

SAFETY DATA SHEET**Brilliant III Ultra-Fast SYBR Green QPCR Master Mix - Custom****SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Product name : Brilliant III Ultra-Fast SYBR Green QPCR Master Mix - Custom
Part No. (Kit) : 930992
Part No. : 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix 930992-51
 Reference dye, 1mM 600530-53

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

Identified uses	
Analytical reagent.	
2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	10 ml
Reference dye, 1mM	0.1 ml

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG
 Hewlett-Packard-Str. 8
 76337 Waldbronn
 Germany
 0800 603 1000

e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation) : Chemtrec: +(44)-870-8200418

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture**

Product definition : 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Mixture
 Reference dye, 1mM Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**2× Brilliant III Ultra-Fast SYBR****Green QPCR Master Mix**

H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE): INHALATION [kidneys] - Category 2

Reference dye, 1mM

H412 AQUATIC TOXICITY (CHRONIC) - Category 3

Ingredients of unknown toxicity : 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Not applicable.

Reference dye, 1mM Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 2.4%

SECTION 2: Hazards identification

Ingredients of unknown ecotoxicity	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 16%
	: Reference dye, 1mM	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 2.4%

Classification according to Directive 1999/45/EC [DPD]

2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
Reference dye, 1mM	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Not classified.
	: Reference dye, 1mM	Not classified.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms

:



Signal word	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Warning
	: Reference dye, 1mM	No signal word.

Hazard statements	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	GHS08 -
	: Reference dye, 1mM	May cause damage to organs through prolonged or repeated exposure if inhaled. (kidneys)
		Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Do not breathe vapour.
	: Reference dye, 1mM	Avoid release to the environment.

Response	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Get medical attention if you feel unwell.
	: Reference dye, 1mM	Not applicable.

Storage	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Not applicable.
	: Reference dye, 1mM	Not applicable.

Disposal	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Dispose of contents and container in accordance with all local, regional, national and international regulations.
	: Reference dye, 1mM	Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	
	: Glycerol	

Supplemental label elements	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Not applicable.
	: Reference dye, 1mM	Not applicable.

Special packaging requirements

Tactile warning of danger	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Not applicable.
	: Reference dye, 1mM	Not applicable.

SECTION 2: Hazards identification

2.3 Other hazards

Other hazards which do not result in classification : 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM None known. None known.

SECTION 3: Composition/information on ingredients

Substance/mixture : 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM Mixture Mixture

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix					
Glycerol	EC: 200-289-5 CAS: 56-81-5	15 - <20	Not classified.	STOT RE 2, H373	[1] [2]
Dimethyl sulfoxide	EC: 200-664-3 CAS: 67-68-5	5 - <10	Not classified.	STOT RE 2, H373	[1]
Potassium chloride	EC: 231-211-8 CAS: 7447-40-7	1 - <5	Not classified.	STOT RE 2, H373 Aquatic Chronic 2, H411	[1]
Reference dye, 1mM					
Potassium chloride	EC: 231-211-8 CAS: 7447-40-7	1 - <5	Not classified.	STOT RE 2, H373 Aquatic Chronic 2, H411	[1]
2-Amino-2-(hydroxymethyl) propane-1,3-diol hydrochloride	EC: 214-684-5 CAS: 1185-53-1	1 - <5	Xi; R36/37/38	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	[1]
			See Section 16 for the full text of the R-phrases declared above.	See Section 16 for the full text of the H statements declared above.	

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

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM 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. Get medical attention following exposure or if feeling unwell. 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. Get medical attention if irritation occurs.

SECTION 4: First aid measures

Inhalation	: 2x Brilliant III Ultra-Fast SYBR Green QPCR 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 following exposure or if feeling unwell. 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, 1mM	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. 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.
Skin contact	: 2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Reference dye, 1mM	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 III Ultra-Fast SYBR Green QPCR Master Mix	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention following exposure or if feeling unwell. 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, 1mM	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Protection of first-aiders	: 2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	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. 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.

SECTION 4: First aid measures**4.2 Most important symptoms and effects, both acute and delayed****Potential acute health effects**

Eye contact	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	No known significant effects or critical hazards. No known significant effects or critical hazards.
Inhalation	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	No known significant effects or critical hazards. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Skin contact	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	No known significant effects or critical hazards. No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	No specific data. No specific data.
Inhalation	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	No specific data. No specific data.
Skin contact	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	No specific data. No specific data.
Ingestion	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	No specific data. No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. 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.
Specific treatments	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	No specific treatment. No specific treatment.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing media	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	None known. None known.

SECTION 5: Firefighting measures**5.2 Special hazards arising from the substance or mixture**

Hazards from the substance or mixture	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	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. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous combustion products	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides halogenated compounds metal oxide/oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides

5.3 Advice for firefighters

Special precautions for fire-fighters	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	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	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	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 spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour 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

For emergency responders	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
6.2 Environmental precautions	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	Avoid dispersal of spilt 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). Avoid dispersal of spilt 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). Water polluting material. May be harmful to the environment if released in large quantities.
6.3 Methods and materials for containment and cleaning up		
Methods for cleaning up	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	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. 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.
6.4 Reference to other sections	: See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.	

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	Put on appropriate personal protective equipment (see Section 8). Do not breathe vapour or mist. Do not ingest. Avoid contact with eyes, skin and clothing. 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. Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. 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	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	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,

SECTION 7: Handling and storage

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 III Ultra-Fast 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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

Reference dye, 1mM

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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations

: 2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix
Reference dye, 1mM

Industrial applications, Professional applications.

Industrial applications, Professional applications.

Industrial sector specific solutions

: Not applicable.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Glycerol	ACGIH TLV (United States, 3/2012). TWA: 10 mg/m ³ 8 hours. Form: Mist

Recommended monitoring procedures

: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Derived effect levels

No DNELs available.

Predicted effect concentrations

No PNECs available.

8.2 Exposure controls

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Individual protection measures

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

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

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. 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 : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: 2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Liquid.
	Reference dye, 1mM	Liquid.
Colour	: 2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Not available.
	Reference dye, 1mM	Not available.
Odour	: 2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Not available.
	Reference dye, 1mM	Not available.
Odour threshold	: 2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Not available.
	Reference dye, 1mM	Not available.

SECTION 9: Physical and chemical properties

pH	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	7.8
	Reference dye, 1mM	Not available.
Melting point/freezing point	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Not available.
	Reference dye, 1mM	0°C
Initial boiling point and boiling range	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Not available.
	Reference dye, 1mM	100°C
Flash point	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Not available.
	Reference dye, 1mM	Not available.
Evaporation rate	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Not available.
	Reference dye, 1mM	Not available.
Flammability (solid, gas)	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Not available.
	Reference dye, 1mM	Not available.
Upper/lower flammability or explosive limits	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Not available.
	Reference dye, 1mM	Not available.
Vapour pressure	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Not available.
	Reference dye, 1mM	Not available.
Vapour density	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Not available.
	Reference dye, 1mM	Not available.
Relative density	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Not available.
	Reference dye, 1mM	Not available.
Solubility(ies)	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Easily soluble in the following materials: cold water and hot water.
	Reference dye, 1mM	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Not available.
	Reference dye, 1mM	Not available.
Auto-ignition temperature	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Not available.
	Reference dye, 1mM	Not available.
Decomposition temperature	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Not available.
	Reference dye, 1mM	Not available.
Viscosity	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	Not available.
	Reference dye, 1mM	Not available.

SECTION 9: Physical and chemical properties

Explosive properties : 2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Not available.
Reference dye, 1mM Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : 2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix No specific test data related to reactivity available for this product or its ingredients.
Reference dye, 1mM No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : 2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix The product is stable.
Reference dye, 1mM The product is stable.

10.3 Possibility of hazardous reactions : 2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Under normal conditions of storage and use, hazardous reactions will not occur.
Reference dye, 1mM Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : 2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix No specific data.
Reference dye, 1mM No specific data.

10.5 Incompatible materials : 2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix No specific data.
Reference dye, 1mM No specific data.

10.6 Hazardous decomposition products : 2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Reference dye, 1mM 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 III Ultra-Fast 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	-
Reference dye, 1mM				
Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-

Acute toxicity estimates

Not available.

SECTION 11: Toxicological information

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Dimethyl sulfoxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	100 milligrams	-
Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Reference dye, 1mM					
Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitiser

Conclusion/Summary : Not available.

Chronic toxicity / Carcinogenicity / Mutagenicity / Teratogenicity / Reproductive toxicity

Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Reference dye, 1mM 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix			
Glycerol	Category 2	Inhalation	kidneys
Dimethyl sulfoxide	Category 2	Oral	kidneys and liver
Potassium chloride	Category 2	Not determined	gastrointestinal tract
Reference dye, 1mM			
Potassium chloride	Category 2	Not determined	gastrointestinal tract

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Inhalation : 2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix
Reference dye, 1mM

No known significant effects or critical hazards.

Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

SECTION 11: Toxicological information

Ingestion	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	No known significant effects or critical hazards.
Skin contact	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	No known significant effects or critical hazards.
Eye contact	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	No specific data.
Ingestion	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	No specific data.
Skin contact	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	No specific data.
Eye contact	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	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	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	May cause damage to organs through prolonged or repeated exposure if inhaled. No known significant effects or critical hazards.
Carcinogenicity	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	No known significant effects or critical hazards.
Mutagenicity	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	No known significant effects or critical hazards.
Teratogenicity	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	No known significant effects or critical hazards.

SECTION 11: Toxicological information

Developmental effects	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	No known significant effects or critical hazards. No known significant effects or critical hazards.
Fertility effects	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	No known significant effects or critical hazards. No known significant effects or critical hazards.
Toxicokinetics		
Absorption	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	Not available. Not available.
Distribution	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	Not available. Not available.
Metabolism	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	Not available. Not available.
Elimination	: 2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM	Not available. Not available.
Other information	: Not available.	

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
2× Brilliant III Ultra-Fast SYBR Green QPCR Master Mix 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
Potassium chloride	Chronic NOEC 0.1 g/L Fresh water	Fish - Danio rerio - Embryo	30 days
	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
Reference dye, 1mM Potassium chloride	Acute LC50 880000 µg/l Fresh water	Fish - Pimephales promelas	96 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 880000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

SECTION 12: Ecological information

Product/ingredient name	LogP _{ow}	BCF	Potential
2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix			
Glycerol	-1.76	-	low
Dimethyl sulfoxide	-1.35	3.16	low

12.4 Mobility in soil

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

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised 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.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

Regulatory information

ADR/RID / IMDG / IATA : Not regulated.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Substances of very high concern

None of the components are listed.

SECTION 15: Regulatory information

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Europe inventory : At least one component is not listed.
Black List Chemicals : Not listed
Priority List Chemicals : Not listed
Integrated pollution prevention and control list (IPPC) - Air : Listed
Integrated pollution prevention and control list (IPPC) - Water : Not listed

15.2 Chemical Safety Assessment : This product contains substances for which Chemical Safety Assessments might still be required.

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix STOT RE 2, H373	Calculation method
Reference dye, 1mM Aquatic Chronic 3, H412	Calculation method

Full text of abbreviated H statements : **2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix**
 H373
 May cause damage to organs through prolonged or repeated exposure if inhaled.
 May cause damage to organs through prolonged or repeated exposure if swallowed.
 May cause damage to organs through prolonged or repeated exposure.
 H411
 Toxic to aquatic life with long lasting effects.
Reference dye, 1mM
 H315
 Causes skin irritation.
 H319
 Causes serious eye irritation.
 H335
 May cause respiratory irritation.
 H373
 May cause damage to organs through prolonged or repeated exposure.
 H411
 Toxic to aquatic life with long lasting effects.
 H412
 Harmful to aquatic life with long lasting effects.

SECTION 16: Other information

Full text of classifications [CLP/GHS]	<p>: 2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Aquatic Chronic 2, H411 STOT RE 2, H373</p>	<p>AQUATIC TOXICITY (CHRONIC) - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE): INHALATION [kidneys] - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE): ORAL [kidneys and liver] - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) [gastrointestinal tract] - Category 2</p>
	<p>Reference dye, 1mM Aquatic Chronic 2, H411 Aquatic Chronic 3, H412 Eye Irrit. 2, H319 Skin Irrit. 2, H315 STOT RE 2, H373 STOT SE 3, H335</p>	<p>AQUATIC TOXICITY (CHRONIC) - Category 2 AQUATIC TOXICITY (CHRONIC) - Category 3 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) [gastrointestinal tract] - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Respiratory tract irritation] - Category 3</p>
Full text of abbreviated R phrases	<p>: 2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM</p>	<p>Not applicable. R36/37/38- Irritating to eyes, respiratory system and skin.</p>
Full text of classifications [DSD/DPD]	<p>: 2x Brilliant III Ultra-Fast SYBR Green QPCR Master Mix Reference dye, 1mM</p>	<p>Not applicable. Xi - Irritant</p>
Date of issue/ Date of revision	<p>: 11/06/2013</p>	
Date of previous issue	<p>: No previous validation.</p>	
Version	<p>: 2</p>	

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