SAFETY DATA SHEET

Brilliant II SYBR Green QPCR Master Mix - 10-pack, Part Number 600831

Section 1. Identification

1.1 Product identifier
Product name: Brilliant II SYBR Green QPCR Master Mix - 10-pack, Part Number 600831
Part No. (Chemical Kit): 600831
Part No.: 2× Brilliant II SYBR Green QPCR Master Mix 600828-51
Reference Dye 600530-53
Validation date: 2016-02-29

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:
- 2× Brilliant II SYBR Green QPCR Master Mix
- Reference Dye

Classification of the substance or mixture
- H320: EYE IRRITATION - Category 2B

Ingredients of unknown toxicity:
- 2× Brilliant II SYBR Green QPCR Master Mix
- Reference Dye

Not applicable.

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 2.4%

2.2 GHS label elements
Signal word: Warning

Hazard statements: No signal word.

Date of issue: 02/29/2016
Section 2. Hazards identification

Precautionary statements

Prevention:
- 2× Brilliant II SYBR Green QPCR Master Mix
- Reference Dye
- P264 - Wash hands thoroughly after handling.

Response:
- 2× Brilliant II SYBR Green 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:
- None known.

2.3 Other hazards

Hazards not otherwise classified:
- None known.

Section 3. Composition/information on ingredients

Substance/mixture:
- 2× Brilliant II SYBR Green QPCR Master Mix
- Reference Dye
- Mixture

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2× Brilliant II SYBR Green QPCR Master Mix</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>≥10 - ≤25</td>
<td>56-81-5</td>
</tr>
<tr>
<td>Dimethyl sulfoxide</td>
<td>≤10</td>
<td>67-68-5</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: Brilliant II SYBR Green QPCR Master Mix
- Reference Dye
  - 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.

Inhalation: Brilliant II SYBR Green QPCR Master Mix
- Reference Dye
  - 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.

Skin contact: Brilliant II SYBR Green QPCR Master Mix
- Reference Dye
  - Wash out mouth with water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion: Brilliant II SYBR Green QPCR Master Mix
- 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.
Section 4. First aid measures

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

<table>
<thead>
<tr>
<th>Description</th>
<th>2× Brilliant II SYBR Green QPCR Master Mix</th>
<th>Reference Dye</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>Causes eye irritation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation</td>
<td>No known significant effects or critical hazards.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin contact</td>
<td>No known significant effects or critical hazards.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingestion</td>
<td>No known significant effects or critical hazards.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Over-exposure signs/symptoms

<table>
<thead>
<tr>
<th>Description</th>
<th>2× Brilliant II SYBR Green QPCR Master Mix</th>
<th>Reference Dye</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>Adverse symptoms may include the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>irritation, watering, redness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation</td>
<td>No specific data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin contact</td>
<td>No specific data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingestion</td>
<td>No specific data.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Notes to physician

<table>
<thead>
<tr>
<th>Description</th>
<th>2× Brilliant II SYBR Green QPCR Master Mix</th>
<th>Reference Dye</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Specific treatments

<table>
<thead>
<tr>
<th>Description</th>
<th>2× Brilliant II SYBR Green QPCR Master Mix</th>
<th>Reference Dye</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No specific treatment.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Protection of first-aiders

<table>
<thead>
<tr>
<th>Description</th>
<th>2× Brilliant II SYBR Green QPCR Master Mix</th>
<th>Reference Dye</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

5.1 Extinguishing media

Suitable extinguishing media: Brilliant II SYBR Green QPCR Master Mix, Reference Dye

Use an extinguishing agent suitable for the surrounding fire.
Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media: Brilliant II SYBR Green QPCR Master Mix, Reference Dye

None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical: Brilliant II SYBR Green QPCR Master Mix, Reference Dye

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

Hazardous thermal decomposition products: Brilliant II SYBR Green QPCR Master Mix, Reference Dye

Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
sulfur oxides

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 II SYBR Green 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.

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 II SYBR Green 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.

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 II SYBR Green 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
Section 6. Accidental release measures

For emergency responders: 
Reference Dye

6.2 Environmental precautions: 
Reference Dye

2× Brilliant II SYBR Green QPCR Master Mix
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Reference Dye

2× Brilliant II SYBR Green QPCR Master Mix
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Reference Dye

Methods for cleaning up: 
Reference Dye

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.

Reference Dye

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.

Reference Dye

Section 7. Handling and storage

7.1 Precautions for safe handling: 
Reference Dye

Protective measures: 
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.

Reference Dye

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.

**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**

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.

**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.

**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**

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2x Brilliant II SYBR Green QPCR Master Mix</strong></td>
<td><strong>OSHA PEL 1989 (United States, 3/1989).</strong> TWA: 5 mg/m³ 8 hours. Form: Respirable fraction</td>
</tr>
<tr>
<td>Glycerol</td>
<td><strong>OSHA PEL 1989 (United States, 3/1989).</strong> TWA: 10 mg/m³ 8 hours. Form: Total dust</td>
</tr>
<tr>
<td><strong>Reference Dye</strong></td>
<td><strong>OSHA PEL (United States, 2/2013).</strong> TWA: 5 mg/m³ 8 hours. Form: Respirable fraction</td>
</tr>
</tbody>
</table>

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Section 8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Substance</th>
<th>TWA: 15 mg/m³ 8 hours. Form: Total dust</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl sulfoxide</td>
<td></td>
</tr>
<tr>
<td>Reference Dye</td>
<td></td>
</tr>
<tr>
<td>Potassium chloride</td>
<td></td>
</tr>
<tr>
<td>2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride</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.

Section 9. Physical and chemical properties

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

**Appearance**

**Physical state**

- Brilliant II SYBR Green QPCR Master Mix: Liquid.
- Reference Dye: Liquid.
## Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Brilliant II SYBR Green QPCR Master Mix</th>
<th>Reference Dye</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Color</strong></td>
<td>2× Brilliant II SYBR Green QPCR Master Mix</td>
<td>Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>2× Brilliant II SYBR Green QPCR Master Mix</td>
<td>Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Odor threshold</strong></td>
<td>2× Brilliant II SYBR Green QPCR Master Mix</td>
<td>Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>2× Brilliant II SYBR Green QPCR Master Mix</td>
<td>Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Melting point</strong></td>
<td>2× Brilliant II SYBR Green QPCR Master Mix</td>
<td>Reference Dye</td>
<td>0°C (32°F)</td>
</tr>
<tr>
<td><strong>Boiling point</strong></td>
<td>2× Brilliant II SYBR Green QPCR Master Mix</td>
<td>Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>2× Brilliant II SYBR Green QPCR Master Mix</td>
<td>Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>2× Brilliant II SYBR Green QPCR Master Mix</td>
<td>Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>2× Brilliant II SYBR Green QPCR Master Mix</td>
<td>Reference Dye</td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Lower and upper explosive</strong></td>
<td>2× Brilliant II SYBR Green QPCR Master Mix</td>
<td>Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>(flammable) limits</strong></td>
<td>2× Brilliant II SYBR Green QPCR Master Mix</td>
<td>Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>2× Brilliant II SYBR Green QPCR Master Mix</td>
<td>Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>2× Brilliant II SYBR Green QPCR Master Mix</td>
<td>Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>2× Brilliant II SYBR Green QPCR Master Mix</td>
<td>Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>2× Brilliant II SYBR Green QPCR Master Mix</td>
<td>Reference Dye</td>
<td>Soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water.</td>
</tr>
<tr>
<td><strong>Partition coefficient: n-octanol/water</strong></td>
<td>2× Brilliant II SYBR Green QPCR Master Mix</td>
<td>Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>2× Brilliant II SYBR Green QPCR Master Mix</td>
<td>Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>2× Brilliant II SYBR Green QPCR Master Mix</td>
<td>Reference Dye</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

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Section 9. Physical and chemical properties

Viscosity
- Brilliant II SYBR Green QPCR Master Mix: Not available.
- Reference Dye: Not available.

Section 10. Stability and reactivity

10.1 Reactivity
- Brilliant II SYBR Green QPCR Master Mix: No specific test data related to reactivity available for this product or its ingredients.
- Reference Dye: No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability
- Brilliant II SYBR Green QPCR Master Mix: The product is stable.
- Reference Dye: The product is stable.

10.3 Possibility of hazardous reactions
- Brilliant II SYBR Green QPCR Master Mix: Under normal conditions of storage and use, hazardous reactions will not occur.
- Reference Dye: Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid
- Brilliant II SYBR Green QPCR Master Mix: No specific data.
- Reference Dye: No specific data.

10.5 Incompatible materials
- Brilliant II SYBR Green QPCR Master Mix: May react or be incompatible with oxidizing materials.
- Reference Dye: May react or be incompatible with oxidizing materials.

10.6 Hazardous decomposition products
- Brilliant II SYBR Green QPCR Master Mix: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Reference Dye: 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>Brilliant II SYBR Green QPCR Master Mix</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>12600 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Glycerol</td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>40000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Dimethyl sulfoxide</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>14500 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Reference Dye</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>2× Brilliant II SYBR Green QPCR Master Mix</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>Dimethyl sulfoxide</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>100 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></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Reference Dye</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td></td>
<td></td>
<td></td>
<td></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</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
<tr>
<td>2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride</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**

<table>
<thead>
<tr>
<th>Brillant II SYBR Green QPCR Master Mix</th>
<th>Routes of entry anticipated: Oral, Dermal, Inhalation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference Dye</td>
<td>Routes of entry anticipated: Oral, Dermal, Inhalation.</td>
</tr>
</tbody>
</table>

**Potential acute health effects**

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>Causes eye irritation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brillant II SYBR Green QPCR Master Mix</td>
<td>Routes of entry anticipated: Oral, Dermal, Inhalation.</td>
</tr>
<tr>
<td>Reference Dye</td>
<td>Routes of entry anticipated: Oral, Dermal, Inhalation.</td>
</tr>
</tbody>
</table>

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

### Inhalation
- **2× Brilliant II SYBR Green QPCR Master Mix**
  - No known significant effects or critical hazards.
- **Reference Dye**
  - No known significant effects or critical hazards.

### Skin contact
- **2× Brilliant II SYBR Green QPCR Master Mix**
  - No known significant effects or critical hazards.
- **Reference Dye**
  - No known significant effects or critical hazards.

### Ingestion
- **2× Brilliant II SYBR Green QPCR Master Mix**
  - No known significant effects or critical hazards.
- **Reference Dye**
  - No known significant effects or critical hazards.

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

#### Eye contact
- **2× Brilliant II SYBR Green QPCR Master Mix**
  - Adverse symptoms may include the following:
    - irritation
    - watering
    - redness
- **Reference Dye**
  - 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
- **2× Brilliant II SYBR Green QPCR Master Mix**
  - No known significant effects or critical hazards.
- **Reference Dye**
  - No known significant effects or critical hazards.

#### Carcinogenicity
- **2× Brilliant II SYBR Green QPCR Master Mix**
  - No known significant effects or critical hazards.
- **Reference Dye**
  - No known significant effects or critical hazards.

#### Mutagenicity
- **2× Brilliant II SYBR Green QPCR Master Mix**
  - No known significant effects or critical hazards.
- **Reference Dye**
  - No known significant effects or critical hazards.

#### Teratogenicity
- **2× Brilliant II SYBR Green QPCR Master Mix**
  - No known significant effects or critical hazards.
- **Reference Dye**
  - No known significant effects or critical hazards.

#### Developmental effects
- **2× Brilliant II SYBR Green QPCR Master Mix**
  - No known significant effects or critical hazards.
- **Reference Dye**
  - No known significant effects or critical hazards.
Section 11. Toxicological information

**Fertility effects**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Acute LC50  54000 mg/l Fresh water</th>
<th>Acute LC50  25000 ppm Fresh water</th>
<th>Acute LC50  34000000 µg/l Fresh water</th>
<th>Chronic NOEC 100 ul/L Marine water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brilliant II SYBR Green QPCR Master Mix</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
<td>Daphnia - Daphnia magna - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td>Glycerol</td>
<td>Daphnia - Pimephales promelas</td>
<td>48 hours</td>
<td>Algae - Ulva lactuca</td>
<td>72 hours</td>
</tr>
<tr>
<td>Dimethyl sulfoxide</td>
<td>Fish - Pimephales promelas</td>
<td>96 hours</td>
<td>Algae - Ulva lactuca</td>
<td>72 hours</td>
</tr>
</tbody>
</table>

**Reference Dye**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Acute EC50 1337000 µg/l Fresh water</th>
<th>Acute EC50 9.24 g/L Fresh water</th>
<th>Acute EC50 141460 µg/l Fresh water</th>
<th>Acute LC50 880000 µg/l Fresh water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>Algae - Navicula seminulum</td>
<td>72 hours</td>
<td>Algae - Desmodesmus subspicatus</td>
<td>96 hours</td>
</tr>
<tr>
<td>Dimethyl sulfoxide</td>
<td>Algae - Desmodesmus subspicatus</td>
<td>96 hours</td>
<td>Daphnia - Daphnia magna</td>
<td>96 hours</td>
</tr>
<tr>
<td>Reference Dye</td>
<td>Potassium chloride</td>
<td>Algae - Ulva lactuca</td>
<td>72 hours</td>
<td>Fish - Pimephales promelas</td>
</tr>
</tbody>
</table>

**Numerical measures of toxicity**

**Acute toxicity estimates**

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral Reference Dye</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>LogP\text{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brilliant II SYBR Green QPCR Master Mix</td>
<td>-1.76</td>
<td>3.16</td>
<td>low</td>
</tr>
<tr>
<td>Glycerol</td>
<td>-1.35</td>
<td>3.16</td>
<td>low</td>
</tr>
<tr>
<td>Dimethyl sulfoxide</td>
<td>-0.46</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Reference Dye</td>
<td>Potassium chloride</td>
<td>-</td>
<td>-</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\text{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brilliant II SYBR Green QPCR Master Mix</td>
<td>-1.76</td>
<td>3.16</td>
<td>low</td>
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<tr>
<td>Glycerol</td>
<td>-1.35</td>
<td>3.16</td>
<td>low</td>
</tr>
<tr>
<td>Dimethyl sulfoxide</td>
<td>-0.46</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Reference Dye</td>
<td>Potassium chloride</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.
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

Regulatory information

DOT / IMDG / IATA: Not regulated.

Section 15. Regulatory information

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


Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs): Not listed
Clean Air Act Section 602 Class I Substances: Not listed
Clean Air Act Section 602 Class II Substances: Not listed
DEA List I Chemicals (Precursor Chemicals): Not listed
DEA List II Chemicals (Essential Chemicals): Not listed
SARA 302/304 Composition/information on ingredients

No products were found.

SARA 304 RQ: Not applicable.
SARA 311/312 Classification: Immediate (acute) health hazard

Date of issue: 02/29/2016
Section 15. Regulatory information

### 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>2× Brilliant II SYBR Green QPCR Master Mix</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimethyl sulfoxide</td>
<td>≤10</td>
<td>Yes.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
<tr>
<td>Reference Dye</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-Amino-2-(hydroxymethyl)propane-1, 3-diol hydrochloride</td>
<td>≤3</td>
<td>No.</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; DIMETHYL SULFOXIDE; METHANE, SULFINYL-BIS-
- **Pennsylvania**: The following components are listed: 1,2,3-PROPANETRIOL
- **California Prop. 65**: The following components are listed: 1,2,3-PROPANETRIOL

### Canada inventory

: Not determined.

### International regulations

- **International lists**: 
  - Australia inventory (AICS): Not determined.
  - China inventory (IECSC): All components are listed or exempted.
  - Japan inventory (ENCS): Not determined.
  - Japan inventory (ISHL): Not determined.
  - Korea inventory: Not determined.
  - Malaysia Inventory (EHS Register): Not determined.
  - New Zealand Inventory of Chemicals (NZIoC): Not determined.
  - Philippines inventory (PICCS): Not determined.
  - Taiwan Chemical Substances Inventory (TCSI): Not determined.
  - Turkey inventory: Not determined.

### Chemical Weapons Convention List Schedule I Chemicals

: Not listed

### Chemical Weapons Convention List Schedule II Chemicals

: Not listed

### Chemical Weapons Convention List Schedule III Chemicals

: Not listed

Date of issue: 02/29/2016
Section 16. Other information

History

Date of issue : 02/29/2016
Date of previous issue : 04/28/2014.
Version : 3.01

Indicates information that has changed from previously issued version.

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