Conforms to US OSHA Hazard Communication 29CFR1910.1200

SAFETY DATA SHEET

Agilent Technologies

Brilliant II QRT-PCR Master Mix - 1-Step

Section 1. Identification

1.1 Product identifier

Product name : 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

Validation date : 7/24/2024

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

Identified uses : Analytical reagent.

2X 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

1.3 Details of the supplier of the safety data sheet

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

1.4 Emergency telephone number

In case of emergency : CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

2.1 Classification of the substance or mixture

OSHA/HCS status :

2X Brilliant II QRT-PCR Master Mix	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Reference Dye	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
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

2X Brilliant II QRT-PCR Master Mix

H320 EYE IRRITATION - Category 2B

RT/RNase Block Enzyme Mixture

H320 EYE IRRITATION - Category 2B

2.2 GHS label elements

Signal word :

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

Section 2. Hazards identification

Hazard statements :

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

Precautionary statements

Prevention :

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

Response :

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	Not applicable.
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 advice or attention.

Storage :

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

Disposal :

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

Supplemental label elements :

2X Brilliant II QRT-PCR Master Mix	None known.
Reference Dye	None known.
RT/RNase Block Enzyme Mixture	None known.

2.3 Other hazards

Hazards not otherwise classified :

2X Brilliant II QRT-PCR Master Mix	None known.
Reference Dye	None known.
RT/RNase Block Enzyme Mixture	None known.

Section 3. Composition/information on ingredients

Substance/mixture :

2X Brilliant II QRT-PCR Master Mix	Mixture
Reference Dye	Mixture
RT/RNase Block Enzyme Mixture	Mixture

Ingredient name	%	CAS number
2X Brilliant II QRT-PCR Master Mix		
Glycerol	≥10 - ≤25	56-81-5
Dimethyl sulfoxide	≤3	67-68-5
Magnesium chloride	<0.25	7786-30-3
Reference Dye		
Potassium chloride	≤5	7447-40-7
RT/RNase Block Enzyme Mixture		
Glycerol	≥50 - ≤75	56-81-5

Section 3. Composition/information on ingredients

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 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	:	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.
Inhalation	:	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

Skin contact	:	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.
Ingestion	:	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.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	:	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.
Inhalation	:	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

Skin contact	:	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.
Ingestion	:	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.

Over-exposure signs/symptoms

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

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

Notes to physician	:	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.
Specific treatments	:	2X Brilliant II QRT-PCR Master Mix	No specific treatment.
		Reference Dye	No specific treatment.
		RT/RNase Block Enzyme Mixture	No specific treatment.
Protection of first-aiders	:	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

5.1 Extinguishing media

Suitable extinguishing media	:	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.
Unsuitable extinguishing media	:	2X Brilliant II QRT-PCR Master Mix	None known.
		Reference Dye	None known.
		RT/RNase Block Enzyme Mixture	None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	:	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.
Hazardous thermal decomposition products	:	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

5.3 Advice for firefighters

Special protective actions for fire-fighters	:	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.
Special protective equipment for fire-fighters	:	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

Section 5. Fire-fighting measures

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	:	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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	:	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".
6.2 Environmental precautions	:	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).

Section 6. Accidental release measures

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up	:	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

7.1 Precautions for safe handling

Protective measures	:	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 reuse container.
Advice on general occupational hygiene	:	2X Brilliant II 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

Section 7. Handling and storage

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

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.

7.3 Specific end use(s)

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

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
2X Brilliant II QRT-PCR Master Mix	
Glycerol	**OSHA PEL 1989 (United States, 3/1989).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 10 mg/m³ 8 hours. Form: Total dust **OSHA PEL (United States, 5/2018).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust **CAL OSHA PEL (United States, 5/2018).** TWA: 5 mg/m³ 8 hours. Form: respirable fraction TWA: 10 mg/m³ 8 hours. Form: total dust
Dimethyl sulfoxide	**OARS WEEL (United States, 4/2022).** TWA: 250 ppm 8 hours.
Magnesium chloride	None.
Reference Dye	
Potassium chloride	None.
RT/RNase Block Enzyme Mixture	
Glycerol	**OSHA PEL 1989 (United States, 3/1989).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 10 mg/m³ 8 hours. Form: Total dust **OSHA PEL (United States, 5/2018).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust **CAL OSHA PEL (United States, 5/2018).** TWA: 5 mg/m³ 8 hours. Form: respirable fraction TWA: 10 mg/m³ 8 hours. Form: total dust

Biological exposure indices

No exposure indices known.

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.

Section 8. Exposure controls/personal protection

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

Physical state :

2X Brilliant II QRT-PCR Master Mix	Liquid.
Reference Dye	Liquid.
RT/RNase Block Enzyme Mixture	Liquid.

Color :

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

Odor :

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

Odor threshold :

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

pH :

2X Brilliant II QRT-PCR Master Mix	8
Reference Dye	8
RT/RNase Block Enzyme Mixture	8

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 :

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

Section 9. Physical and chemical properties and safety characteristics

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
2X Brilliant II QRT-PCR Master Mix						
water	17.5	2.3	-	92.258	12.3	-
Dimethyl sulfoxide	0.42	0.056	EU A.4	-	-	-
Reference Dye						
water	17.5	2.3	-	92.258	12.3	-
RT/RNase Block Enzyme Mixture						
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
2X Brilliant II QRT-PCR Master Mix	
water	Soluble
Reference Dye	
water	Soluble
RT/RNase Block Enzyme Mixture	
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 :

Section 9. Physical and chemical properties and safety characteristics

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

10.1 Reactivity :
- 2X Brilliant II 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 :
- 2X Brilliant II 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 :
- 2X Brilliant II 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 :
- 2X Brilliant II QRT-PCR Master Mix: No specific data.
- Reference Dye: No specific data.
- RT/RNase Block Enzyme Mixture: No specific data.

10.5 Incompatible materials :
- 2X Brilliant II 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 :

2X Brilliant II 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
2X Brilliant II 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	-
Magnesium chloride	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat	2800 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
2X Brilliant II QRT-PCR Master Mix					
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	-
	Skin - Mild irritant	Rabbit	-	100 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Reference Dye					
Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
RT/RNase Block Enzyme Mixture					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-

Sensitization

Section 11. Toxicological information

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.

Information on the likely routes of exposure	:	2X Brilliant II QRT-PCR Master Mix	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
		Reference Dye	Not available.
		RT/RNase Block Enzyme Mixture	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

Eye contact	:	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.
Inhalation	:	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.
Skin contact	:	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.
Ingestion	:	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.

Symptoms related to the physical, chemical and toxicological characteristics

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

Section 11. Toxicological information

Ingestion :

2X Brilliant II QRT-PCR Master Mix	No specific data.
Reference Dye	No specific data.
RT/RNase Block Enzyme Mixture	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 :

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)
2X Brilliant II QRT-PCR Master Mix					
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
Reference Dye					
Reference Dye	70270.3	N/A	N/A	N/A	N/A
Potassium chloride	2600	N/A	N/A	N/A	N/A
RT/RNase Block Enzyme Mixture					
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

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
2X Brilliant II QRT-PCR Master Mix			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - *Oncorhynchus mykiss*	96 hours
Dimethyl sulfoxide	Acute LC50 25000 ppm Fresh water	Daphnia - *Daphnia magna* - Neonate	48 hours
	Acute LC50 34000000 µg/l Fresh water	Fish - *Pimephales promelas*	96 hours
	Chronic NOEC 100 ul/L Marine water	Algae - *Ulva lactuca*	72 hours
	Chronic NOEC 100 ul/L Fresh water	Daphnia - *Daphnia magna* - Juvenile (Fledgling, Hatchling, Weanling)	21 days
Magnesium chloride	Acute EC50 >100 mg/l Fresh water	Algae - *Desmodesmus subspicatus*	72 hours
	Acute EC50 180000 µg/l Fresh water	Crustaceans - *Eudiaptomus padanus ssp. padanus* - Adult	48 hours
	Acute IC50 6.8 mg/l Fresh water	Aquatic plants - *Lemna aequinoctialis*	96 hours
	Acute LC50 32000 µg/l Fresh water	Daphnia - *Daphnia hyalina* - Adult	48 hours
	Acute LC50 2120 mg/l Fresh water	Fish - *Pimephales promelas*	96 hours
	Acute NOEC 100 mg/l Fresh water	Algae - *Desmodesmus subspicatus*	72 hours
	Chronic NOEC 0.1 mg/l Fresh water	Fish - *Cyprinus carpio*	35 days
Reference Dye			
Potassium chloride	Acute EC50 9.24 g/L Fresh water	Algae - *Desmodesmus subspicatus*	72 hours
	Acute EC50 1337000 µg/l Fresh water	Algae - *Navicula seminulum*	96 hours
	Acute LC50 9.68 mg/l Fresh water	Crustaceans - *Pseudosida ramosa* - Neonate	48 hours
	Acute LC50 93000 µg/l Fresh water	Daphnia - *Daphnia magna*	48 hours
	Acute LC50 509.65 mg/l Fresh water	Fish - *Danio rerio*	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
2X Brilliant II QRT-PCR Master Mix				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
Dimethyl sulfoxide	OECD 301D Ready Biodegradability - Closed Bottle Test	31 % - Not readily - 28 days	-	-
RT/RNase Block Enzyme Mixture				
Glycerol	301D Ready Biodegradability - Closed Bottle	93 % - 30 days	-	-

Section 12. Ecological information

	Test			

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

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
2X Brilliant II 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 IMO instruments : 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: EDTA

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 :

2X Brilliant II QRT-PCR Master Mix	EYE IRRITATION - Category 2B
Reference Dye	Not applicable.
RT/RNase Block Enzyme Mixture	EYE IRRITATION - Category 2B

Composition/information on ingredients

Name	%	Classification
2X Brilliant II QRT-PCR Master Mix		
Glycerol	≥10 - ≤25	EYE IRRITATION - Category 2B
Dimethyl sulfoxide	≤3	FLAMMABLE LIQUIDS - Category 4 EYE IRRITATION - Category 2B
Reference Dye		
Potassium chloride	≤5	EYE IRRITATION - Category 2B
RT/RNase Block Enzyme Mixture		
Glycerol	≥50 - ≤75	EYE IRRITATION - Category 2B

Section 15. Regulatory information

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; DIMETHYL SULFOXIDE; METHANE, SULFINYLBIS-

Pennsylvania : The following components are listed: 1,2,3-PROPANETRIOL

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

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

Australia : Not determined.

Canada : Not determined.

China : Not determined.

Japan : **Japan inventory (CSCL)**: Not determined.
Japan inventory (ISHL): 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

Procedure used to derive the classification

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

History

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

Section 16. Other information

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
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

Indicates information that has changed from previously issued version.

Notice to reader

Disclaimer: The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.