

SAFETY DATA SHEET

Brilliant II SYBR Green QRT-PCR Master Mix - 1-Step, Part Number 600825

Section 1. Identification

1.1 Product identifier

Product name : Brilliant II SYBR Green QRT-PCR Master Mix - 1-Step, Part Number 600825
Part No. (Chemical Kit) : 600825
Part No. : Brilliant II SYBR® QRT-PCR Master Mix 600825-51
 Reference Dye 600530-53
 RT/RNase Block Enzyme Mixture 600825-52
Validation date : 10/27/2017

1.2 Relevant identified uses of the substance or mixture and uses advised against

Material uses : Analytical reagent.
 Brilliant II SYBR® QRT-PCR Master Mix 2 x 2.5 ml
 Reference Dye 0.1 ml (100 µl 1 mM)
 RT/RNase Block Enzyme Mixture 0.4 ml

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 : Brilliant II SYBR® QRT-PCR Master Mix This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
 Reference Dye
 RT/RNase Block Enzyme Mixture This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

Brilliant II SYBR® QRT-PCR Master Mix
 H320 EYE IRRITATION - Category 2B
 RT/RNase Block Enzyme Mixture
 H320 EYE IRRITATION - Category 2B

Section 2. Hazards identification

Ingredients of unknown toxicity	<input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 10 - 30% Percentage of the mixture consisting of ingredient (s) of unknown dermal toxicity: 1 - 10% Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 1 - 10% Percentage of the mixture consisting of ingredient (s) of unknown oral toxicity: 1 - 10% Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 30 - 60%
2.2 GHS label elements		
Signal word	<input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	Warning No signal word. Warning
Hazard statements	<input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	H320 - Causes eye irritation. No known significant effects or critical hazards. H320 - Causes eye irritation.
Precautionary statements		
Prevention	<input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	P264 - Wash hands thoroughly after handling. Not applicable. P264 - Wash hands thoroughly after handling.
Response	<input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention. Not applicable. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
Storage	<input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	Not applicable. Not applicable. Not applicable.
Disposal	<input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	Not applicable. Not applicable. Not applicable.
Supplemental label elements	<input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	None known. None known. None known.
2.3 Other hazards		
Hazards not otherwise classified	<input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	None known. None known. None known.

Section 3. Composition/information on ingredients

Substance/mixture	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Mixture
	Reference Dye	Mixture
	RT/RNase Block Enzyme Mixture	Mixture

Ingredient name	%	CAS number
<input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix		
Glycerol	≥10 - ≤25	56-81-5
Dimethyl sulfoxide	≤10	67-68-5
Reference Dye		
Potassium chloride	≤5	7447-40-7
2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	≤3	1185-53-1
RT/RNase Block Enzyme Mixture		
Glycerol	≥50 - ≤75	56-81-5

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

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

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

4.1 Description of necessary first aid measures

Eye contact	: <input checked="" type="checkbox"/> Brilliant II SYBR® 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.
	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.
	RT/RNase Block Enzyme Mixture	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.
Inhalation	: <input checked="" type="checkbox"/> Brilliant II SYBR® 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.
	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

Section 4. First aid measures

to be kept under medical surveillance for 48 hours.

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.

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.

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


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.

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.

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.

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


Skin contact

:  Brilliant II SYBR® QRT-PCR Master Mix

Reference Dye

RT/RNase Block Enzyme Mixture

Ingestion

:  Brilliant II SYBR® QRT-PCR Master Mix

Reference Dye

RT/RNase Block Enzyme Mixture

Section 4. First aid measures

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.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	Causes eye irritation. No known significant effects or critical hazards. Causes eye irritation.
Inhalation	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	Adverse symptoms may include the following: irritation watering redness No specific data. Adverse symptoms may include the following: irritation watering redness
Inhalation	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	No specific data. No specific data. No specific data.
Skin contact	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	No specific data. No specific data. No specific data.
Ingestion	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	No specific data. No specific data. No specific data.

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

Section 4. First aid measures

Notes to physician	<ul style="list-style-type: none"> : <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture 	<p>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</p> <p>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.</p> <p>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</p>
Specific treatments	<ul style="list-style-type: none"> : <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture 	<p>No specific treatment.</p> <p>No specific treatment.</p> <p>No specific treatment.</p>
Protection of first-aiders	<ul style="list-style-type: none"> : <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture 	<p>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.</p> <p>No action shall be taken involving any personal risk or without suitable training.</p> <p>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.</p>

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	<ul style="list-style-type: none"> : <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture 	<p>Use an extinguishing agent suitable for the surrounding fire.</p> <p>Use an extinguishing agent suitable for the surrounding fire.</p> <p>Use an extinguishing agent suitable for the surrounding fire.</p>
Unsuitable extinguishing media	<ul style="list-style-type: none"> : <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture 	<p>None known.</p> <p>None known.</p> <p>None known.</p>

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	<ul style="list-style-type: none"> : <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture 	<p>In a fire or if heated, a pressure increase will occur and the container may burst.</p> <p>In a fire or if heated, a pressure increase will occur and the container may burst.</p> <p>In a fire or if heated, a pressure increase will occur and the container may burst.</p>
Hazardous thermal decomposition products	<ul style="list-style-type: none"> : <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Reference Dye 	<p>Decomposition products may include the following materials:</p> <ul style="list-style-type: none"> carbon dioxide carbon monoxide sulfur oxides <p>Decomposition products may include the following materials:</p> <ul style="list-style-type: none"> carbon dioxide carbon monoxide

Section 5. Fire-fighting measures

nitrogen oxides
halogenated compounds
metal oxide/oxides

RT/RNase Block Enzyme Mixture
Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

5.3 Advice for firefighters

Special protective actions for fire-fighters

: Brilliant II SYBR® QRT-PCR Master Mix
Reference Dye
RT/RNase Block Enzyme Mixture

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.

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Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

: Brilliant II SYBR® QRT-PCR Master Mix
Reference Dye
RT/RNase Block Enzyme Mixture

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: Brilliant II SYBR® QRT-PCR Master Mix
Reference Dye
RT/RNase Block Enzyme Mixture

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.

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.




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

Section 6. Accidental release measures

<p>For emergency responders :</p>	<p><input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix</p> <p>Reference Dye</p> <p>RT/RNase Block Enzyme Mixture</p>	<p>ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.</p> <p>If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".</p> <p>If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".</p> <p>If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".</p>
<p>6.2 Environmental precautions</p>	<p><input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix</p> <p>Reference Dye</p> <p>RT/RNase Block Enzyme Mixture</p>	<p>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).</p> <p>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).</p> <p>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).</p>
<p>6.3 Methods and materials for containment and cleaning up</p>	<p>Methods for cleaning up :</p>	<p>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.</p> <p>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.</p> <p>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.</p>
<p>Methods for cleaning up :</p>	<p><input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix</p> <p>Reference Dye</p> <p>RT/RNase Block Enzyme Mixture</p>	<p>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.</p> <p>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.</p> <p>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.</p>

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures	:  Brilliant II SYBR® QRT-PCR Master Mix	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	Reference Dye	Put on appropriate personal protective equipment (see Section 8).
	RT/RNase Block Enzyme Mixture	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.
Advice on general occupational hygiene	:  Brilliant II SYBR® QRT-PCR Master Mix	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	Reference Dye	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	RT/RNase Block Enzyme Mixture	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
7.2 Conditions for safe storage, including any incompatibilities	:  Brilliant II SYBR® QRT-PCR Master Mix	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	Reference Dye	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed

Section 7. Handling and storage

RT/RNase Block Enzyme Mixture

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. 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

: Brilliant II SYBR® QRT-PCR Master Mix Industrial applications, Professional applications.
 Reference Dye Industrial applications, Professional applications.
 RT/RNase Block Enzyme Mixture Industrial applications, Professional applications.

Industrial sector specific solutions

: Brilliant II SYBR® QRT-PCR Master Mix Not applicable.
 Reference Dye Not applicable.
 RT/RNase Block Enzyme Mixture Not applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
<input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix Glycerol	OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 10 mg/m ³ 8 hours. Form: Total dust
Dimethyl sulfoxide	OSHA PEL (United States, 6/2016). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 15 mg/m ³ 8 hours. Form: Total dust
Reference Dye Potassium chloride 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	AIHA WEEL (United States, 10/2011). TWA: 250 ppm 8 hours. None. None.
RT/RNase Block Enzyme Mixture Glycerol	OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 10 mg/m ³ 8 hours. Form: Total dust OSHA PEL (United States, 6/2016). TWA: 5 mg/m ³ 8 hours. Form: Respirable

Section 8. Exposure controls/personal protection

fraction
TWA: 15 mg/m³ 8 hours. Form: Total dust

8.2 Exposure controls

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : Brilliant II SYBR® QRT-PCR Master Mix Liquid.
Reference Dye Liquid.
RT/RNase Block Enzyme Mixture Liquid.
- Color** : Brilliant II SYBR® QRT-PCR Master Mix Not available.
Reference Dye Not available.
RT/RNase Block Enzyme Mixture Not available.

Section 9. Physical and chemical properties

Odor	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Not available.
	Reference Dye	Not available.
	RT/RNase Block Enzyme Mixture	Not available.
Odor threshold	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Not available.
	Reference Dye	Not available.
	RT/RNase Block Enzyme Mixture	Not available.
pH	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	8
	Reference Dye	8
	RT/RNase Block Enzyme Mixture	8
Melting point	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Not available.
	Reference Dye	Not available.
	RT/RNase Block Enzyme Mixture	Not available.
Boiling point	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Not available.
	Reference Dye	Not available.
	RT/RNase Block Enzyme Mixture	Not available.
Flash point	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Not available.
	Reference Dye	Not available.
	RT/RNase Block Enzyme Mixture	Not available.
Evaporation rate	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Not available.
	Reference Dye	Not available.
	RT/RNase Block Enzyme Mixture	Not available.
Flammability (solid, gas)	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Not applicable.
	Reference Dye	Not applicable.
	RT/RNase Block Enzyme Mixture	Not applicable.
Lower and upper explosive (flammable) limits	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Not available.
	Reference Dye	Not available.
	RT/RNase Block Enzyme Mixture	Not available.
Vapor pressure	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Not available.
	Reference Dye	Not available.
	RT/RNase Block Enzyme Mixture	Not available.
Vapor density	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Not available.
	Reference Dye	Not available.
	RT/RNase Block Enzyme Mixture	Not available.
Relative density	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Not available.
	Reference Dye	Not available.
	RT/RNase Block Enzyme Mixture	Not available.
Solubility	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Soluble in the following materials: cold water and hot water.
	Reference Dye	Easily soluble in the following materials: cold water and hot water.
	RT/RNase Block Enzyme Mixture	Soluble in the following materials: cold water and hot water.

Section 9. Physical and chemical properties

Partition coefficient: n-octanol/water	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Not available.
	Reference Dye	Not available.
	RT/RNase Block Enzyme Mixture	Not available.
Auto-ignition temperature	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Not available.
	Reference Dye	Not available.
	RT/RNase Block Enzyme Mixture	Not available.
Decomposition temperature	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Not available.
	Reference Dye	Not available.
	RT/RNase Block Enzyme Mixture	Not available.
Viscosity	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Not available.
	Reference Dye	Not available.
	RT/RNase Block Enzyme Mixture	Not available.

Section 10. Stability and reactivity

10.1 Reactivity	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	No specific test data related to reactivity available for this product or its ingredients.
	Reference Dye	No specific test data related to reactivity available for this product or its ingredients.
	RT/RNase Block Enzyme Mixture	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	The product is stable.
	Reference Dye	The product is stable.
	RT/RNase Block Enzyme Mixture	The product is stable.
10.3 Possibility of hazardous reactions	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Under normal conditions of storage and use, hazardous reactions will not occur.
	Reference Dye	Under normal conditions of storage and use, hazardous reactions will not occur.
	RT/RNase Block Enzyme Mixture	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	No specific data.
	Reference Dye	No specific data.
	RT/RNase Block Enzyme Mixture	No specific data.
10.5 Incompatible materials	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	May react or be incompatible with oxidizing materials.
	Reference Dye	May react or be incompatible with oxidizing materials.
	RT/RNase Block Enzyme Mixture	May react or be incompatible with oxidizing materials.

Section 10. Stability and reactivity

10.6 Hazardous decomposition products	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Reference Dye	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	RT/RNase Block Enzyme Mixture	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

Product/ingredient name	Result	Species	Dose	Exposure
<input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Dimethyl sulfoxide	LD50 Dermal	Rat	40000 mg/kg	-
	LD50 Oral	Rat	14500 mg/kg	-
Reference Dye				
Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-
RT/RNase Block Enzyme Mixture				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
<input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Dimethyl sulfoxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	100 milligrams	-
Reference Dye					
Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
RT/RNase Block Enzyme Mixture					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitization

Section 11. Toxicological information

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
<input checked="" type="checkbox"/> Reference Dye 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure

- Brilliant II SYBR® QRT-PCR Master Mix
Reference Dye
RT/RNase Block Enzyme Mixture
- Routes of entry anticipated: Oral, Dermal, Inhalation.
Routes of entry anticipated: Oral, Dermal, Inhalation.
Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact

- Brilliant II SYBR® QRT-PCR Master Mix
Reference Dye
RT/RNase Block Enzyme Mixture
- Causes eye irritation.
No known significant effects or critical hazards.
Causes eye irritation.

Inhalation

- Brilliant II SYBR® QRT-PCR Master Mix
Reference Dye
RT/RNase Block Enzyme Mixture
- No known significant effects or critical hazards.
No known significant effects or critical hazards.

Skin contact

- Brilliant II SYBR® QRT-PCR Master Mix
Reference Dye
RT/RNase Block Enzyme Mixture
- No known significant effects or critical hazards.
No known significant effects or critical hazards.

Ingestion

- Brilliant II SYBR® QRT-PCR Master Mix
Reference Dye
RT/RNase Block Enzyme Mixture
- No known significant effects or critical hazards.
No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Section 11. Toxicological information

Eye contact	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Adverse symptoms may include the following: irritation watering redness
	: Reference Dye RT/RNase Block Enzyme Mixture	No specific data. Adverse symptoms may include the following: irritation watering redness
Inhalation	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	No specific data.
	: Reference Dye RT/RNase Block Enzyme Mixture	No specific data. No specific data.
Skin contact	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	No specific data.
	: Reference Dye RT/RNase Block Enzyme Mixture	No specific data. No specific data.
Ingestion	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	No specific data.
	: Reference Dye RT/RNase Block Enzyme Mixture	No specific data. 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	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	No known significant effects or critical hazards.
	: Reference Dye RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. No known significant effects or critical hazards.
Carcinogenicity	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	No known significant effects or critical hazards.
	: Reference Dye RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	No known significant effects or critical hazards.
	: Reference Dye RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. No known significant effects or critical hazards.
Teratogenicity	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	No known significant effects or critical hazards.
	: Reference Dye RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. No known significant effects or critical hazards.
Developmental effects	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	No known significant effects or critical hazards.
	: Reference Dye RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. No known significant effects or critical hazards.

Section 11. Toxicological information

Fertility effects	: <input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	No known significant effects or critical hazards.
	Reference Dye	No known significant effects or critical hazards.
	RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
<input checked="" type="checkbox"/> Reference Dye Oral	70270.3 mg/kg

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Glycerol	Acute LC50 25000 ppm Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
Dimethyl sulfoxide	Acute LC50 34000000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 100 µl/L Marine water	Algae - Ulva lactuca	72 hours
Reference Dye			
Potassium chloride	Acute EC50 1337000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 9.24 g/L Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Acute EC50 141460 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 12.92 mg/l Fresh water	Crustaceans - Pseudosida ramosa - Neonate	48 hours
	Acute LC50 880 mg/l Fresh water	Fish - Pimephales promelas	96 hours
RT/RNase Block Enzyme Mixture			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
<input checked="" type="checkbox"/> Brilliant II SYBR® QRT-PCR Master Mix				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
RT/RNase Block Enzyme Mixture				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

Section 12. Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Reference Dye Potassium chloride	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
2X Brilliant II SYBR® QRT-PCR Master Mix			
Glycerol	-1.76	-	low
Dimethyl sulfoxide	-1.35	3.16	low
Reference Dye Potassium chloride	-0.46	-	low
RT/RNase Block Enzyme Mixture Glycerol	-1.76	-	low

12.4 Mobility in soil

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

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

Section 13. Disposal considerations

13.1 Waste treatment methods

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

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

DOT / TDG / Mexico / IMDG / IATA : Not regulated.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

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

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

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

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 : Brilliant II SYBR® QRT-PCR Master Mix Immediate (acute) health hazard
 Reference Dye Not applicable.
 RT/RNase Block Enzyme Mixture Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard

Section 15. Regulatory information

2X Brilliant II SYBR® QRT-PCR Master Mix						
Glycerol	≥10 - ≤25	No.	No.	No.	Yes.	No.
Dimethyl sulfoxide	≤10	Yes.	No.	No.	Yes.	No.
Reference Dye						
Potassium chloride	≤5	No.	No.	No.	Yes.	No.
2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	≤3	No.	No.	No.	Yes.	No.
RT/RNase Block Enzyme Mixture						
Glycerol	≥50 - ≤75	No.	No.	No.	Yes.	No.

State regulations

- Massachusetts** : The following components are listed: GLYCERINE MIST
- New York** : None of the components are listed.
- New Jersey** : The following components are listed: GLYCERIN; 1,2,3-PROPANETRIOL; DIMETHYL SULFOXIDE; METHANE, SULFINYLBI-
- Pennsylvania** : The following components are listed: 1,2,3-PROPANETRIOL

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

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

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Version : 5

✔ Indicates information that has changed from previously issued version.

Notice to reader

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