Section 1. Identification

1.1 Product identifier
Product name: Brilliant III Ultra-Fast QRT-PCR Master Mix, Part Number 600884
Part No. (Chemical Kit): 600884
Part No.: 2X Brilliant III QRT-PCR Master Mix 600884-51
RT/RNase Block 600884-52
Reference Dye 600530-53
100 mM DTT 600089-53

Validation date: 8/21/2017

1.2 Relevant identified uses of the substance or mixture and uses advised against
Material uses: Analytical reagent.
2X Brilliant III QRT-PCR Master Mix 2 x 2 ml
RT/RNase Block 0.4 ml
Reference Dye 0.1 ml (100 µl 1 mM)
100 mM DTT 0.1 ml (100 µl)

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 III QRT-PCR Master Mix 
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
RT/RNase Block 
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Reference Dye 
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.
100 mM DTT 
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

Date of issue: 08/21/2017
Section 2. Hazards identification

**Brilliant III Ultra-Fast QRT-PCR Master Mix**, Part Number 600884

### Section 2. Hazards identification

**Signal word**

- **2X Brilliant III QRT-PCR Master Mix**
  - **H320**
  - EYE IRRITATION - Category 2B

- **RT/RNase Block**
  - **H320**
  - EYE IRRITATION - Category 2B

**Ingredients of unknown toxicity**

- **2X Brilliant III QRT-PCR Master Mix**
  - Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%
  - Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30%

- **RT/RNase Block**
  - Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%

- **Reference Dye**
  - 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%

- **100 mM DTT**
  - 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%

### 2.2 GHS label elements

**Signal word**

- **2X Brilliant III QRT-PCR Master Mix**
  - **H320**
  - EYE IRRITATION - Category 2B

- **RT/RNase Block**
  - **H320**
  - EYE IRRITATION - Category 2B

**Hazard statements**

- **2X Brilliant III QRT-PCR Master Mix**
  - **H320**
  - Causes eye irritation.

- **RT/RNase Block**
  - **H320**
  - Causes eye irritation.

- **Reference Dye**
  - No known significant effects or critical hazards.

- **100 mM DTT**
  - No known significant effects or critical hazards.

### Precautionary statements

**Prevention**

- **2X Brilliant III QRT-PCR Master Mix**
  - **P264**
  - Wash hands thoroughly after handling.

- **RT/RNase Block**
  - **P264**
  - Wash hands thoroughly after handling.

- **Reference Dye**
  - **P305 + P351 + P338**
  - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

- **100 mM DTT**
  - **P305 + P351 + P338**
  - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Response**

- **2X Brilliant III QRT-PCR 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.

- **RT/RNase Block**
  - **P305 + P351 + P338**
  - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

- **Reference Dye**
  - **P305 + P351 + P338**
  - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

- **100 mM DTT**
  - Not applicable.

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Section 2. Hazards identification

Storage:
- 2X Brilliant III QRT-PCR Master Mix
- RT/RNase Block
- Reference Dye
- 100 mM DTT
Not applicable.

Disposal:
- 2X Brilliant III QRT-PCR Master Mix
- RT/RNase Block
- Reference Dye
- 100 mM DTT
Not applicable.

Supplemental label elements:
- 2X Brilliant III QRT-PCR Master Mix
- RT/RNase Block
- Reference Dye
- 100 mM DTT
None known.

2.3 Other hazards

Hazards not otherwise classified:
- 2X Brilliant III QRT-PCR Master Mix
- RT/RNase Block
- Reference Dye
- 100 mM DTT
None known.

Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>2X Brilliant III QRT-PCR Master Mix</th>
<th>RT/RNase Block</th>
<th>Reference Dye</th>
<th>100 mM DTT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mixture</td>
<td>Mixture</td>
<td>Mixture</td>
<td>Mixture</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Brilliant III QRT-PCR Master Mix</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>≥10 - ≤25</td>
<td>56-81-5</td>
</tr>
<tr>
<td>Polyethylene glycol</td>
<td>≤10</td>
<td>25322-68-3</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>≤3</td>
<td>7447-40-7</td>
</tr>
<tr>
<td>RT/RNase Block</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>≥50 - ≤75</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>
<tr>
<td>100 mM DTT</td>
<td>(R*,R*)-1,4-Dimercaptobutane-2,3-diol</td>
<td>≤3</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.

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Section 4. First aid measures

4.1 Description of necessary first aid measures

**Eye contact**
- Brilliant III QRT-PCR 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.
- RT/RNase Block: 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.
- 100 mM DTT: 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**
- Brilliant III QRT-PCR 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.
- RT/RNase Block: 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.
- 100 mM DTT: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
# Section 4. First aid measures

<table>
<thead>
<tr>
<th>Skin contact</th>
<th>2X Brilliant III QRT-PCR Master Mix</th>
<th>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. 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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT/RNase Block</td>
<td>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.</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. 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>Reference Dye</td>
<td>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.</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. 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>100 mM DTT</td>
<td>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. 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. 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>

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Section 4. First aid measures

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

Eye contact:
- 2X Brilliant III QRT-PCR Master Mix
- RT/RNase Block
- Reference Dye
- 100 mM DTT

Inhalation:
- 2X Brilliant III QRT-PCR Master Mix
- RT/RNase Block
- Reference Dye
- 100 mM DTT

Skin contact:
- 2X Brilliant III QRT-PCR Master Mix
- RT/RNase Block
- Reference Dye
- 100 mM DTT

Ingestion:
- 2X Brilliant III QRT-PCR Master Mix
- RT/RNase Block
- Reference Dye
- 100 mM DTT

Over-exposure signs/symptoms

Eye contact:
- 2X Brilliant III QRT-PCR Master Mix
- RT/RNase Block
- Reference Dye
- 100 mM DTT

Inhalation:
- 2X Brilliant III QRT-PCR Master Mix
- RT/RNase Block
- Reference Dye
- 100 mM DTT

Skin contact:
- 2X Brilliant III QRT-PCR Master Mix
- RT/RNase Block
- Reference Dye
- 100 mM DTT

Ingestion:
- 2X Brilliant III QRT-PCR Master Mix
- RT/RNase Block
- Reference Dye
- 100 mM DTT

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

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Notes to physician:
- 2X Brilliant III QRT-PCR Master Mix: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- RT/RNase Block: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Reference Dye: 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.
- 100 mM DTT: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments:
- RT/RNase Block: No specific treatment.
- 100 mM DTT: No specific treatment.

Protection of first-aiders:
- 2X Brilliant III QRT-PCR Master Mix: 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.
- RT/RNase Block: 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.
- Reference Dye: No action shall be taken involving any personal risk or without suitable training.
- 100 mM DTT: No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media:
- 2X Brilliant III QRT-PCR Master Mix: Use an extinguishing agent suitable for the surrounding fire.
- RT/RNase Block: Use an extinguishing agent suitable for the surrounding fire.
- Reference Dye: Use an extinguishing agent suitable for the surrounding fire.
- 100 mM DTT: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media:
- 2X Brilliant III QRT-PCR Master Mix: None known.
- RT/RNase Block: None known.
- Reference Dye: None known.
- 100 mM DTT: None known.

5.2 Special hazards arising from the substance or mixture
# Section 5. Fire-fighting measures

<table>
<thead>
<tr>
<th>Specific hazards arising from the chemical</th>
<th>2X Brilliant III QRT-PCR Master Mix</th>
<th>In a fire or if heated, a pressure increase will occur and the container may burst.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT/RNase Block</td>
<td>In a fire or if heated, a pressure increase will occur and the container may burst.</td>
<td></td>
</tr>
<tr>
<td>Reference Dye</td>
<td>In a fire or if heated, a pressure increase will occur and the container may burst.</td>
<td></td>
</tr>
<tr>
<td>100 mM DTT</td>
<td>In a fire or if heated, a pressure increase will occur and the container may burst.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazardous thermal decomposition products</th>
<th>2X Brilliant III QRT-PCR Master Mix</th>
<th>Decomposition products may include the following materials: carbon dioxide</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT/RNase Block</td>
<td>Decomposition products may include the following materials: carbon dioxide</td>
<td></td>
</tr>
<tr>
<td>Reference Dye</td>
<td>Decomposition products may include the following materials: carbon dioxide</td>
<td></td>
</tr>
<tr>
<td>100 mM DTT</td>
<td>Decomposition products may include the following materials: carbon dioxide</td>
<td></td>
</tr>
</tbody>
</table>

## 5.3 Advice for firefighters

<table>
<thead>
<tr>
<th>Special protective actions for fire-fighters</th>
<th>2X Brilliant III QRT-PCR Master Mix</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT/RNase Block</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Reference Dye</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>100 mM DTT</td>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Special protective equipment for fire-fighters</th>
<th>2X Brilliant III QRT-PCR Master Mix</th>
<th>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT/RNase Block</td>
<td>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</td>
<td></td>
</tr>
<tr>
<td>Reference Dye</td>
<td>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus</td>
<td></td>
</tr>
</tbody>
</table>

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## Section 5. Fire-fighting measures

100 mM DTT

(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

<table>
<thead>
<tr>
<th>Item</th>
<th>Action Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Brilliant III QRT-PCR Master Mix</td>
<td>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.</td>
</tr>
<tr>
<td>RT/RNase Block</td>
<td>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.</td>
</tr>
<tr>
<td>Reference Dye</td>
<td>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.</td>
</tr>
<tr>
<td>100 mM DTT</td>
<td>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.</td>
</tr>
</tbody>
</table>

#### For emergency responders

<table>
<thead>
<tr>
<th>Item</th>
<th>Action Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Brilliant III QRT-PCR Master Mix</td>
<td>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 &quot;For non-emergency personnel&quot;.</td>
</tr>
<tr>
<td>RT/RNase Block</td>
<td>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 &quot;For non-emergency personnel&quot;.</td>
</tr>
<tr>
<td>Reference Dye</td>
<td>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 &quot;For non-emergency personnel&quot;.</td>
</tr>
<tr>
<td>100 mM DTT</td>
<td>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 &quot;For non-emergency personnel&quot;.</td>
</tr>
</tbody>
</table>
Section 6. Accidental release measures

6.2 Environmental precautions

<table>
<thead>
<tr>
<th>Material</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Brilliant III QRT-PCR Master Mix</td>
<td>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).</td>
</tr>
<tr>
<td>RT/RNase Block</td>
<td>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).</td>
</tr>
<tr>
<td>Reference Dye</td>
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</tr>
<tr>
<td>100 mM DTT</td>
<td>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).</td>
</tr>
</tbody>
</table>

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up

<table>
<thead>
<tr>
<th>Material</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Brilliant III QRT-PCR Master Mix</td>
<td>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.</td>
</tr>
<tr>
<td>RT/RNase Block</td>
<td>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.</td>
</tr>
<tr>
<td>Reference Dye</td>
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</tr>
<tr>
<td>100 mM DTT</td>
<td>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.</td>
</tr>
</tbody>
</table>

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures

<table>
<thead>
<tr>
<th>Material</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Brilliant III QRT-PCR Master Mix</td>
<td>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.</td>
</tr>
</tbody>
</table>

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## Section 7. Handling and storage

<table>
<thead>
<tr>
<th>Advice on general occupational hygiene</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
</tr>
</tbody>
</table>

### 7.2 Conditions for safe storage, including any incompatibilities

<table>
<thead>
<tr>
<th>:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RT/RNase Block</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Reference Dye</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>100 mM DTT</strong></td>
<td>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.</td>
</tr>
</tbody>
</table>

| **RT/RNase Block** | 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** |  |
| **100 mM DTT** |  |

---

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Section 7. Handling and storage

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.

100 mM DTT

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 III QRT-PCR Master Mix

: Industrial applications, Professional applications.

: RT/RNase Block

: Industrial applications, Professional applications.

: Reference Dye

: Industrial applications, Professional applications.

: 100 mM DTT

: Industrial applications, Professional applications.

**Industrial sector specific solutions**

: 2X Brilliant III QRT-PCR Master Mix

: Not applicable.

: RT/RNase Block

: Not applicable.

: Reference Dye

: Not applicable.

: 100 mM DTT

: 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>2X Brilliant III QRT-PCR Master Mix</td>
<td>OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction</td>
</tr>
<tr>
<td>Glycerol</td>
<td>OSHA PEL 1989 (United States, 3/1989). TWA: 10 mg/m³ 8 hours. Form: Total dust</td>
</tr>
<tr>
<td></td>
<td>AIHA WEEL (United States, 10/2011). TWA: 15 mg/m³ 8 hours. Form: Total dust</td>
</tr>
<tr>
<td>Polyethylene glycol</td>
<td>TWA: 5 mg/m³ 8 hours. Form: Respirable fraction</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>TWA: 10 mg/m³ 8 hours. Form: Aerosol</td>
</tr>
</tbody>
</table>

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### Section 8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th></th>
<th></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>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reference Dye</th>
<th>OSHA PEL (United States, 6/2016).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium chloride</td>
<td>TWA: 5 mg/m³ 8 hours. Form: Respirable fraction</td>
</tr>
<tr>
<td>None.</td>
<td>TWA: 15 mg/m³ 8 hours. Form: Total dust</td>
</tr>
</tbody>
</table>

| 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride | None. |
| 100 mM DTT (R*,R*)-1,4-Dimercaptobutane-2,3-diol | 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: 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.

---

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Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state:
- 2X Brilliant III QRT-PCR Master Mix: Liquid.
- RT/RNase Block: Liquid.
- Reference Dye: Liquid.
- 100 mM DTT: Liquid.

Color:
- 2X Brilliant III QRT-PCR Master Mix: Not available.
- RT/RNase Block: Not available.
- Reference Dye: Not available.
- 100 mM DTT: Not available.

Odor:
- 2X Brilliant III QRT-PCR Master Mix: Not available.
- RT/RNase Block: Not available.
- Reference Dye: Not available.
- 100 mM DTT: Not available.

Odor threshold:
- 2X Brilliant III QRT-PCR Master Mix: Not available.
- RT/RNase Block: Not available.
- Reference Dye: Not available.
- 100 mM DTT: Not available.

pH:
- 2X Brilliant III QRT-PCR Master Mix: 7.8
- RT/RNase Block: 8
- Reference Dye: 8
- 100 mM DTT: Not available.

Melting point:
- 2X Brilliant III QRT-PCR Master Mix: Not available.
- RT/RNase Block: Not available.
- Reference Dye: Not available.
- 100 mM DTT: 0°C (32°F)

Boiling point:
- 2X Brilliant III QRT-PCR Master Mix: Not available.
- RT/RNase Block: Not available.
- Reference Dye: Not available.
- 100 mM DTT: 100°C (212°F)

Flash point:
- 2X Brilliant III QRT-PCR Master Mix: Not available.
- RT/RNase Block: Not available.
- Reference Dye: Not available.
- 100 mM DTT: Not available.

Evaporation rate:
- 2X Brilliant III QRT-PCR Master Mix: Not available.
- RT/RNase Block: Not available.
- Reference Dye: Not available.
- 100 mM DTT: Not available.

Flammability (solid, gas):
- 2X Brilliant III QRT-PCR Master Mix: Not applicable.
- RT/RNase Block: Not applicable.
- Reference Dye: Not applicable.
- 100 mM DTT: Not applicable.
## Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>2X Brilliant III QRT-PCR Master Mix</th>
<th>RT/RNase Block</th>
<th>Reference Dye</th>
<th>100 mM DTT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lower and upper explosive (flammable) limits</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Solubility</strong></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>
<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><strong>Auto-ignition temperature</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>
## Section 10. Stability and reactivity

| 10.1 Reactivity | 2X Brilliant III QRT-PCR Master Mix | No specific test data related to reactivity available for this product or its ingredients. |
| : | RT/RNase Block | 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. |
| : | 100 mM DTT | No specific test data related to reactivity available for this product or its ingredients. |

| 10.2 Chemical stability | 2X Brilliant III QRT-PCR Master Mix | The product is stable. |
| : | RT/RNase Block | The product is stable. |
| : | Reference Dye | The product is stable. |
| : | 100 mM DTT | The product is stable. |

| 10.3 Possibility of hazardous reactions | 2X Brilliant III QRT-PCR Master Mix | Under normal conditions of storage and use, hazardous reactions will not occur. |
| : | RT/RNase Block | 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. |
| : | 100 mM DTT | Under normal conditions of storage and use, hazardous reactions will not occur. |

| 10.4 Conditions to avoid | 2X Brilliant III QRT-PCR Master Mix | No specific data. |
| : | RT/RNase Block | No specific data. |
| : | Reference Dye | No specific data. |
| : | 100 mM DTT | No specific data. |

| 10.5 Incompatible materials | 2X Brilliant III QRT-PCR Master Mix | May react or be incompatible with oxidizing materials. |
| : | RT/RNase Block | May react or be incompatible with oxidizing materials. |
| : | Reference Dye | May react or be incompatible with oxidizing materials. |
| : | 100 mM DTT | May react or be incompatible with oxidizing materials. |

| 10.6 Hazardous decomposition products | 2X Brilliant III QRT-PCR Master Mix | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| : | RT/RNase Block | 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. |
| : | 100 mM DTT | 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>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Brilliant III QRT-PCR Master Mix</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>12600 mg/kg</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2600 mg/kg</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>12600 mg/kg</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>RT/RNase Block</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2600 mg/kg</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>12600 mg/kg</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Reference Dye</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2600 mg/kg</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2600 mg/kg</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

**Irritation/Corrosion**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Brilliant III QRT-PCR Master Mix</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Polyethylene glycol</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>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>-</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>Potassium chloride</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>RT/RNase Block</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</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>
</tbody>
</table>

**Sensitization**

Not available.

**Mutagenicity**

Not available.

**Carcinogenicity**

Not available.

**Reproductive toxicity**

Not available.

**Teratogenicity**

Not available.

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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>2X Brilliant III QRT-PCR Master Mix</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
<tr>
<td>Polyethylene glycol</td>
<td></td>
<td></td>
<td></td>
</tr>
<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</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
<tr>
<td>100 mM DTT (R*,R*)-1,4-Dimercaptobutane-2,3-diol</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 III QRT-PCR Master Mix
- RT/RNase Block
- Reference Dye
- 100 mM DTT

Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact:

- 2X Brilliant III QRT-PCR Master Mix
- RT/RNase Block
- Reference Dye
- 100 mM DTT

Causes eye irritation.

Inhalation:

- 2X Brilliant III QRT-PCR Master Mix
- RT/RNase Block
- Reference Dye
- 100 mM DTT

No known significant effects or critical hazards.

Skin contact:

- 2X Brilliant III QRT-PCR Master Mix
- RT/RNase Block
- Reference Dye
- 100 mM DTT

No known significant effects or critical hazards.

Ingestion:

- 2X Brilliant III QRT-PCR Master Mix
- RT/RNase Block
- Reference Dye
- 100 mM DTT

No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

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**Eye contact**
- Brilliant III QRT-PCR Master Mix
  - Adverse symptoms may include the following:
    - irritation
    - watering
    - redness
- RT/RNase Block
  - Adverse symptoms may include the following:
    - irritation
    - watering
    - redness
- Reference Dye
  - No specific data.
- 100 mM DTT
  - No specific data.

**Inhalation**
- Brilliant III QRT-PCR Master Mix
  - No specific data.
- RT/RNase Block
  - No specific data.
- Reference Dye
  - No specific data.
- 100 mM DTT
  - No specific data.

**Skin contact**
- Brilliant III QRT-PCR Master Mix
  - No specific data.
- RT/RNase Block
  - No specific data.
- Reference Dye
  - No specific data.
- 100 mM DTT
  - No specific data.

**Ingestion**
- Brilliant III QRT-PCR Master Mix
  - No specific data.
- RT/RNase Block
  - No specific data.
- Reference Dye
  - No specific data.
- 100 mM DTT
  - 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.

**Potential specific adverse effects**
- **Eye contact**:
  - Adverse symptoms may include:
    - irritation
    - watering
    - redness
- **Inhalation**:
  - No specific data.
- **Skin contact**:
  - No specific data.
- **Ingestion**:
  - No specific data.

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**Teratogenicity**
- **2X Brilliant III QRT-PCR Master Mix**
  - No known significant effects or critical hazards.
- **RT/RNase Block**
  - No known significant effects or critical hazards.
- **Reference Dye**
  - No known significant effects or critical hazards.
- **100 mM DTT**
  - No known significant effects or critical hazards.

**Developmental effects**
- **2X Brilliant III QRT-PCR Master Mix**
  - No known significant effects or critical hazards.
- **RT/RNase Block**
  - No known significant effects or critical hazards.
- **Reference Dye**
  - No known significant effects or critical hazards.
- **100 mM DTT**
  - No known significant effects or critical hazards.

**Fertility effects**
- **2X Brilliant III QRT-PCR Master Mix**
  - No known significant effects or critical hazards.
- **RT/RNase Block**
  - No known significant effects or critical hazards.
- **Reference Dye**
  - No known significant effects or critical hazards.
- **100 mM DTT**
  - 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><strong>2X Brilliant III QRT-PCR Master Mix</strong> Oral</td>
<td>193152.6 mg/kg</td>
</tr>
<tr>
<td>Reference Dye Oral</td>
<td>70270.3 mg/kg</td>
</tr>
<tr>
<td>100 mM DTT Oral</td>
<td>33333.3 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><strong>2X Brilliant III QRT-PCR Master Mix</strong></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 LC50 &gt;1000000 µg/l Fresh water</td>
<td>Fish - Salmo salar - Parr</td>
<td>96 hours</td>
</tr>
<tr>
<td>Polyethylene glycol</td>
<td>Acute EC50 1337000 µg/l Fresh water</td>
<td>Algae - Navicula seminulum</td>
<td>96 hours</td>
</tr>
<tr>
<td>Potassium chloride</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 880 mg/l Fresh water</td>
<td>Fish - Pimephales promelas</td>
<td>96 hours</td>
</tr>
<tr>
<td><strong>RT/RNase Block</strong> Glycerol</td>
<td>Acute LC50 54000 mg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
<tr>
<td><strong>Reference Dye</strong> 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</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

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## Section 12. Ecological information

### 12.2 Persistence and degradability

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Dose</th>
<th>Inoculum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2X Brilliant III QRT-PCR Master Mix</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>301D Ready Biodegradability - Closed Bottle Test</td>
<td>93 % - 30 days</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>RT/RNase Block</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>301D Ready Biodegradability - Closed Bottle Test</td>
<td>93 % - 30 days</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2X Brilliant III QRT-PCR Master Mix</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
<tr>
<td>Reference Dye</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
</tbody>
</table>

### 12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Log$P_{ow}$</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2X Brilliant III QRT-PCR Master Mix</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>-1.76</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Polyethylene glycol</td>
<td>-</td>
<td>3.2</td>
<td>low</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>-0.46</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>RT/RNase Block</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>-1.76</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Reference Dye</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>-0.46</td>
<td>-</td>
<td>low</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.

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**Date of issue**: 08/21/2017
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. 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: Polyoxyethylene octyl phenyl ether; 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
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

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Section 15. Regulatory information

<table>
<thead>
<tr>
<th>DEA List II Chemicals (Essential Chemicals)</th>
<th>:</th>
<th>Not listed</th>
</tr>
</thead>
</table>

**SARA 302/304**

**Composition/information on ingredients**

No products were found.

**SARA 304 RQ** : Not applicable.

**SARA 311/312**

**Classification**

<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>2X Brilliant III QRT-PCR Master Mix</td>
<td></td>
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<td></td>
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<td></td>
<td></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>
<tr>
<td>100 mM DTT</td>
<td>(R*,R*)-1,4-Dimercaptobutane-2,3-diol</td>
<td>≤3</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</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**

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Section 15. Regulatory information

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.
- 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: 08/21/2017
- Date of previous issue: 01/21/2016.
- Version: 6

⚠ Indicates information that has changed from previously issued version.

Notice to reader
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