SAFETY DATA SHEET

HotStart-IT™ Probe qPCR Master Mix with UDG Kit

**Section 1. Identification**

- **GHS product identifier**: HotStart-IT™ Probe qPCR Master Mix with UDG Kit
- **Code**: 75764
- **Other means of identification**: Not available.
- **Supplier/Manufacturer**: 3420 Central Expressway, Santa Clara CA 95051
- **In case of emergency**: Chemtrec: 1 800 424 9300
  Outside USA & Canada: +1 703 527 3887

**Section 2. Hazards identification**

### OSHA/HCS status

- **HotStart-IT™ Probe qPCR Master Mix with UDG (2X)**
  - This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
  - While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

- **Magnesium Chloride, 25 mM Solution**
  - Not classified.

- **ROX™ Passive Reference Dye**
  - Not classified.

### Classification of the substance or mixture

- **HotStart-IT™ Probe qPCR Master Mix with UDG (2X)**
  - SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B
- **Magnesium Chloride, 25 mM Solution**
  - No known significant effects or critical hazards.
- **ROX™ Passive Reference Dye**
  - No known significant effects or critical hazards.

### GHS label elements

#### Signal word

- **HotStart-IT™ Probe qPCR Master Mix with UDG (2X)**
  - Warning
- **Magnesium Chloride, 25 mM Solution**
  - No signal word.
- **ROX™ Passive Reference Dye**
  - No signal word.

#### Hazard statements

- **HotStart-IT™ Probe qPCR Master Mix with UDG (2X)**
  - Causes eye irritation.
- **Magnesium Chloride, 25 mM Solution**
  - No known significant effects or critical hazards.
- **ROX™ Passive Reference Dye**
  - No known significant effects or critical hazards.

#### Precautionary statements

#### General

- **HotStart-IT™ Probe qPCR Master Mix with UDG (2X)**
  - Not applicable.
- **Magnesium Chloride, 25 mM Solution**
  - Not applicable.
- **ROX™ Passive Reference Dye**
  - Not applicable.
Section 2. Hazards identification

Prevention:
- HotStart-IT™ Probe qPCR Master Mix with UDG (2X) Magnesium Chloride, 25 mM Solution ROX™ Passive Reference Dye

Wear eye or face protection. Wash hands thoroughly after handling. Not applicable.

Response:
- HotStart-IT™ Probe qPCR Master Mix with UDG (2X) Magnesium Chloride, 25 mM Solution ROX™ Passive Reference Dye

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. Not applicable.

Storage:
- HotStart-IT™ Probe qPCR Master Mix with UDG (2X) Magnesium Chloride, 25 mM Solution ROX™ Passive Reference Dye

Not applicable.

Disposal:
- HotStart-IT™ Probe qPCR Master Mix with UDG (2X) Magnesium Chloride, 25 mM Solution ROX™ Passive Reference Dye

Not applicable.

Supplemental label elements:
- HotStart-IT™ Probe qPCR Master Mix with UDG (2X) Magnesium Chloride, 25 mM Solution ROX™ Passive Reference Dye

None known.

Hazards not otherwise classified:
- HotStart-IT™ Probe qPCR Master Mix with UDG (2X) Magnesium Chloride, 25 mM Solution ROX™ Passive Reference Dye

None known.

Section 3. Composition/information on ingredients

Substance/mixture: Mixture

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>HotStart-IT™ Probe qPCR Master Mix with UDG (2X) glycerol</td>
<td>10 - 25</td>
<td>56-81-5</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

### Description of necessary first aid measures

| Eye contact | HotStart-IT™ Probe qPCR Master Mix with UDG (2X) | 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. |
| Magnesium Chloride, 25 mM Solution | 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. |
| ROX™ Passive Reference Dye | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs. |

| Inhalation | HotStart-IT™ Probe qPCR Master Mix with UDG (2X) | 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. |
| Magnesium Chloride, 25 mM Solution | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. |
| ROX™ Passive Reference Dye | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. |

| Skin contact | HotStart-IT™ Probe qPCR Master Mix with UDG (2X) | 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. |
| Magnesium Chloride, 25 mM Solution | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |
| ROX™ Passive Reference Dye | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |

| Ingestion | HotStart-IT™ Probe qPCR Master Mix with UDG (2X) | 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. |
| Magnesium Chloride, 25 mM Solution | Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
Section 4. First aid measures

**ROX™ Passive Reference Dye**

*If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.*

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

Most important symptoms/effects, acute and delayed

**Potential acute health effects**

<table>
<thead>
<tr>
<th>Exposure Type</th>
<th>Material</th>
<th>Symptoms/Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eye contact</strong></td>
<td>HotStart-IT™ Probe qPCR Master Mix with UDG (2X)</td>
<td>Causes eye irritation.</td>
</tr>
<tr>
<td>Magnesium Chloride, 25 mM Solution</td>
<td>No known significant effects or critical hazards.</td>
<td></td>
</tr>
<tr>
<td>ROX™ Passive Reference Dye</td>
<td>No known significant effects or critical hazards.</td>
<td></td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>HotStart-IT™ Probe qPCR Master Mix with UDG (2X)</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Magnesium Chloride, 25 mM Solution</td>
<td>No known significant effects or critical hazards.</td>
<td></td>
</tr>
<tr>
<td>ROX™ Passive Reference Dye</td>
<td>No known significant effects or critical hazards.</td>
<td></td>
</tr>
<tr>
<td><strong>Skin contact</strong></td>
<td>HotStart-IT™ Probe qPCR Master Mix with UDG (2X)</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Magnesium Chloride, 25 mM Solution</td>
<td>No known significant effects or critical hazards.</td>
<td></td>
</tr>
<tr>
<td>ROX™ Passive Reference Dye</td>
<td>No known significant effects or critical hazards.</td>
<td></td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>HotStart-IT™ Probe qPCR Master Mix with UDG (2X)</td>
<td>May be irritating to mouth, throat and stomach.</td>
</tr>
<tr>
<td>Magnesium Chloride, 25 mM Solution</td>
<td>No known significant effects or critical hazards.</td>
<td></td>
</tr>
<tr>
<td>ROX™ Passive Reference Dye</td>
<td>No known significant effects or critical hazards.</td>
<td></td>
</tr>
</tbody>
</table>

**Over-exposure signs/symptoms**

<table>
<thead>
<tr>
<th>Exposure Type</th>
<th>Material</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eye contact</strong></td>
<td>HotStart-IT™ Probe qPCR Master Mix with UDG (2X)</td>
<td>Adverse symptoms may include the following: irritation, watering, redness</td>
</tr>
<tr>
<td>Magnesium Chloride, 25 mM Solution</td>
<td>No specific data.</td>
<td></td>
</tr>
<tr>
<td>ROX™ Passive Reference Dye</td>
<td>No specific data.</td>
<td></td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>HotStart-IT™ Probe qPCR Master Mix with UDG (2X)</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Magnesium Chloride, 25 mM Solution</td>
<td>No specific data.</td>
<td></td>
</tr>
<tr>
<td>ROX™ Passive Reference Dye</td>
<td>No specific data.</td>
<td></td>
</tr>
</tbody>
</table>
Section 4. First aid measures

Skin contact:
- HotStart-IT™ Probe qPCR Master Mix with UDG (2X)
- Magnesium Chloride, 25 mM Solution
- ROX™ Passive Reference Dye

No specific data.

Ingestion:
- HotStart-IT™ Probe qPCR Master Mix with UDG (2X)
- Magnesium Chloride, 25 mM Solution
- ROX™ Passive Reference Dye

No specific data.

Protection of first-aiders:
No action shall be taken involving any personal risk or without suitable training.

Notes to physician:
Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments:
No specific treatment.

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

Section 5. Fire-fighting measures

Suitable extinguishing media:
- HotStart-IT™ Probe qPCR Master Mix with UDG (2X)
- Magnesium Chloride, 25 mM Solution
- ROX™ Passive Reference Dye

Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media:
- HotStart-IT™ Probe qPCR Master Mix with UDG (2X)
- Magnesium Chloride, 25 mM Solution
- ROX™ Passive Reference Dye

None known.

Specific hazards arising from the chemical:
- HotStart-IT™ Probe qPCR Master Mix with UDG (2X)
- Magnesium Chloride, 25 mM Solution
- ROX™ Passive Reference Dye

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

Hazardous thermal decomposition products:
- HotStart-IT™ Probe qPCR Master Mix with UDG (2X)
- Magnesium Chloride, 25 mM Solution
- ROX™ Passive Reference Dye

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

No specific data.

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

Special protective actions for fire-fighters:
- HotStart-IT™ Probe qPCR Master Mix with UDG (2X)
- Magnesium Chloride, 25 mM Solution
- ROX™ Passive Reference Dye
  
  Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters:
- HotStart-IT™ Probe qPCR Master Mix with UDG (2X)
- Magnesium Chloride, 25 mM Solution
- ROX™ Passive Reference Dye
  
  Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel:
No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders:
If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions:
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).

Methods and materials for containment and cleaning up:

Small spill:
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.

Large spill:
Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.
## Section 7. Handling and storage

### Precautions for safe handling

<table>
<thead>
<tr>
<th>Protective measures</th>
<th>Advice on general occupational hygiene</th>
</tr>
</thead>
<tbody>
<tr>
<td>HotStart-IT™ Probe qPCR Master Mix with UDG (2X)</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>Magnesium Chloride, 25 mM Solution</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>ROX™ Passive Reference Dye</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>

### Conditions for safe storage, including any incompatibilities

| HotStart-IT™ Probe qPCR Master Mix with UDG (2X) | 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. |
| Magnesium Chloride, 25 mM Solution | 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. |
| ROX™ Passive 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. |
Section 7. Handling and storage

resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HotStart-IT™ Probe qPCR Master Mix with UDG (2X) glycerol</td>
<td>OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 10 mg/m³ 8 hours. Form: Total dust OSHA PEL (United States, 2/2013). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Environmental exposure controls

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

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection

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

Body protection

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

Other skin protection

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

Respiratory protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
# Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>HotStart-IT™ Probe qPCR Master Mix with UDG (2X)</th>
<th>Magnesium Chloride, 25 mM Solution</th>
<th>ROX™ Passive Reference Dye</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical state</strong></td>
<td>Liquid.</td>
<td>Liquid.</td>
<td>Liquid.</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Flammable limits</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Molecular weight</strong></td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Molecular formula</strong></td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>
## Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling/condensation point</td>
<td>HotStart-IT™ Probe qPCR Master Mix with UDG (2X) Magnesium Chloride, 25 mM Solution ROX™ Passive Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting/freezing point</td>
<td>HotStart-IT™ Probe qPCR Master Mix with UDG (2X) Magnesium Chloride, 25 mM Solution ROX™ Passive Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative density</td>
<td>HotStart-IT™ Probe qPCR Master Mix with UDG (2X) Magnesium Chloride, 25 mM Solution ROX™ Passive Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>HotStart-IT™ Probe qPCR Master Mix with UDG (2X) Magnesium Chloride, 25 mM Solution ROX™ Passive Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>HotStart-IT™ Probe qPCR Master Mix with UDG (2X) Magnesium Chloride, 25 mM Solution ROX™ Passive Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td>Volatility</td>
<td>HotStart-IT™ Probe qPCR Master Mix with UDG (2X) Magnesium Chloride, 25 mM Solution ROX™ Passive Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>HotStart-IT™ Probe qPCR Master Mix with UDG (2X) Magnesium Chloride, 25 mM Solution ROX™ Passive Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>HotStart-IT™ Probe qPCR Master Mix with UDG (2X) Magnesium Chloride, 25 mM Solution ROX™ Passive Reference Dye</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility</td>
<td>HotStart-IT™ Probe qPCR Master Mix with UDG (2X) Magnesium Chloride, 25 mM Solution ROX™ Passive Reference Dye</td>
<td>Not available.</td>
</tr>
</tbody>
</table>
### Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical/chemical properties comments</th>
<th>HotStart-IT™ Probe qPCR Master Mix with UDG (2X)</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Magnesium Chloride, 25 mM Solution</td>
<td>Not available.</td>
</tr>
<tr>
<td></td>
<td>ROX™ Passive Reference Dye</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

### Section 10. Stability and reactivity

#### Reactivity

| HotStart-IT™ Probe qPCR Master Mix with UDG (2X) | No specific test data related to reactivity available for this product or its ingredients. |
| Magnesium Chloride, 25 mM Solution | No specific test data related to reactivity available for this product or its ingredients. |
| ROX™ Passive Reference Dye | No specific test data related to reactivity available for this product or its ingredients. |

#### Chemical stability

| HotStart-IT™ Probe qPCR Master Mix with UDG (2X) | The product is stable. |
| Magnesium Chloride, 25 mM Solution | The product is stable. |
| ROX™ Passive Reference Dye | The product is stable. |

#### Possibility of hazardous reactions

| HotStart-IT™ Probe qPCR Master Mix with UDG (2X) | Under normal conditions of storage and use, hazardous reactions will not occur. |
| Magnesium Chloride, 25 mM Solution | Under normal conditions of storage and use, hazardous reactions will not occur. |
| ROX™ Passive Reference Dye | Under normal conditions of storage and use, hazardous reactions will not occur. |

#### Conditions to avoid

| HotStart-IT™ Probe qPCR Master Mix with UDG (2X) | No specific data. |
| Magnesium Chloride, 25 mM Solution | No specific data. |
| ROX™ Passive Reference Dye | No specific data. |

#### Incompatible materials

| HotStart-IT™ Probe qPCR Master Mix with UDG (2X) | No specific data. |
| Magnesium Chloride, 25 mM Solution | No specific data. |
| ROX™ Passive Reference Dye | No specific data. |

#### Hazardous decomposition products

| HotStart-IT™ Probe qPCR Master Mix with UDG (2X) | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Magnesium Chloride, 25 mM Solution | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| ROX™ Passive Reference Dye | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
Section 11. Toxicological information

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>HotStart-IT™ Probe qPCR Master Mix with UDG (2X) glycerol</td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>21900 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>12600 mg/kg</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>HotStart-IT™ Probe qPCR Master Mix with UDG (2X) glycerol</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams 24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</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)
Not available.

Specific target organ toxicity (repeated exposure)
Not available.

Aspiration hazard
Not available.

Information on the likely routes of exposure
Not available.

Potential acute health effects

Eye contact
Inhalation
Skin contact
Ingestion

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact
Inhalation
Skin contact
Section 11. Toxicological information

Ingestion :

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 :
Potential delayed effects :

Potential chronic health effects
Not available.

General :
Carcinogenicity :
Mutagenicity :
Teratogenicity :
Developmental effects :
Fertility effects :

Numerical measures of toxicity
Acute toxicity estimates
Not available.

Interactive effects :

Other information :

Section 12. Ecological information

Toxicity
Not available.

Persistence and degradability
Not available.

Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>HotStart-IT™ Probe qPCR Master Mix with UDG (2X) glycerol</td>
<td>-1.76</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

Mobility in soil
Section 12. Ecological information

**Soil/water partition coefficient** ($K_{OC}$) : HotStart-IT™ Probe qPCR Master Mix with UDG (2X) Not available.
Magnesium Chloride, 25 mM Solution Not available.
ROX™ Passive Reference Dye Not available.

**Mobility** :

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

Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

<table>
<thead>
<tr>
<th>DOT Classification</th>
<th>TDG Classification</th>
<th>Mexico Classification</th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Packing group</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Additional information</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**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 73/78 and the IBC Code** : Not available.
Section 15. Regulatory information

U.S. Federal regulations

TSCA 8(a) PAIR: Poly(oxy-1,2-ethanediyl), α-[4-(1,1,3,3-tetramethylbutyl)phenyl]-ω-hydroxy-
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): Not determined.

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

Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Fire hazard</th>
<th>Sudden release of pressure</th>
<th>Reactive</th>
<th>Immediate (acute) health hazard</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>HotStart-IT™ Probe qPCR Master Mix with UDG (2X) glycerol</td>
<td>10 - 25</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
Pennsylvania: The following components are listed: 1,2,3-PROPANETRIOL
California Prop. 65
WARNING: This product contains less than 0.1% of a chemical known to the State of California to cause cancer.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Cancer</th>
<th>Reproductive</th>
<th>No significant risk level</th>
<th>Maximum acceptable dosage level</th>
</tr>
</thead>
</table>
| HotStart-IT™ Probe qPCR Master Mix with UDG (2X) Poly(oxy-1,2-ethanediyl), α-[4-(1,1,3,3-tetramethylbutyl)phenyl]-ω-hydroxy-
Poly(oxy-1,2-ethanediyl), α-[4-(1,1,3,3-tetramethylbutyl)phenyl]-ω-hydroxy- | Yes. | No. | No. | No. |

International regulations
Section 15. Regulatory information

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 Inform Consent (PIC)
Not listed.

UNEP Aarhus Protocol on POPs and Heavy Metals
Not listed.

Canada

WHMIS (Canada)
HotStart-IT™ Probe qPCR Master Mix with UDG (2X)
Magnesium Chloride, 25 mM Solution
ROX™ Passive Reference Dye
Not controlled under WHMIS (Canada).

Canadian lists

Canadian NPRI
None of the components are listed.

CEPA Toxic substances
None of the components are listed.

Canada inventory
Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

<table>
<thead>
<tr>
<th>Flammability</th>
<th>Health</th>
<th>Instability/Reactivity</th>
<th>Special</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

History

Date of issue/Date of revision : 11/06/2015.
Date of previous issue : No previous validation.
Version : 1

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
Section 16. Other information

UN = United Nations

็ด Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.