

SAFETY DATA SHEET

Brilliant III Ultra-Fast SYBR Green QPCR Master Mix, Part Number 600883

Section 1. Identification

1.1 Product identifier

Product name : Brilliant III Ultra-Fast SYBR Green QPCR Master Mix, Part Number 600883

Part no. (chemical kit) : 600883

Part no. : Reference Dye 600530-53
2X Brilliant III SYBR® Green QPCR Master Mix 600882-51

Validation date : 3/28/2023

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

Identified uses : Analytical reagent.

Reference Dye 0.1 ml (100 µl 1 mM)

2X Brilliant III SYBR® Green QPCR Master Mix 10 x 2 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 : 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.

2X Brilliant III SYBR® Green QPCR Master Mix

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

2X Brilliant III SYBR® Green
QPCR Master Mix
H320

EYE IRRITATION - Category 2B

2.2 GHS label elements

Signal word : Reference Dye No signal word.
2X Brilliant III SYBR® Green Warning
QPCR Master Mix

Hazard statements : Reference Dye No known significant effects or critical hazards.
2X Brilliant III SYBR® Green H320 - Causes eye irritation.
QPCR Master Mix

Precautionary statements

Prevention : Reference Dye Not applicable.
2X Brilliant III SYBR® Green Not applicable.
QPCR Master Mix

Section 2. Hazards identification

Response	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	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.
Storage	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	Not applicable. Not applicable.
Disposal	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	Not applicable. Not applicable.
Supplemental label elements	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	None known. None known.

2.3 Other hazards

Hazards not otherwise classified	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	None known. None known.
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Section 3. Composition/information on ingredients

Substance/mixture	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	Mixture Mixture
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Ingredient name	%	CAS number
Reference Dye		
Potassium chloride	≤5	7447-40-7
2X Brilliant III SYBR® Green QPCR Master Mix		
Glycerol	≥10 - ≤25	56-81-5
Dimethyl sulfoxide	≤10	67-68-5
Potassium chloride	≤3	7447-40-7

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	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	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. 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
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Section 4. First aid measures

Inhalation

: Reference Dye

2X Brilliant III SYBR® Green
QPCR Master Mix

irritation persists, get medical attention.

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.

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.

Skin contact

: Reference Dye

2X Brilliant III SYBR® Green
QPCR Master Mix

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.

Ingestion

: Reference Dye

2X Brilliant III SYBR® Green
QPCR Master Mix

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.

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

: Reference Dye
2X Brilliant III SYBR® Green
QPCR Master Mix

No known significant effects or critical hazards. Causes eye irritation.

Inhalation

: Reference Dye
2X Brilliant III SYBR® Green
QPCR Master Mix

No known significant effects or critical hazards. No known significant effects or critical hazards.

Section 4. First aid measures

Skin contact	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	No known significant effects or critical hazards. No known significant effects or critical hazards.
<u>Over-exposure signs/symptoms</u>		
Eye contact	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	No specific data. Adverse symptoms may include the following: irritation watering redness
Inhalation	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	No specific data. No specific data.
Skin contact	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	No specific data. No specific data.
Ingestion	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	No specific data. No specific data.

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

Notes to physician	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	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. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	No specific treatment. No specific treatment.
Protection of first-aiders	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	No action shall be taken involving any personal risk or without suitable training. 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	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	None known. None known.

5.2 Special hazards arising from the substance or mixture

Section 5. Fire-fighting measures

Specific hazards arising from the chemical	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides halogenated compounds metal oxide/oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters	: Reference Dye 2X Brilliant III SYBR® Green QPCR 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. 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	: Reference Dye 2X Brilliant III SYBR® Green QPCR 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. 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	: Reference Dye 2X Brilliant III SYBR® Green QPCR 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. 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 ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
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Section 6. Accidental release measures

<p>For emergency responders : Reference Dye</p> <p style="margin-left: 150px;">2X Brilliant III SYBR® Green QPCR Master Mix</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". 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 : Reference Dye</p> <p style="margin-left: 150px;">2X Brilliant III SYBR® Green QPCR Master Mix</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 : Reference Dye</p> <p style="margin-left: 150px;">2X Brilliant III SYBR® Green QPCR Master Mix</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

<p>Protective measures : Reference Dye</p> <p style="margin-left: 150px;">2X Brilliant III SYBR® Green QPCR Master Mix</p>	<p>Put on appropriate personal protective equipment (see Section 8).</p> <p>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.</p>
<p>Advice on general occupational hygiene : Reference Dye</p> <p style="margin-left: 150px;">2X Brilliant III SYBR® Green QPCR Master Mix</p>	<p>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. 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</p>

Section 7. Handling and storage

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

: 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.

2X Brilliant III SYBR® Green QPCR 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.

7.3 Specific end use(s)

Recommendations

: Reference Dye
2X Brilliant III SYBR® Green QPCR Master Mix

Industrial applications, Professional applications.
Industrial applications, Professional applications.

Industrial sector specific solutions

: Reference Dye
2X Brilliant III SYBR® Green QPCR Master Mix

Not available.
Not available.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Reference Dye Potassium chloride	None.
2X Brilliant III SYBR® Green QPCR 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 OSHA PEL (United States, 5/2018). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 15 mg/m ³ 8 hours. Form: Total dust OARS WEEL (United States, 1/2021). TWA: 250 ppm 8 hours.
Dimethyl sulfoxide	
Potassium chloride	None.

Biological exposure indices

Date of issue : 03/28/2023

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Section 8. Exposure controls/personal protection

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.
- 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** : Reference Dye Liquid.
2X Brilliant III SYBR® Green Liquid.
QPCR Master Mix
- Color** : Reference Dye Not available.
2X Brilliant III SYBR® Green Not available.
QPCR Master Mix
- Odor** : Reference Dye Not available.
2X Brilliant III SYBR® Green Not available.
QPCR Master Mix

Section 9. Physical and chemical properties and safety characteristics

Odor threshold : Reference Dye Not available.
2X Brilliant III SYBR® Green Not available.
QPCR Master Mix

pH : Reference Dye 8
2X Brilliant III SYBR® Green 7.8
QPCR Master Mix

Melting point/freezing point : Reference Dye Not available.
2X Brilliant III SYBR® Green Not available.
QPCR Master Mix

Boiling point, initial boiling point, and boiling range : Reference Dye Not available.
2X Brilliant III SYBR® Green Not available.
QPCR Master Mix

Flash point :

Ingredient name	Closed cup			Open cup		
	°C	°F	Method	°C	°F	Method
2X Brilliant III SYBR® Green QPCR Master Mix						
Dimethyl sulfoxide	87	188.6	ASTM D 93	87	188.6	
Glycerol				177	350.6	

Evaporation rate : Reference Dye Not available.
2X Brilliant III SYBR® Green Not available.
QPCR Master Mix

Flammability : Reference Dye Not applicable.
2X Brilliant III SYBR® Green Not applicable.
QPCR Master Mix

Lower and upper explosion limit/flammability limit : Reference Dye Not available.
2X Brilliant III SYBR® Green Not available.
QPCR Master Mix

Vapor pressure :

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
Reference Dye						
water	23.8	3.2		92.258	12.3	
2-Amino-2-(hydroxymethyl) propane-1,3-diol hydrochloride	0	0		0.000007501	0.000001	
2X Brilliant III SYBR® Green QPCR Master Mix						
water	23.8	3.2		92.258	12.3	
Dimethyl sulfoxide	0.42	0.056	EU A.4			

Relative vapor density : Reference Dye Not available.
2X Brilliant III SYBR® Green Not available.
QPCR Master Mix

Section 9. Physical and chemical properties and safety characteristics

Relative density : Reference Dye Not available.
2X Brilliant III SYBR® Green Not available.
QPCR Master Mix

Solubility(ies)	Media	Result
	Reference Dye water	Soluble
	2X Brilliant III SYBR® Green QPCR Master Mix water	Soluble

Partition coefficient: n-octanol/water : Reference Dye Not applicable.
2X Brilliant III SYBR® Green Not applicable.
QPCR Master Mix

Auto-ignition temperature	Ingredient name	°C	°F	Method
	2X Brilliant III SYBR® Green QPCR Master Mix			
	Dimethyl sulfoxide	300 to 302	572 to 575.6	
	Glycerol	370	698	

Decomposition temperature : Reference Dye Not available.
2X Brilliant III SYBR® Green Not available.
QPCR Master Mix

Viscosity : Reference Dye Not available.
2X Brilliant III SYBR® Green Not available.
QPCR Master Mix

Particle characteristics

Median particle size : Reference Dye Not applicable.
2X Brilliant III SYBR® Green Not applicable.
QPCR Master Mix

Section 10. Stability and reactivity

10.1 Reactivity : Reference Dye No specific test data related to reactivity available for this product or its ingredients.
2X Brilliant III SYBR® Green No specific test data related to reactivity available for this product or its ingredients.
QPCR Master Mix

10.2 Chemical stability : Reference Dye The product is stable.
2X Brilliant III SYBR® Green The product is stable.
QPCR Master Mix

10.3 Possibility of hazardous reactions : Reference Dye Under normal conditions of storage and use, hazardous reactions will not occur.
2X Brilliant III SYBR® Green Under normal conditions of storage and use, hazardous reactions will not occur.
QPCR Master Mix

10.4 Conditions to avoid : Reference Dye No specific data.
2X Brilliant III SYBR® Green No specific data.
QPCR Master Mix

10.5 Incompatible materials : Reference Dye May react or be incompatible with oxidizing materials.
2X Brilliant III SYBR® Green May react or be incompatible with oxidizing materials.
QPCR Master Mix

Section 10. Stability and reactivity

10.6 Hazardous decomposition products	: Reference Dye	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	2X Brilliant III SYBR® Green QPCR Master Mix	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
Reference Dye Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-
2X Brilliant III SYBR® Green QPCR Master Mix Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Dimethyl sulfoxide	LD50 Dermal	Rat	40000 mg/kg	-
	LD50 Oral	Rat	14500 mg/kg	-
Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Reference Dye Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
2X Brilliant III SYBR® Green QPCR 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	-
Potassium chloride	Eyes - Mild irritant	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.

Section 11. Toxicological information

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	Not available. Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
<u>Potential acute health effects</u>		
Eye contact	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	No known significant effects or critical hazards. Causes eye irritation.
Inhalation	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	No known significant effects or critical hazards. No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	No specific data. Adverse symptoms may include the following: irritation watering redness
Inhalation	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	No specific data. No specific data.
Skin contact	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	No specific data. No specific data.
Ingestion	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	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	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	No known significant effects or critical hazards. No known significant effects or critical hazards.
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Section 11. Toxicological information

Carcinogenicity	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	No known significant effects or critical hazards. No known significant effects or critical hazards.
Reproductive toxicity	: Reference Dye 2X Brilliant III SYBR® Green QPCR Master Mix	No known significant effects or critical hazards. 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)
Reference Dye Reference Dye Potassium chloride	70270.3 2600	N/A N/A	N/A N/A	N/A N/A	N/A N/A
2X Brilliant III SYBR® Green QPCR Master Mix 2X Brilliant III SYBR® Green QPCR Master Mix Glycerol Dimethyl sulfoxide Potassium chloride	183001.9 12600 14500 2600	N/A N/A 40000 N/A	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
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 EC50 83000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 9.68 mg/l Fresh water	Crustaceans - Pseudosida ramosa - Neonate	48 hours
	Acute LC50 509.65 mg/l Fresh water	Fish - Danio rerio	96 hours
2X Brilliant III SYBR® Green QPCR Master Mix Glycerol Dimethyl sulfoxide	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	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
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 EC50 83000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 9.68 mg/l Fresh water	Crustaceans - Pseudosida	48 hours

Section 12. Ecological information

	Acute LC50 509.65 mg/l Fresh water	ramosa - Neonate Fish - Danio rerio	96 hours
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12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
2X Brilliant III SYBR® Green QPCR 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	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Reference Dye Potassium chloride	-	-	Readily
2X Brilliant III SYBR® Green QPCR Master Mix Dimethyl sulfoxide	-	-	Not readily
Potassium chloride	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Reference Dye Potassium chloride	-0.46	-	low
2X Brilliant III SYBR® Green QPCR Master Mix Glycerol	-1.76	-	low
Dimethyl sulfoxide	-1.35	3.16	low
Potassium chloride	-0.46	-	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

Section 13. Disposal considerations

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: 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

Section 15. Regulatory information

Classification : Reference Dye Not applicable.
 2X Brilliant III SYBR® Green QPCR Master Mix EYE IRRITATION - Category 2B

Composition/information on ingredients

Name	%	Classification
Reference Dye		
Potassium chloride	≤5	EYE IRRITATION - Category 2B
2X Brilliant III SYBR® Green QPCR Master Mix		
Glycerol	≥10 - ≤25	EYE IRRITATION - Category 2B
Dimethyl sulfoxide	≤10	FLAMMABLE LIQUIDS - Category 4 EYE IRRITATION - Category 2B
Potassium chloride	≤3	EYE IRRITATION - Category 2B

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
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.
Eurasian Economic Union : **Russian Federation inventory**: All components are listed or exempted.
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.

Section 15. Regulatory information

Viet Nam : Not determined.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
2X Brilliant III SYBR® Green QPCR Master Mix EYE IRRITATION - Category 2B	Calculation method

History

Date of issue : 03/28/2023

Date of previous issue : 03/13/2020

Version : 7

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

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