

# SAFETY DATA SHEET

## Brilliant II QRT-PCR Master Mix - 1-Step

### Section 1. Identification

**Product identifier** : Brilliant II QRT-PCR Master Mix - 1-Step

**Part no. (chemical kit)** : 600809

**Part no.** : 2X Brilliant II QRT-PCR Master Mix 600809-51  
Reference Dye 600530-53  
RT/RNase Block Enzyme Mixture 600809-52

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

**Identified uses** :  Analytical reagent.

Brilliant II 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

**Supplier/Manufacturer** : Agilent Technologies, Inc.  
5301 Stevens Creek Blvd  
Santa Clara, CA 95051, USA  
800-227-9770

**Emergency telephone number (with hours of operation)** : CHEMTREC®: 1-800-424-9300

### Section 2. Hazard identification

#### Classification of the substance or mixture

Brilliant II QRT-PCR  
Master Mix

H320 EYE IRRITATION - Category 2B

RT/RNase Block Enzyme  
Mixture

H320 EYE IRRITATION - Category 2B

#### GHS label elements

**Signal word** : 2X Brilliant II QRT-PCR Warning  
Master Mix  
Reference Dye No signal word.  
RT/RNase Block Enzyme Warning  
Mixture

**Hazard statements** : 2X Brilliant II QRT-PCR H320 - Causes eye irritation.  
Master Mix  
Reference Dye No known significant effects or critical hazards.  
RT/RNase Block Enzyme H320 - Causes eye irritation.  
Mixture

#### Precautionary statements

**Prevention** : 2X Brilliant II QRT-PCR Not applicable.  
Master Mix  
Reference Dye Not applicable.  
RT/RNase Block Enzyme Not applicable.  
Mixture

## Section 2. Hazard identification

<b>Response</b>	: 2X Brilliant II 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. P337 + P313 - If eye irritation persists: Get medical advice or attention.
	Reference Dye RT/RNase Block Enzyme Mixture	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 advice or attention.
<b>Storage</b>	: 2X Brilliant II QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	Not applicable. Not applicable. Not applicable.
<b>Disposal</b>	: 2X Brilliant II QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	Not applicable. Not applicable. Not applicable.
<b>Supplemental label elements</b>	: 2X Brilliant II QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	None known. None known. None known.
<b>Other hazards which do not result in classification</b>	: 2X Brilliant II QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	None known. None known. None known.

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	: 2X Brilliant II QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	Mixture Mixture Mixture
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Ingredient name	Synonyms	% (w/w)	CAS number
<b>2X Brilliant II QRT-PCR Master Mix</b>			
Glycerol	Glycerol	≥10 - ≤30	56-81-5
Dimethyl sulfoxide	Dimethyl sulfoxide	≥1 - ≤5	67-68-5
Magnesium chloride	Magnesium chloride	≥0.1 - ≤1	7786-30-3
<b>Reference Dye</b>			
Potassium chloride	Potassium Chloride	≥1 - ≤5	7447-40-7
<b>RT/RNase Block Enzyme Mixture</b>			
Glycerol	Glycerol	≥30 - ≤60	56-81-5

## Section 3. Composition/information on ingredients

Ranges if listed above for hazardous ingredient(s) are prescribed ranges. The actual concentration(s) or actual concentration range(s) are being withheld as a trade secret.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified 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

<b>Eye contact</b>	: 2X Brilliant II 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.
<b>Inhalation</b>	: 2X Brilliant II 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 to be kept under medical surveillance for 48 hours.
	RT/RNase Block Enzyme Mixture	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.

## Section 4. First-aid measures

<b>Skin contact</b>	: 2X Brilliant II QRT-PCR Master Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Reference Dye	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	RT/RNase Block Enzyme Mixture	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.
<b>Ingestion</b>	: 2X Brilliant II QRT-PCR Master Mix	Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	Reference Dye	Wash out mouth with water. 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.
	RT/RNase Block Enzyme Mixture	Wash out mouth with water. Remove dentures if any. 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.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

<b>Eye contact</b>	: 2X Brilliant II QRT-PCR Master Mix	Causes eye irritation.
	Reference Dye	No known significant effects or critical hazards.
	RT/RNase Block Enzyme Mixture	Causes eye irritation.
<b>Inhalation</b>	: 2X Brilliant II 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.

## Section 4. First-aid measures

<b>Skin contact</b>	: 2X Brilliant II 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.
<b>Ingestion</b>	: 2X Brilliant II 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.
<b><u>Over-exposure signs/symptoms</u></b>		
<b>Eye contact</b>	: 2X Brilliant II QRT-PCR Master Mix	Adverse symptoms may include the following:  irritation watering redness
	Reference Dye	No specific data.
	RT/RNase Block Enzyme Mixture	Adverse symptoms may include the following:  irritation watering redness
<b>Inhalation</b>	: 2X Brilliant II QRT-PCR Master Mix	No specific data.
	Reference Dye	No specific data.
	RT/RNase Block Enzyme Mixture	No specific data.
<b>Skin contact</b>	: 2X Brilliant II QRT-PCR Master Mix	No specific data.
	Reference Dye	No specific data.
	RT/RNase Block Enzyme Mixture	No specific data.
<b>Ingestion</b>	: 2X Brilliant II QRT-PCR Master Mix	No specific data.
	Reference Dye	No specific data.
	RT/RNase Block Enzyme Mixture	No specific data.

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

<b>Notes to physician</b>	: 2X Brilliant II QRT-PCR Master Mix	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.
	RT/RNase Block Enzyme Mixture	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	: 2X Brilliant II QRT-PCR Master Mix	No specific treatment.
	Reference Dye	No specific treatment.
	RT/RNase Block Enzyme Mixture	No specific treatment.

## Section 4. First-aid measures

<b>Protection of first-aiders</b>	: 2X Brilliant II 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.
	Reference Dye	No action shall be taken involving any personal risk or without suitable training.
	RT/RNase Block Enzyme Mixture	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

<b>Suitable extinguishing media</b>	: 2X Brilliant II QRT-PCR Master Mix	Use an extinguishing agent suitable for the surrounding fire.
	Reference Dye	Use an extinguishing agent suitable for the surrounding fire.
	RT/RNase Block Enzyme Mixture	Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	: 2X Brilliant II QRT-PCR Master Mix	None known.
	Reference Dye	None known.
	RT/RNase Block Enzyme Mixture	None known.
<b>Specific hazards arising from the chemical</b>	: 2X Brilliant II QRT-PCR Master Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
	Reference Dye	In a fire or if heated, a pressure increase will occur and the container may burst.
	RT/RNase Block Enzyme Mixture	In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous thermal decomposition products</b>	: 2X Brilliant II QRT-PCR Master Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides
	Reference Dye	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
	RT/RNase Block Enzyme Mixture	Decomposition products may include the following materials: carbon dioxide carbon monoxide

## Section 5. Fire-fighting measures

<b>Special protective actions for fire-fighters</b>	: 2X Brilliant II QRT-PCR Master Mix	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.
	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.
	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.
<b>Special protective equipment for fire-fighters</b>	: 2X Brilliant II QRT-PCR Master Mix	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	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.
	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.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	: 2X Brilliant II QRT-PCR Master Mix	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	Reference Dye	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
	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. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	: 2X Brilliant II QRT-PCR Master Mix	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Reference Dye	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".
	RT/RNase Block Enzyme Mixture	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".

## Section 6. Accidental release measures

suitable and unsuitable materials. See also the information in "For non-emergency personnel".

<b>Environmental precautions</b>	: 2X Brilliant II QRT-PCR Master Mix	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Reference Dye	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).
	RT/RNase Block Enzyme Mixture	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

<b>Methods for cleaning up</b>	: 2X Brilliant II QRT-PCR Master Mix	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	Reference Dye	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	RT/RNase Block Enzyme Mixture	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.

## Section 7. Handling and storage

### Precautions for safe handling

<b>Protective measures</b>	: 2X Brilliant II 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

## Section 7. Handling and storage

### Advice on general occupational hygiene

: 2X Brilliant II QRT-PCR Master Mix

reuse container.

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.

### Conditions for safe storage, including any incompatibilities

: 2X Brilliant II 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 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.

RT/RNase Block Enzyme Mixture

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.

## Section 8. Exposure controls/personal protection

### [Control parameters](#)

### [Occupational exposure limits](#)

Ingredient name	Exposure limits
<p><b>2X Brilliant II QRT-PCR Master Mix</b> Glycerol</p> <p>Dimethyl sulfoxide</p> <p><b>RT/RNase Block Enzyme Mixture</b> Glycerol</p>	<p><b>CA Alberta Provincial (Canada, 3/2023).</b> OEL: 10 mg/m<sup>3</sup> 8 hours. Form: Mist</p> <p><b>CA Quebec Provincial (Canada, 9/2023).</b> TWAEV: 10 mg/m<sup>3</sup> 8 hours. Form: mist</p> <p><b>CA Saskatchewan Provincial (Canada, 4/2021).</b> STEL: 20 mg/m<sup>3</sup> 15 minutes. Form: mist TWA: 10 mg/m<sup>3</sup> 8 hours. Form: mist</p> <p><b>CA British Columbia Provincial (Canada, 8/2023).</b> TWA: 3 mg/m<sup>3</sup> 8 hours. Form: respirable mist TWA: 10 mg/m<sup>3</sup> 8 hours. Form: total mist</p> <p><b>OARS WEEL (United States, 4/2022).</b> TWA: 250 ppm 8 hours.</p> <p><b>CA Alberta Provincial (Canada, 3/2023).</b> OEL: 10 mg/m<sup>3</sup> 8 hours. Form: Mist</p> <p><b>CA Quebec Provincial (Canada, 9/2023).</b> TWAEV: 10 mg/m<sup>3</sup> 8 hours. Form: mist</p> <p><b>CA Saskatchewan Provincial (Canada, 4/2021).</b> STEL: 20 mg/m<sup>3</sup> 15 minutes. Form: mist TWA: 10 mg/m<sup>3</sup> 8 hours. Form: mist</p> <p><b>CA British Columbia Provincial (Canada, 8/2023).</b> TWA: 3 mg/m<sup>3</sup> 8 hours. Form: respirable mist TWA: 10 mg/m<sup>3</sup> 8 hours. Form: total mist</p>

### [Biological exposure indices](#)

No exposure indices known.

### [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.

## Section 8. Exposure controls/personal protection

- 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 and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

<b>Physical state</b>	: 2X Brilliant II QRT-PCR Master Mix	Liquid.
	Reference Dye	Liquid.
	RT/RNase Block Enzyme Mixture	Liquid.
<b>Color</b>	: 2X Brilliant II QRT-PCR Master Mix	Not available.
	Reference Dye	Not available.
	RT/RNase Block Enzyme Mixture	Not available.
<b>Odor</b>	: 2X Brilliant II QRT-PCR Master Mix	Not available.
	Reference Dye	Not available.
	RT/RNase Block Enzyme Mixture	Not available.
<b>Odor threshold</b>	: 2X Brilliant II QRT-PCR Master Mix	Not available.
	Reference Dye	Not available.
	RT/RNase Block Enzyme Mixture	Not available.
<b>pH</b>	: 2X Brilliant II QRT-PCR Master Mix	8
	Reference Dye	8
	RT/RNase Block Enzyme Mixture	8

## Section 9. Physical and chemical properties and safety characteristics

**Melting point/freezing point** : 2X Brilliant II QRT-PCR Master Mix Not available.  
Reference Dye Not available.  
RT/RNase Block Enzyme Mixture Not available.

**Boiling point, initial boiling point, and boiling range** : 2X Brilliant II QRT-PCR Master Mix Not available.  
Reference Dye Not available.  
RT/RNase Block Enzyme Mixture Not available.

**Flash point** :

Ingredient name	Closed cup			Open cup		
	°C	°F	Method	°C	°F	Method
<b>2X Brilliant II QRT-PCR Master Mix</b>						
Dimethyl sulfoxide	87	188.6	ASTM D 93	87	188.6	-
<b>RT/RNase Block Enzyme Mixture</b>						
Glycerol	-	-	-	177	350.6	-

**Evaporation rate** : 2X Brilliant II QRT-PCR Master Mix Not available.  
Reference Dye Not available.  
RT/RNase Block Enzyme Mixture Not available.

**Flammability** : 2X Brilliant II QRT-PCR Master Mix Not applicable.  
Reference Dye Not applicable.  
RT/RNase Block Enzyme Mixture Not applicable.

**Lower and upper explosion limit/flammability limit** : 2X Brilliant II QRT-PCR Master Mix Not available.  
Reference Dye Not available.  
RT/RNase Block Enzyme Mixture Not available.

**Vapor pressure** :

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
<b>2X Brilliant II QRT-PCR Master Mix</b>						
water	17.5	2.3	-	92.258	12.3	-
Dimethyl sulfoxide	0.42	0.056	EU A.4	-	-	-
<b>Reference Dye</b>						
water	17.5	2.3	-	92.258	12.3	-
<b>RT/RNase Block Enzyme Mixture</b>						

## Section 9. Physical and chemical properties and safety characteristics

water	17.5	2.3	-	92.258	12.3	-
Glycerol	0.000075	0.00001	-	0.0025	0.00033	-

**Relative vapor density** : 2X Brilliant II QRT-PCR Master Mix Not available.  
Reference Dye Not available.  
RT/RNase Block Enzyme Mixture Not available.

**Relative density** : 2X Brilliant II QRT-PCR Master Mix Not available.  
Reference Dye Not available.  
RT/RNase Block Enzyme Mixture Not available.

**Solubility(ies)** :

Media	Result
<b>2X Brilliant II QRT-PCR Master Mix</b>	
water	Soluble
<b>Reference Dye</b>	
water	Soluble
<b>RT/RNase Block Enzyme Mixture</b>	
water	Soluble

**Partition coefficient: n-octanol/water** : 2X Brilliant II QRT-PCR Master Mix Not applicable.  
Reference Dye Not applicable.  
RT/RNase Block Enzyme Mixture Not applicable.

**Auto-ignition temperature** :

Ingredient name	°C	°F	Method
<b>2X Brilliant II QRT-PCR Master Mix</b>			
Dimethyl sulfoxide	300 to 302	572 to 575.6	-
<b>RT/RNase Block Enzyme Mixture</b>			
Glycerol	370	698	-

**Decomposition temperature** : 2X Brilliant II QRT-PCR Master Mix Not available.  
Reference Dye Not available.  
RT/RNase Block Enzyme Mixture Not available.

**Viscosity** : 2X Brilliant II QRT-PCR Master Mix Not available.  
Reference Dye Not available.  
RT/RNase Block Enzyme Mixture Not available.

### Particle characteristics

**Median particle size** : 2X Brilliant II QRT-PCR Master Mix Not applicable.  
Reference Dye Not applicable.  
RT/RNase Block Enzyme Mixture Not applicable.

## Section 10. Stability and reactivity

<b>Reactivity</b>	: 2X Brilliant II QRT-PCR Master Mix Reference Dye  RT/RNase Block Enzyme Mixture	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: 2X Brilliant II QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	The product is stable.  The product is stable. The product is stable.
<b>Possibility of hazardous reactions</b>	: 2X Brilliant II QRT-PCR Master Mix Reference Dye  RT/RNase Block Enzyme Mixture	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: 2X Brilliant II QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	No specific data.  No specific data. No specific data.
<b>Incompatible materials</b>	: 2X Brilliant II QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	May react or be incompatible with oxidizing materials.  May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials.
<b>Hazardous decomposition products</b>	: 2X Brilliant II QRT-PCR Master Mix  Reference Dye  RT/RNase Block Enzyme Mixture	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
<b>2X Brilliant II QRT-PCR Master Mix</b>				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Dimethyl sulfoxide	LD50 Dermal	Rat	40000 mg/kg	-
	LD50 Oral	Rat	14500 mg/kg	-
Magnesium chloride	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat	2800 mg/kg	-

## Section 11. Toxicological information

<b>Reference Dye</b> Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-
<b>RT/RNase Block Enzyme Mixture</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation	
<b>2X Brilliant II QRT-PCR Master Mix</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-	
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-	
	Dimethyl sulfoxide	Eyes - Mild irritant	Rabbit	-	100 mg	-
		Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Reference Dye Potassium chloride	Skin - Mild irritant	Rabbit	-	100 mg	-
		Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
<b>RT/RNase Block Enzyme Mixture</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-	
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-	
		Rabbit	-	24 hours 500 mg	-	

### Sensitization

Not available.

### Mutagenicity

**Conclusion/Summary** : Not available.

### Carcinogenicity

**Conclusion/Summary** : Not available.

### Reproductive toxicity

**Conclusion/Summary** : Not available.

### Teratogenicity

**Conclusion/Summary** : Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

## Section 11. Toxicological information

<b>Information on the likely routes of exposure</b>	: 2X Brilliant II QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
<b><u>Potential acute health effects</u></b>		
<b>Eye contact</b>	: 2X Brilliant II QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	Causes eye irritation.  No known significant effects or critical hazards. Causes eye irritation.
<b>Inhalation</b>	: 2X Brilliant II 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.
<b>Skin contact</b>	: 2X Brilliant II 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.
<b>Ingestion</b>	: 2X Brilliant II 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.

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

<b>Eye contact</b>	: 2X Brilliant II 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
<b>Inhalation</b>	: 2X Brilliant II QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	No specific data. No specific data. No specific data.
<b>Skin contact</b>	: 2X Brilliant II QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	No specific data. No specific data. No specific data.
<b>Ingestion</b>	: 2X Brilliant II QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture	No specific data. No specific data. No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

## Section 11. Toxicological information

### 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** : 2X Brilliant II 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.

**Carcinogenicity** : 2X Brilliant II 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.

**Mutagenicity** : 2X Brilliant II 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.

**Reproductive toxicity** : 2X Brilliant II 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

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
<b>2X Brilliant II QRT-PCR Master Mix</b>					
Glycerol	12600	N/A	N/A	N/A	N/A
Dimethyl sulfoxide	14500	40000	N/A	N/A	N/A
Magnesium chloride	2800	2500	N/A	N/A	N/A
<b>Reference Dye</b>					
Reference Dye	70270.3	N/A	N/A	N/A	N/A
Potassium chloride	2600	N/A	N/A	N/A	N/A
<b>RT/RNase Block Enzyme Mixture</b>					
Glycerol	12600	N/A	N/A	N/A	N/A

**Other information** : RT/RNase Block Enzyme Mixture Adverse symptoms may include the following: May cause skin sensitization.

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
<b>2X Brilliant II QRT-PCR Master Mix</b>			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
Dimethyl sulfoxide	Acute LC50 25000 ppm Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate	48 hours
	Acute LC50 34000000 µg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours
	Chronic NOEC 100 µl/L Marine water	Algae - <i>Ulva lactuca</i>	72 hours
	Chronic NOEC 100 µl/L Fresh water	Daphnia - <i>Daphnia magna</i> - Juvenile (Fledgling, Hatchling, Weanling)	21 days
Magnesium chloride	Acute EC50 >100 mg/l Fresh water	Algae - <i>Desmodesmus subspicatus</i>	72 hours
	Acute EC50 180000 µg/l Fresh water	Crustaceans - <i>Eudiaptomus padanus ssp. padanus</i> - Adult	48 hours
	Acute IC50 6.8 mg/l Fresh water	Aquatic plants - <i>Lemna aequinoctialis</i>	96 hours
	Acute LC50 32000 µg/l Fresh water	Daphnia - <i>Daphnia hyalina</i> - Adult	48 hours
	Acute LC50 2120 mg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours
	Acute NOEC 100 mg/l Fresh water	Algae - <i>Desmodesmus subspicatus</i>	72 hours
	Chronic NOEC 0.1 mg/l Fresh water	Fish - <i>Cyprinus carpio</i>	35 days
<b>Reference Dye</b>			
Potassium chloride	Acute EC50 9.24 g/L Fresh water	Algae - <i>Desmodesmus subspicatus</i>	72 hours
	Acute EC50 1337000 µg/l Fresh water	Algae - <i>Navicula seminulum</i>	96 hours
	Acute LC50 9.68 mg/l Fresh water	Crustaceans - <i>Pseudosida ramosa</i> - Neonate	48 hours
	Acute LC50 93000 µg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 509.65 mg/l Fresh water	Fish - <i>Danio rerio</i>	96 hours
<b>RT/RNase Block Enzyme Mixture</b>			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours

### Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
<b>2X Brilliant II QRT-PCR Master Mix</b>				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
Dimethyl sulfoxide	OECD 301D Ready Biodegradability - Closed Bottle Test	31 % - Not readily - 28 days	-	-
<b>RT/RNase Block Enzyme Mixture</b>				
Glycerol	301D Ready Biodegradability -	93 % - 30 days	-	-

## Section 12. Ecological information

	Closed Bottle Test			
Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability	
<b>2X Brilliant II QRT-PCR Master Mix</b> Dimethyl sulfoxide	-	-	Not readily	
<b>Reference Dye</b> Potassium chloride	-	-	Readily	

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>2X Brilliant II QRT-PCR Master Mix</b> Glycerol	-1.76	-	Low
Dimethyl sulfoxide	-1.35	3.16	Low
<b>Reference Dye</b> Potassium chloride	-0.46	-	Low
<b>RT/RNase Block Enzyme Mixture</b> Glycerol	-1.76	-	Low

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**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. 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.

## Section 14. Transport information

**TDG / 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.

## Section 14. Transport information

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

### Canadian lists

**Canadian NPRI** : None of the components are listed.

**CEPA Toxic substances** : None of the components are listed.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

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

**Canada** : Not determined.

**United States** : Not determined.

## Section 16. Other information

### History

**Date of issue/Date of revision** : 07/24/2024


**Date of previous issue** : 07/15/2021

**Version** : 8

### Key to abbreviations

: ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 HPR = Hazardous Products Regulations  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 N/A = Not available  
 UN = United Nations

### Procedure used to derive the classification

Classification	Justification
 <b>2X Brilliant II QRT-PCR Master Mix</b> EYE IRRITATION - Category 2B	Calculation method
<b>RT/RNase Block Enzyme Mixture</b> EYE IRRITATION - Category 2B	Calculation method

 Indicates information that has changed from previously issued version.

## Section 16. Other information

### [Notice to reader](#)

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