SAFETY DATA SHEET
Brilliant Multiplex QPCR Master Mix, Part Number 600553

Section 1. Identification

1.1 Product identifier
Product name: Brilliant Multiplex QPCR Master Mix, Part Number 600553
Part No. (Chemical Kit): 600553
Part No.: 2X Brilliant Multiplex QPCR Master Mix 600553-51
Reference Dye 600530-53
Validation date: 12/21/2017

1.2 Relevant identified uses of the substance or mixture and uses advised against
Material uses: Analytical reagent.
2X Brilliant Multiplex QPCR Master Mix 2.5 ml
Reference Dye 0.1 ml (100 µl 1 mM)

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: 2X Brilliant Multiplex QPCR Master Mix
Reference Dye

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
2X Brilliant Multiplex QPCR Master Mix
H320 EYE IRRITATION - Category 2B

Ingredients of unknown toxicity: 2X Brilliant Multiplex QPCR Master Mix
Reference Dye

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

2.2 GHS label elements
Signal word: 

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Section 2. Hazards identification

Hazard statements:
- **2X Brilliant Multiplex QPCR Master Mix**: Warning
  - H320 - Causes eye irritation.
- **Reference Dye**: No signal word.

Precautionary statements:
- **Prevention**: 2X Brilliant Multiplex QPCR Master Mix
  - P264 - Wash hands thoroughly after handling.
- **Response**: 2X Brilliant Multiplex QPCR Master Mix
  - P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - P337 + P313 - If eye irritation persists: Get medical attention.
- **Storage**: Not applicable.
- **Disposal**: Not applicable.

Supplemental label elements:
- 2X Brilliant Multiplex QPCR Master Mix: None known.
- Reference Dye: None known.

2.3 Other hazards:
- Hazards not otherwise classified: 2X Brilliant Multiplex QPCR Master Mix: None known.
- Reference Dye: None known.

Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>Mix</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Brilliant Multiplex QPCR Master Mix</td>
<td>Reference Dye</td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>≥10 - ≤25</td>
<td>56-81-5</td>
</tr>
<tr>
<td>Reference Dye</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>≤5</td>
<td>7447-40-7</td>
</tr>
<tr>
<td>2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride</td>
<td>≤3</td>
<td>1185-53-1</td>
</tr>
</tbody>
</table>

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

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

Occupational exposure limits, if available, are listed in Section 8.
Section 4. First aid measures

4.1 Description of necessary first aid measures

**Eye contact**: 2X Brilliant Multiplex QPCR Master Mix

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.

Reference Dye

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**: 2X Brilliant Multiplex QPCR Master Mix

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Reference Dye

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.

**Skin contact**: 2X Brilliant Multiplex QPCR Master Mix

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Reference Dye

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

**Ingestion**: 2X Brilliant Multiplex QPCR Master Mix

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.

Reference Dye

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.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Brilliant Multiplex QPCR Master Mix</th>
<th>Reference Dye</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>Causes eye irritation.</td>
<td></td>
</tr>
<tr>
<td>Skin contact</td>
<td>No known significant effects or critical hazards.</td>
<td></td>
</tr>
<tr>
<td>Ingestion</td>
<td>No known significant effects or critical hazards.</td>
<td></td>
</tr>
<tr>
<td>Inhalation</td>
<td>No known significant effects or critical hazards.</td>
<td></td>
</tr>
</tbody>
</table>

Over-exposure signs/symptoms

<table>
<thead>
<tr>
<th>Effect</th>
<th>Brilliant Multiplex QPCR Master Mix</th>
<th>Reference Dye</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>Adverse symptoms may include the following:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>irritation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>watering</td>
<td></td>
</tr>
<tr>
<td></td>
<td>redness</td>
<td></td>
</tr>
<tr>
<td>Skin contact</td>
<td>No specific data.</td>
<td></td>
</tr>
<tr>
<td>Ingestion</td>
<td>No specific data.</td>
<td></td>
</tr>
<tr>
<td>Inhalation</td>
<td>No specific data.</td>
<td></td>
</tr>
</tbody>
</table>

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

Notes to physician

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.

Specific treatments

No specific treatment.

Protection of first-aiders

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.

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

5.1 Extinguishing media

Suitable extinguishing media: Brilliant Multiplex QPCR Master Mix Reference Dye

Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media: Brilliant Multiplex QPCR Master Mix Reference Dye

None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical: Brilliant Multiplex QPCR Master Mix Reference Dye

In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products: Brilliant Multiplex QPCR Master Mix Reference Dye

Decomposition products may include the following materials:
- carbon dioxide
- carbon monoxide
- nitrogen oxides
- halogenated compounds
- metal oxide/oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters: Brilliant Multiplex QPCR Master Mix Reference Dye

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: Brilliant Multiplex QPCR Master Mix Reference Dye

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: Brilliant Multiplex QPCR Master Mix

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.

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Section 6. Accidental release measures

Reference Dye

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:

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".

Reference Dye

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).

Reference Dye

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, 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

Reference Dye

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.
Section 7. Handling and storage

**Advice on general occupational hygiene**: 2X Brilliant Multiplex QPCR Master Mix

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

**Reference Dye**

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**: 2X Brilliant Multiplex QPCR Master Mix

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

**Reference Dye**

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**: 2X Brilliant Multiplex QPCR Master Mix

Industrial applications, Professional applications.

**Reference Dye**

Industrial applications, Professional applications.

**Industrial sector specific solutions**: 2X Brilliant Multiplex QPCR Master Mix

Not applicable.

**Reference Dye**

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>
</table>
| **2X Brilliant Multiplex QPCR Master Mix**          | **OSHA PEL 1989 (United States, 3/1989).**  
TWA: 5 mg/m³ 8 hours. Form: Respirable fraction  
TWA: 10 mg/m³ 8 hours. Form: Total dust  
**OSHA PEL (United States, 6/2016).**  
TWA: 5 mg/m³ 8 hours. Form: Respirable fraction  
TWA: 15 mg/m³ 8 hours. Form: Total dust |
| Glycerol                                            | None.                                                                                                                                               |
| Reference Dye                                        | None.                                                                                                                                               |
| Potassium chloride                                   | None.                                                                                                                                               |
| 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride | None.                                                                                                                                               |

**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: 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.

**Body protection**

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

**Other skin protection**

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

**Respiratory protection**

- Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification.  
  Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
## Section 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>2X Brilliant Multiplex QPCR Master Mix</th>
<th>Liquid.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reference Dye</td>
<td>Liquid</td>
</tr>
</tbody>
</table>

| Color                           | 2X Brilliant Multiplex QPCR Master Mix | Not available. |
|                                 | Reference Dye                         | Not available. |

| Odor                            | 2X Brilliant Multiplex QPCR Master Mix | Not available. |
|                                 | Reference Dye                         | Not available. |

| Odor threshold                  | 2X Brilliant Multiplex QPCR Master Mix | Not available. |
|                                 | Reference Dye                         | Not available. |

| Melting point                   | 2X Brilliant Multiplex QPCR Master Mix | Not available. |
|                                 | Reference Dye                         | Not available. |

| Boiling point                   | 2X Brilliant Multiplex QPCR Master Mix | Not available. |
|                                 | Reference Dye                         | Not available. |

| Flash point                     | 2X Brilliant Multiplex QPCR Master Mix | Not available. |
|                                 | Reference Dye                         | Not available. |

| Evaporation rate                | 2X Brilliant Multiplex QPCR Master Mix | Not available. |
|                                 | Reference Dye                         | Not available. |

| Flammability (solid, gas)       | 2X Brilliant Multiplex QPCR Master Mix | Not applicable. |
|                                 | Reference Dye                         | Not applicable. |

| Lower and upper explosive (flammable) limits | 2X Brilliant Multiplex QPCR Master Mix | Not available. |
|                                              | Reference Dye                         | Not available. |

| Vapor pressure                  | 2X Brilliant Multiplex QPCR Master Mix | Not available. |
|                                 | Reference Dye                         | Not available. |

| Vapor density                   | 2X Brilliant Multiplex QPCR Master Mix | Not available. |
|                                 | Reference Dye                         | Not available. |

| Relative density                | 2X Brilliant Multiplex QPCR Master Mix | Not available. |
|                                 | Reference Dye                         | Not available. |

| Solubility                      | 2X Brilliant Multiplex QPCR Master Mix | Easily soluble in the following materials: cold water and hot water. |
|                                 | Reference Dye                         | Easily soluble in the following materials: cold water and hot water. |

| Partition coefficient: n-octanol/water | 2X Brilliant Multiplex QPCR Master Mix | Not available. |
|                                         | Reference Dye                         | Not available. |

| Auto-ignition temperature          | 2X Brilliant Multiplex QPCR Master Mix | Not available. |
|                                    | Reference Dye                         | Not available. |

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Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>2X Brilliant Multiplex QPCR Master Mix</th>
<th>Reference Dye</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>
</tbody>
</table>

Section 10. Stability and reactivity

10.1 Reactivity: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability: The product is stable.
10.3 Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid: No specific data.
10.5 Incompatible materials: May react or be incompatible with oxidizing materials.
10.6 Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Brilliant Multiplex QPCR Master Mix Glycerol</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>12600 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Reference Dye Potassium chloride</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2600 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Irritation/Corrosion

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## 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>2X Brilliant Multiplex QPCR Master Mix Glycerol</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>Reference Dye 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>Reference Dye 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>

### Specific target organ toxicity (repeated exposure)
Not available.

### Aspiration hazard
Not available.

### Information on the likely routes of exposure
: 2X Brilliant Multiplex QPCR Master Mix Reference Dye

Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential acute health effects

#### Eye contact
: 2X Brilliant Multiplex QPCR Master Mix Reference Dye

Causes eye irritation.

#### Inhalation
: 2X Brilliant Multiplex QPCR Master Mix Reference Dye

No known significant effects or critical hazards.

#### Skin contact
: 2X Brilliant Multiplex QPCR Master Mix Reference Dye

No known significant effects or critical hazards.
## Section 11. Toxicological information

### Ingestion

<table>
<thead>
<tr>
<th>Substance</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Brilliant Multiplex QPCR Master Mix</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Reference Dye</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

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

#### Eye contact

<table>
<thead>
<tr>
<th>Substance</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Brilliant Multiplex QPCR Master Mix</td>
<td>Adverse symptoms may include the following:</td>
</tr>
<tr>
<td>Reference Dye</td>
<td>irritation, watering, redness</td>
</tr>
</tbody>
</table>

### Inhalation

<table>
<thead>
<tr>
<th>Substance</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Brilliant Multiplex QPCR Master Mix</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Reference Dye</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

### Skin contact

<table>
<thead>
<tr>
<th>Substance</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Brilliant Multiplex QPCR Master Mix</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Reference Dye</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

### Ingestion

<table>
<thead>
<tr>
<th>Substance</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Brilliant Multiplex QPCR Master Mix</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Reference Dye</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

### 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.
- **Fertility effects**: No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates
Section 11. Toxicological information

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference Dye</td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>70270.3 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>2X Brilliant Multiplex QPCR Master Mix</td>
<td>Acute LC50 54000 mg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
<tr>
<td>Glycerol</td>
<td>Acute EC50 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>Reference Dye</td>
<td>Acute EC50 141460 µg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td>Potassium chloride</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 880 mg/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>Test</th>
<th>Result</th>
<th>Dose</th>
<th>Inoculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Brilliant Multiplex QPCR Master Mix</td>
<td>301D Ready Biodegradability - Closed Bottle Test</td>
<td>93 % - 30 days</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference Dye</td>
<td>Aquatic half-life</td>
<td></td>
<td></td>
<td>Readily</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP_{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Brilliant Multiplex QPCR Master Mix</td>
<td>-1.76</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference Dye</td>
<td>-0.46</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

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

Date of issue : 12/21/2017
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. 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: Polyoxyethylene octyl phenyl ether
- 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

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

Date of issue: 12/21/2017
Section 15. Regulatory information

SARA 302/304
Composition/information on ingredients
No products were found.

SARA 304 RQ : Not applicable.
SARA 311/312 Classification : Not applicable.

Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Brilliant Multiplex QPCR Master Mix</td>
<td>≥10 - ≤25</td>
<td>EYE IRRITATION - Category 2A</td>
</tr>
<tr>
<td>Glycerol</td>
<td>≤10</td>
<td>SKIN IRRITATION - Category 2A</td>
</tr>
<tr>
<td>Reference Dye</td>
<td>≤5</td>
<td>EYE IRRITATION - Category 2A</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>≤3</td>
<td>SKIN IRRITATION - Category 2A</td>
</tr>
<tr>
<td>2-Amino-2-(hydroxymethyl) propane-1,3-diol hydrochloride</td>
<td>≤3</td>
<td>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3</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

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 : All components are listed or exempted.
Europe : Not determined.
Japan : Japan inventory (ENCS): Not determined.
Japan inventory (ISHL): Not determined.
Malaysia : Not determined.
New Zealand : Not determined.

Date of issue : 12/21/2017
Section 15. Regulatory information

- Philippines : Not determined.
- Republic of Korea : Not determined.
- Taiwan : Not determined.
- Thailand : Not determined.
- Turkey : Not determined.
- United States : Not determined.
- Viet Nam : Not determined.

Section 16. Other information

**History**

- **Date of issue** : 12/21/2017
- **Date of previous issue** : 10/15/2015
- **Version** : 5

![Indicates information that has changed from previously issued version.]

**Notice to reader**

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