reaction Buffer

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 2%

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

Date of issue/Date of revision: 30/06/2017
## 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>Hazard statements</th>
<th>Precautionary statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System 10X PicoMaxx Reaction Buffer</td>
<td>No known significant effects or critical hazards.</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

### 2.3 Other hazards

<table>
<thead>
<tr>
<th>Other hazards which do not result in classification</th>
<th>None known.</th>
</tr>
</thead>
</table>

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SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>%</th>
<th>Regulation (EC) No. 1272/2008 [CLP]</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</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>EC: 9036-19-5</td>
<td>&lt;1</td>
<td>Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411</td>
<td>[1][5]</td>
</tr>
</tbody>
</table>

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.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[5] Substance of equivalent concern
[6] Additional disclosure due to company policy

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.</td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td></td>
</tr>
</tbody>
</table>

Inhalation

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>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.</td>
</tr>
</tbody>
</table>

Skin contact

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.</td>
</tr>
</tbody>
</table>
## PicoMaxx High Fidelity PCR System, Part Number 600422

### SECTION 4: First aid measures

#### Ingestion:
- **PicoMaxx High Fidelity PCR System**: 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 PicoMaxx Reaction Buffer**: Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

#### Protection of first-aiders:
- **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

##### Potential acute health effects

**Eye contact**: PicoMaxx High Fidelity PCR System and 10X PicoMaxx Reaction Buffer both have no known significant effects or critical hazards.

**Inhalation**: PicoMaxx High Fidelity PCR System and 10X PicoMaxx Reaction Buffer both have no known significant effects or critical hazards.

**Skin contact**: PicoMaxx High Fidelity PCR System and 10X PicoMaxx Reaction Buffer both have no known significant effects or critical hazards.

**Ingestion**: PicoMaxx High Fidelity PCR System and 10X PicoMaxx Reaction Buffer both have no known significant effects or critical hazards.

#### Over-exposure signs/symptoms

**Eye contact**: PicoMaxx High Fidelity PCR System and 10X PicoMaxx Reaction Buffer both have no specific data.

**Inhalation**: PicoMaxx High Fidelity PCR System and 10X PicoMaxx Reaction Buffer both have no specific data.

**Skin contact**: PicoMaxx High Fidelity PCR System and 10X PicoMaxx Reaction Buffer both have no specific data.

**Ingestion**: PicoMaxx High Fidelity PCR System and 10X PicoMaxx Reaction Buffer both have no specific data.

#### 4.3 Indication of any immediate medical attention and special treatment needed

**Date of issue/Date of revision**: 30/06/2017
SECTION 4: First aid measures

Notes to physician

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

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.

Unsuitable extinguishing media

PicoMaxx High Fidelity PCR System
None known.

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.

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 precautions 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

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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".

6.2 Environmental precautions:
- PicoMaxx High Fidelity PCR System: 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 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. Dispose of via a licensed waste disposal contractor.
- 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).
- 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...
SECTION 7: Handling and storage

7.2 Conditions for safe storage, including any incompatibilities

**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.

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 applicable.

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

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> Glycerol</td>
<td><strong>EH40/2005 WELs (United Kingdom (UK), 12/2011).</strong> TWA: 10 mg/m³ 8 hours. Form: Mist</td>
</tr>
</tbody>
</table>

**Recommended monitoring procedures**

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

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SECTION 8: Exposure controls/personal protection

**DNELs/DMELs**
No DNELs/DMELs available.

**PNECs**
No PNECs available

**8.2 Exposure controls**

**Individual protection measures**

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

**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.

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

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

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

**Respiratory protection**
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

**9.1 Information on basic physical and chemical properties**

**Physical state**
- PicoMaxx High Fidelity PCR System: Liquid.
- 10X PicoMaxx Reaction Buffer: Liquid.

**Colour**
- 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.
### SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>PicoMaxx High Fidelity PCR System</th>
<th>10X PicoMaxx Reaction Buffer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odour threshold</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>8</td>
<td>8.83</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Easily soluble in the following materials: cold water and hot water.</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>

**Date of issue/Date of revision**: 30/06/2017
SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>PicoMaxx High Fidelity PCR System</th>
<th>10X PicoMaxx Reaction Buffer</th>
</tr>
</thead>
<tbody>
<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>
<tr>
<td>Explosive properties</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not available.</td>
<td>Not available.</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.

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>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>LD50 Oral</td>
<td>Rat</td>
<td>5000 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Acute toxicity estimates

Not available.

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>PicoMaxx High Fidelity PCR System</td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>1%</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>
<td></td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>Skin - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>25 Percent 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Trometamol</td>
<td>Skin - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

Sensitiser

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
<tr>
<td>Trometamol</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Route of exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td>Routes of entry anticipated: Oral, Dermal, Inhalation.</td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>Routes of entry anticipated: Oral, Dermal, Inhalation.</td>
</tr>
</tbody>
</table>

Potential acute health effects

Inhalation : PicoMaxx High Fidelity PCR System No known significant effects or critical hazards.
10X PicoMaxx Reaction Buffer No known significant effects or critical hazards.

PicoMaxx High Fidelity PCR System, Part Number 600422

SECTION 11: Toxicological information

**Ingestion**
- PicoMaxx High Fidelity PCR System: No known significant effects or critical hazards.
- 10X PicoMaxx Reaction Buffer: No known significant effects or critical hazards.

**Skin contact**
- PicoMaxx High Fidelity PCR System: No known significant effects or critical hazards.
- 10X PicoMaxx Reaction Buffer: No known significant effects or critical hazards.

**Eye contact**
- PicoMaxx High Fidelity PCR System: No known significant effects or critical hazards.
- 10X PicoMaxx Reaction Buffer: No known significant effects or critical hazards.

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

**Inhalation**
- 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.

**Skin contact**
- PicoMaxx High Fidelity PCR System: No specific data.
- 10X PicoMaxx Reaction Buffer: No specific data.

**Eye contact**
- PicoMaxx High Fidelity PCR System: No specific data.
- 10X PicoMaxx Reaction Buffer: No specific data.

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

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

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

**Potential chronic health effects**

**General**
- PicoMaxx High Fidelity PCR System: No known significant effects or critical hazards.
- 10X PicoMaxx Reaction Buffer: No known significant effects or critical hazards.

**Carcinogenicity**
- PicoMaxx High Fidelity PCR System: No known significant effects or critical hazards.
- 10X PicoMaxx Reaction Buffer: No known significant effects or critical hazards.

**Mutagenicity**
- PicoMaxx High Fidelity PCR System: No known significant effects or critical hazards.
- 10X PicoMaxx Reaction Buffer: No known significant effects or critical hazards.

**Date of issue/Date of revision**: 30/06/2017
SECTION 11: Toxicological information

<table>
<thead>
<tr>
<th>Teratogenicity</th>
<th>PicoMaxx High Fidelity PCR System</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10X PicoMaxx Reaction Buffer</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Developmental effects</th>
<th>PicoMaxx High Fidelity PCR System</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10X PicoMaxx Reaction Buffer</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fertility effects</th>
<th>PicoMaxx High Fidelity PCR System</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10X PicoMaxx Reaction Buffer</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

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>PicoMaxx High Fidelity</td>
<td>Acute EC50 210 μg/l Fresh water</td>
<td>Algae - Pseudokirchneriella</td>
<td>96 hours</td>
</tr>
<tr>
<td>PCR System</td>
<td></td>
<td>subcapitata</td>
<td></td>
</tr>
<tr>
<td>Poly(oxy-1,2-ethanediyl), α-(1,1,3,3-tetramethylbutyl)phenyl)-ω-hydroxy-</td>
<td>Acute LC50 10800 μg/l Marine water</td>
<td>Crustaceans - Pandalus montagui - Adult</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Daphnia - Daphnia magna - Neonate</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fish - Oncorhynchus mykiss</td>
<td></td>
</tr>
<tr>
<td>10X PicoMaxx Reaction</td>
<td>Acute LC50 8600 to 9800 μg/l Fresh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buffer</td>
<td>water</td>
<td>Daphnia</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 7200 μg/l Fresh water</td>
<td>Daphnia</td>
<td></td>
</tr>
<tr>
<td>Trometamol</td>
<td>Acute EC50 &gt;980 mg/l Fresh water</td>
<td>Daphnia</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute NOEC 520 mg/l Fresh water</td>
<td>Daphnia</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability

Not available.

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>PicoMaxx High Fidelity</td>
<td>3.77</td>
<td>78.67</td>
<td>low</td>
</tr>
<tr>
<td>PCR System</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poly(oxy-1,2-ethanediyl), α-(1,1,3,3-tetramethylbutyl)phenyl)-ω-hydroxy-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10X PicoMaxx Reaction</td>
<td>-1.56</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Buffer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trometamol</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

| Soil/water partition coefficient (K<sub>oc</sub>) | Not available. |
| Mobility                                         | Not available. |
SECTION 12: Ecological information

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.
vPvB : Not applicable.

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

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

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

Packaging

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

Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

ADR/RID / IMDG / IATA : Not regulated.

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

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

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Intrinsic property</th>
<th>Status</th>
<th>Reference number</th>
<th>Date of revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System Poly(oxy-1,2-ethanediyl).alpha-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-</td>
<td>Substance of equivalent concern for environment</td>
<td>Recommended</td>
<td>ED/169/2012</td>
<td>2/10/2014</td>
</tr>
</tbody>
</table>

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SECTION 15: Regulatory information

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

Not applicable.

Other EU regulations

Ozone depleting substances (1005/2009/EU)
Not listed.

Prior Informed Consent (PIC) (649/2012/EU)
Not listed.

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

International regulations

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

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

Stockholm Convention on Persistent Organic Pollutants
Not listed.

Rotterdam Convention on Prior 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 : All components are listed or exempted.
Japan : Japan inventory (ENCS): Not determined.
Japan inventory (ISHL): Not determined.

Malaysia : 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 listed or exempted.
Viet Nam : Not determined.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments might still be required.
SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms:

- ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PicoMaxx High Fidelity PCR System</strong></td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H318</td>
<td>Toxic to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>H411</td>
<td></td>
</tr>
</tbody>
</table>

| **10X PicoMaxx Reaction Buffer** | Causes skin irritation.                                |
| H315                            | Causes serious eye irritation.                          |
| H335                            | May cause respiratory irritation.                       |

Full text of abbreviated H statements

**PicoMaxx High Fidelity PCR System**

- H315: Causes skin irritation.
- H318: Causes serious eye damage.
- H411: Toxic to aquatic life with long lasting effects.

**10X PicoMaxx Reaction Buffer**

- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H335: May cause respiratory irritation.

Full text of classifications [CLP/GHS]

**PicoMaxx High Fidelity PCR System**

- Aquatic Chronic 2, H411: LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
- Eye Dam. 1, H318: SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
- Skin Irrit. 2, H315: SKIN CORROSION/IRRITATION - Category 2

**10X PicoMaxx Reaction Buffer**

- Eye Irrit. 2, H319: SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
- Skin Irrit. 2, H315: SKIN CORROSION/IRRITATION - Category 2
- STOT SE 3, H335: SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3

Date of issue/Date of revision: 30/06/2017

Notice to reader

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