Section 1. Identification

1.1 Product identifier
Product name: PicoMaxx High Fidelity PCR System, Part Number 600424
Part No. (Chemical Kit): 600424
Part No.: PicoMaxx High Fidelity PCR System 600424-51
10X PicoMaxx Reaction Buffer 600420-52
Validation date: 6/30/2017

1.2 Relevant identified uses of the substance or mixture and uses advised against
Material uses: Analytical reagent.

1.3 Details of the supplier of the safety data sheet
Supplier/Manufacturer: Agilent Technologies, Inc.
5301 Stevens Creek Blvd
Santa Clara, CA 95051, USA
800-227-9770

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

Classification of the substance or mixture
PicoMaxx High Fidelity PCR System
H320
Ingredients of unknown toxicity:

- EYE IRRITATION - Category 2B

2.2 GHS label elements
Signal word: Warning

Date of issue: 06/30/2017
Section 2. Hazards identification

Hazard statements:
- PicoMaxx High Fidelity PCR System: H320 - Causes eye irritation.
- 10X PicoMaxx Reaction Buffer: No known significant effects or critical hazards.

Precautionary statements:
- Prevention: PicoMaxx High Fidelity PCR System: P264 - Wash hands thoroughly after handling.
- 10X PicoMaxx Reaction Buffer: Not applicable.

- Response: PicoMaxx High Fidelity PCR System: P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- 10X PicoMaxx Reaction Buffer: Not applicable.

Storage: PicoMaxx High Fidelity PCR System: Not applicable.
- 10X PicoMaxx Reaction Buffer: Not applicable.

Disposal: PicoMaxx High Fidelity PCR System: Not applicable.
- 10X PicoMaxx Reaction Buffer: Not applicable.

Supplemental label elements:
- PicoMaxx High Fidelity PCR System: None known.
- 10X PicoMaxx Reaction Buffer: None known.

Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>≥50 - ≤75</td>
<td>56-81-5</td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trometamol</td>
<td>≤7.2</td>
<td>77-86-1</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>≤2.7</td>
<td>7447-40-7</td>
</tr>
</tbody>
</table>

2.3 Other hazards
- PicoMaxx High Fidelity PCR System: None known.
- 10X PicoMaxx Reaction Buffer: None known.

Section 4. First aid measures

4.1 Description of necessary first aid measures
### Section 4. First aid measures

<table>
<thead>
<tr>
<th><strong>Eye contact</strong></th>
<th><strong>Skin contact</strong></th>
<th><strong>Inhalation</strong></th>
<th><strong>Ingestion</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PicoMaxx High Fidelity PCR System</strong></td>
<td><strong>PicoMaxx High Fidelity PCR System</strong></td>
<td><strong>PicoMaxx High Fidelity PCR System</strong></td>
<td><strong>PicoMaxx High Fidelity PCR System</strong></td>
</tr>
<tr>
<td>Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.</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>
<td>Remove victim to fresh air and keep at rest in a position comfortable for 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>
<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>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>10X PicoMaxx Reaction Buffer</td>
<td>10X PicoMaxx Reaction Buffer</td>
<td>10X PicoMaxx Reaction Buffer</td>
</tr>
<tr>
<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>
<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>
<td>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</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>
Section 4. First aid measures

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>PicoMaxx High Fidelity PCR System</th>
<th>Causes eye irritation.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10X PicoMaxx Reaction Buffer</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>PicoMaxx High Fidelity PCR System</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>10X PicoMaxx Reaction Buffer</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>PicoMaxx High Fidelity PCR System</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>10X PicoMaxx Reaction Buffer</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>PicoMaxx High Fidelity PCR System</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>10X PicoMaxx Reaction Buffer</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

Over-exposure signs/symptoms

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>PicoMaxx High Fidelity PCR System</th>
<th>Adverse symptoms may include the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10X PicoMaxx Reaction Buffer</td>
<td>irritation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>watering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>redness</td>
</tr>
<tr>
<td>Inhalation</td>
<td>PicoMaxx High Fidelity PCR System</td>
<td>No specific data.</td>
</tr>
<tr>
<td></td>
<td>10X PicoMaxx Reaction Buffer</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>PicoMaxx High Fidelity PCR System</td>
<td>No specific data.</td>
</tr>
<tr>
<td></td>
<td>10X PicoMaxx Reaction Buffer</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>PicoMaxx High Fidelity PCR System</td>
<td>No specific data.</td>
</tr>
<tr>
<td></td>
<td>10X PicoMaxx Reaction Buffer</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

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

Notes to physician

<table>
<thead>
<tr>
<th>Notes to physician</th>
<th>PicoMaxx High Fidelity PCR System</th>
<th>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10X PicoMaxx Reaction Buffer</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>
</tr>
</tbody>
</table>

Specific treatments

<table>
<thead>
<tr>
<th>Specific treatments</th>
<th>PicoMaxx High Fidelity PCR System</th>
<th>No specific treatment.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10X PicoMaxx Reaction Buffer</td>
<td>No specific treatment.</td>
</tr>
</tbody>
</table>

Protection of first-aiders

<table>
<thead>
<tr>
<th>Protection of first-aiders</th>
<th>PicoMaxx High Fidelity PCR System</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10X PicoMaxx Reaction Buffer</td>
<td>No action shall be taken involving any personal risk or without suitable training.</td>
</tr>
</tbody>
</table>

See toxicological information (Section 11)
Section 5. Fire-fighting measures

5.1 Extinguishing media

| Suitable extinguishing media | PicoMaxx High Fidelity PCR System | Use an extinguishing agent suitable for the surrounding fire. |
| Unsuitable extinguishing media | PicoMaxx High Fidelity PCR System | None known. |

10X PicoMaxx Reaction Buffer

5.2 Special hazards arising from the substance or mixture

| Specific hazards arising from the chemical | PicoMaxx High Fidelity PCR System | In a fire or if heated, a pressure increase will occur and the container may burst. |
| Hazardous thermal decomposition products | PicoMaxx High Fidelity PCR System | Decomposition products may include the following materials: |
| | 10X PicoMaxx Reaction Buffer | 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 | 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. |

| Special protective equipment 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. |

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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |

Date of issue: 06/30/2017
Section 6. Accidental release measures

6.2 Environmental precautions:
- 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 spilled material. Put on appropriate personal protective equipment.
  
  For emergency responders:
  - PicoMaxx High Fidelity PCR System
  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 "For non-emergency personnel".
  
  10X PicoMaxx Reaction Buffer
  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).

6.3 Methods and materials 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.

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 vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
  
  10X PicoMaxx Reaction Buffer
  Put on appropriate personal protective equipment (see Section 8).
Section 7. Handling and storage

Advice on general occupational hygiene

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

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 applications, Professional applications.

Industrial sector specific solutions

Not applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits
Section 8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>TWA: 5 mg/m³ 8 hours. Form: Respirable fraction</td>
</tr>
<tr>
<td></td>
<td>TWA: 10 mg/m³ 8 hours. Form: Total dust</td>
</tr>
<tr>
<td></td>
<td>OSHA PEL (United States, 6/2016).</td>
</tr>
<tr>
<td></td>
<td>TWA: 5 mg/m³ 8 hours. Form: Respirable fraction</td>
</tr>
<tr>
<td></td>
<td>TWA: 15 mg/m³ 8 hours. Form: Total dust</td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>None.</td>
</tr>
<tr>
<td>Trometamol</td>
<td>None.</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>None.</td>
</tr>
</tbody>
</table>

### 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.

### 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.

**Date of issue**: 06/30/2017
## Section 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

<table>
<thead>
<tr>
<th>Property</th>
<th>PicoMaxx High Fidelity PCR System</th>
<th>10X PicoMaxx Reaction Buffer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid.</td>
<td>Liquid.</td>
</tr>
<tr>
<td>Color</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odor</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>8</td>
<td>8.83</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Lower and upper explosive (flammable) limits</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility</td>
<td>Easily soluble in the following materials: cold water and hot water.</td>
<td>Easily soluble in the following materials: cold water and hot water.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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>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>

Section 10. Stability and reactivity

10.1 Reactivity:
- 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:
- The product is stable.
- The product is stable.

10.3 Possibility of hazardous reactions:
- Under normal conditions of storage and use, hazardous reactions will not occur.
- Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid:
- No specific data.
- No specific data.

10.5 Incompatible materials:
- May react or be incompatible with oxidizing 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.
- 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></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></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>5000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Trometamol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Date of issue: 06/30/2017
### 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>PicoMaxx High Fidelity PCR System</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Glycerol</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></td>
<td>Skin - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>250 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Trometamol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

### Sensitization
Not available.

### Mutagenicity
Not available.

### Carcinogenicity
Not available.

### Reproductive toxicity
Not available.

### Teratogenicity
Not available.

### Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>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 the likely routes of exposure
- PicoMaxx High Fidelity PCR System: Routes of entry anticipated: Oral, Dermal, Inhalation.
- 10X PicoMaxx Reaction Buffer: Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential acute health effects
- Eye contact: PicoMaxx High Fidelity PCR System: Causes eye irritation.
- 10X PicoMaxx Reaction Buffer: No known significant effects or critical hazards.

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# Section 11. Toxicological information

**Inhalation**

- **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.

**Ingestion**

- **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**

**Eye contact**

- **PicoMaxx High Fidelity PCR System**: Adverse symptoms may include the following:
  - irritation
  - watering
  - redness
- **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.

**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**: No known significant effects or critical hazards.
- **Carcinogenicity**: No known significant effects or critical hazards.
- **Mutagenicity**: No known significant effects or critical hazards.
- **Teratogenicity**: No known significant effects or critical hazards.
- **Developmental effects**: No known significant effects or critical hazards.
Section 11. Toxicological information

**Fertility effects**

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

**Numerical measures of toxicity**

**Acute toxicity estimates**

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X PicoMaxx Reaction Buffer Oral</td>
<td>49227.5 mg/kg</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 PCR System</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>Acute LC50 54000 mg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>Acute EC50 &gt;980 mg/l Fresh water</td>
<td>Daphnia</td>
<td>48 hours</td>
</tr>
<tr>
<td>Trometamol</td>
<td>Acute NOEC 520 mg/l Fresh water</td>
<td>Daphnia</td>
<td>48 hours</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>Acute EC50 1337000 µg/l Fresh water</td>
<td>Algae - Navicula seminulum</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 9.24 g/L Fresh water</td>
<td>Algae - Desmodesmus subspicatus</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 141460 µg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 12.92 mg/l Fresh water</td>
<td>Crustaceans - Pseudosida ramosa - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 880000 µg/l Fresh water</td>
<td>Fish - Pimephales promelas</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

### 12.2 Persistence and degradability

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
<tr>
<td>Potassium chloride</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>PicoMaxx High Fidelity PCR System</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>-1.76</td>
<td></td>
<td>low</td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trometamol</td>
<td>-1.56</td>
<td></td>
<td>low</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>-0.46</td>
<td></td>
<td>low</td>
</tr>
</tbody>
</table>

### 12.4 Mobility in soil
Section 12. Ecological information

Soil/water partition coefficient ($K_{OC}$) : 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.

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 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

U.S. Federal regulations : TSCA 8(a) PAIR: Poly(oxy-1,2-ethanediyl), alpha-[(1,1,3,3-tetramethylbutyl)phenyl]–omega-hydroxy-
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
Clean Water Act (CWA) 311: Edetic acid

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

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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 : PicoMaxx High Fidelity PCR System
Immediate (acute) health hazard
10X PicoMaxx Reaction Buffer : Not applicable.

Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Fire hazard</th>
<th>Sudden release of pressure</th>
<th>Reactive</th>
<th>Immediate (acute) health hazard</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>PicoMaxx High Fidelity PCR System</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10X PicoMaxx Reaction Buffer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trometamol</td>
<td>≤7.2</td>
<td>Yes.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>≤2.7</td>
<td>Yes.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</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
Not available.

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.

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Section 15. Regulatory information

Inventory list

<table>
<thead>
<tr>
<th>Country</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Not determined</td>
</tr>
<tr>
<td>Canada</td>
<td>Not determined</td>
</tr>
<tr>
<td>China</td>
<td>Not determined</td>
</tr>
<tr>
<td>Europe</td>
<td>All components are listed or exempted</td>
</tr>
<tr>
<td>Japan</td>
<td>Japan inventory (ENCS): Not determined.</td>
</tr>
<tr>
<td></td>
<td>Japan inventory (ISHL): Not determined.</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Not determined</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Not determined</td>
</tr>
<tr>
<td>Philippines</td>
<td>Not determined</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>Not determined</td>
</tr>
<tr>
<td>Taiwan</td>
<td>All components are listed or exempted</td>
</tr>
<tr>
<td>Thailand</td>
<td>Not determined</td>
</tr>
<tr>
<td>Turkey</td>
<td>Not determined</td>
</tr>
<tr>
<td>United States</td>
<td>All components are listed or exempted</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

Section 16. Other information

History

Date of issue : 06/30/2017
Date of previous issue : 12/24/2014.
Version : 4

Indicates information that has changed from previously issued version.

Notice to reader

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