

SAFETY DATA SHEET



Brilliant III Ultra-Fast QRT-PCR Master Mix, Part Number 600884

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name	: Brilliant III Ultra-Fast QRT-PCR Master Mix, Part Number 600884
Part no. (chemical kit)	: 600884
Part no.	: 2X Brilliant III QRT-PCR Master Mix 600884-51
	RT/RNase Block 600884-52
	Reference Dye 600530-53
	100 mM DTT 600089-53

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

Material uses	: Analytical reagent.
	2X Brilliant III QRT-PCR Master Mix 2 x 2 ml
	RT/RNase Block 0.4 ml
	Reference Dye 0.1 ml (100 µl 1 mM)
	100 mM DTT 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	: 2X Brilliant III QRT-PCR Master Mix Mixture
	RT/RNase Block Mixture
	Reference Dye Mixture
	100 mM DTT Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

Ingredients of unknown toxicity	: 2X Brilliant III QRT-PCR Master Mix	Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10%
	RT/RNase Block	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 10 - 30%
	Reference Dye	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%
		Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10%
		Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%

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SECTION 2: Hazards identification

100 mM DTT	Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10%
	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%

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

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

2.2 Label elements

Signal word	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	No signal word. No signal word. No signal word. No signal word.
Hazard statements	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<u>Precautionary statements</u>		
Prevention	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Not applicable. Not applicable. Not applicable. Not applicable.
Response	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Not applicable. Not applicable. Not applicable. Not applicable.
Storage	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Not applicable. Not applicable. Not applicable. Not applicable.
Disposal	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Not applicable. Not applicable. Not applicable. Not applicable.
Hazardous ingredients	: 100 mM DTT	Not applicable.
Supplemental label elements	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Not applicable. Not applicable. Not applicable. Safety data sheet available on request.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Not applicable. Not applicable. Not applicable. Not applicable.

Special packaging requirements

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SECTION 2: Hazards identification

Tactile warning of danger : 2X Brilliant III QRT-PCR Master Mix Not applicable.
 RT/RNase Block Not applicable.
 Reference Dye Not applicable.
 100 mM DTT Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : 2X Brilliant III QRT-PCR Master Mix This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
 RT/RNase Block This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
 Reference Dye This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
 100 mM DTT This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : 2X Brilliant III QRT-PCR Master Mix None known.
 RT/RNase Block None known.
 Reference Dye None known.
 100 mM DTT None known.

SECTION 3: Composition/information on ingredients

3.1 Substances : 2X Brilliant III QRT-PCR Master Mix Mixture
 RT/RNase Block Mixture
 Reference Dye Mixture
 100 mM DTT Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
2X Brilliant III QRT-PCR Master Mix Glycerol	REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥10 - ≤25	Not classified.	[2]
RT/RNase Block Glycerol	REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
100 mM DTT (R*,R*)-1,4-Dimercaptobutane-2,3-diol	EC: 222-468-7 CAS: 3483-12-3	≤3	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Chronic 3, H412 See Section 16 for the full text of the H statements declared above.	[1]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

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SECTION 3: Composition/information on ingredients

- [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
 - [6] Additional disclosure due to company policy
- Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	: 2X Brilliant III 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. Get medical attention if irritation occurs.
	RT/RNase Block	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.
	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.
	100 mM DTT	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.
Inhalation	: 2X Brilliant III QRT-PCR Master Mix	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	RT/RNase Block	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	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.
	100 mM DTT	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	: 2X Brilliant III QRT-PCR Master Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	RT/RNase Block	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Reference Dye	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	100 mM DTT	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	: 2X Brilliant III QRT-PCR 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.
	RT/RNase Block	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.
	Reference Dye	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities

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SECTION 4: First aid measures

of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

100 mM DTT
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.

Protection of first-aiders : 2X Brilliant III QRT-PCR Master Mix
RT/RNase Block
Reference Dye
100 mM DTT
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.
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.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : 2X Brilliant III QRT-PCR Master Mix
RT/RNase Block
Reference Dye
100 mM DTT
No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.

Inhalation : 2X Brilliant III QRT-PCR Master Mix
RT/RNase Block
Reference Dye
100 mM DTT
No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.

Skin contact : 2X Brilliant III QRT-PCR Master Mix
RT/RNase Block
Reference Dye
100 mM DTT
No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.

Ingestion : 2X Brilliant III QRT-PCR Master Mix
RT/RNase Block
Reference Dye
100 mM DTT
No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : 2X Brilliant III QRT-PCR Master Mix
RT/RNase Block
Reference Dye
100 mM DTT
No specific data.
No specific data.
No specific data.
No specific data.

Inhalation : 2X Brilliant III QRT-PCR Master Mix
RT/RNase Block
Reference Dye
100 mM DTT
No specific data.
No specific data.
No specific data.
No specific data.

Skin contact : 2X Brilliant III QRT-PCR Master Mix
RT/RNase Block
Reference Dye
100 mM DTT
No specific data.
No specific data.
No specific data.
No specific data.

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SECTION 4: First aid measures

Ingestion	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	No specific data. No specific data. No specific data. No specific data.
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4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. 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. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	No specific treatment. No specific treatment. No specific treatment. No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	None known. None known. None known. None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	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. 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 combustion products	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide 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:

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SECTION 5: Firefighting measures

carbon dioxide
carbon monoxide
sulfur oxides

5.3 Advice for firefighters

Special precautions for fire-fighters

: 2X Brilliant III 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.
RT/RNase Block	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.
100 mM DTT	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 III 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. 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.
RT/RNase Block	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.
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. 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.
100 mM DTT	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

: 2X Brilliant III 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 spilt material. Put on appropriate personal protective equipment.
RT/RNase Block	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. 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 spilt material. Put on appropriate personal protective equipment.
100 mM DTT	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas.

SECTION 6: Accidental release measures

For emergency responders

: 2X Brilliant III QRT-PCR Master Mix

Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

RT/RNase Block

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".

Reference Dye

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".

100 mM DTT

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

: 2X Brilliant III 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).

RT/RNase Block

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).

100 mM DTT

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).

6.3 Methods and material for containment and cleaning up

Methods for cleaning up

: 2X Brilliant III 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.

RT/RNase Block

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.

100 mM DTT

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.

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SECTION 6: Accidental release measures

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	: 2X Brilliant III QRT-PCR Master Mix	Put on appropriate personal protective equipment (see Section 8).
	RT/RNase Block	Put on appropriate personal protective equipment (see Section 8).
	Reference Dye	Put on appropriate personal protective equipment (see Section 8).
	100 mM DTT	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	: 2X Brilliant III 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.
	RT/RNase Block	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.
	100 mM DTT	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Storage	: 2X Brilliant III 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	RT/RNase Block	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. See Section 10 for incompatible materials before handling or use.
	Reference Dye	Store in accordance with local regulations. Store in original

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SECTION 7: Handling and storage

100 mM DTT

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. See Section 10 for incompatible materials before handling or use.

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled 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 III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications.
Industrial sector specific solutions	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Not available. Not available. Not available. Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
2X Brilliant III QRT-PCR Master Mix Glycerol	NAOSH (Ireland, 1/2020). OELV-8hr: 10 mg/m ³ 8 hours. Form: mist
RT/RNase Block Glycerol	NAOSH (Ireland, 1/2020). OELV-8hr: 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.

DNELs/DMELs

No DNELs/DMELs available.

SECTION 8: Exposure controls/personal protection

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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.

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.

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

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

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: 2X Brilliant III QRT-PCR Master Mix	Liquid.
	RT/RNase Block	Liquid.
	Reference Dye	Liquid.
	100 mM DTT	Liquid.
Colour	: 2X Brilliant III QRT-PCR Master Mix	Not available.
	RT/RNase Block	Not available.
	Reference Dye	Not available.
	100 mM DTT	Not available.
Odour	: 2X Brilliant III QRT-PCR Master Mix	Not available.
	RT/RNase Block	Not available.
	Reference Dye	Not available.
	100 mM DTT	Not available.

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SECTION 9: Physical and chemical properties

Odour threshold	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Not available. Not available. Not available. Not available.
Melting point/freezing point	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Not available. Not available. Not available. 0°C
Initial boiling point and boiling range	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Not available. Not available. Not available. 100°C (212°F)
Flammability (solid, gas)	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Not applicable. Not applicable. Not applicable. Not applicable.
Upper/lower flammability or explosive limits	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Not available. Not available. Not available. Not available.

Flash point	:	Closed cup			Open cup		
		Ingredient name	°C	°F	Method	°C	°F
2X Brilliant III QRT-PCR Master Mix							
		Edetic acid	>100	>212	DIN 51758		
		Polyoxyethylene octyl phenyl ether	>109.85	>229.7			
RT/RNase Block							
		Edetic acid	>100	>212	DIN 51758		
		Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	>109.85	>229.7			
100 mM DTT							
		(R*,R*)-1,4-Dimercaptobutane-2,3-diol	>110	>230			

Auto-ignition temperature	:	Ingredient name		°C	°F	Method
		2X Brilliant III QRT-PCR Master Mix				
		Polyethylene glycol		360	680	
		Glycerol		370	698	
RT/RNase Block						
		Glycerol		370	698	
		Edetic acid		>400	>752	VDI 2263

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SECTION 9: Physical and chemical properties

Decomposition temperature	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Not available. Not available. Not available. Not available.
pH	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	7.8 8 8 Not available.
Viscosity	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Not available. Not available. Not available. Not available.
Solubility(ies)	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Not applicable. Not applicable. Not applicable. Not applicable.

Vapour pressure :	Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
		mm Hg	kPa	Method	mm Hg	kPa	Method
	2X Brilliant III QRT-PCR Master Mix						
	water	23.8	3.2		92.258	12.3	
	Sorbitan monolaurate, ethoxylated	<1	<0.13				
	RT/RNase Block						
	water	23.8	3.2		92.258	12.3	
	Glycerol	0.000075	0.00001		0.0025	0.00033	
	Reference Dye						
	water	23.8	3.2		92.258	12.3	
	2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	0.000027	0.0000036		0.000007501	0.000001	
	100 mM DTT						
	water	23.8	3.2		92.258	12.3	

Evaporation rate	: 2X Brilliant III QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Not available. Not available. Not available. Not available.
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SECTION 9: Physical and chemical properties

Relative density	: 2X Brilliant III QRT-PCR Master Mix	Not available.
	RT/RNase Block	Not available.
	Reference Dye	Not available.
	100 mM DTT	Not available.
Vapour density	: 2X Brilliant III QRT-PCR Master Mix	Not available.
	RT/RNase Block	Not available.
	Reference Dye	Not available.
	100 mM DTT	Not available.
Explosive properties	:	
Oxidising properties	: 2X Brilliant III QRT-PCR Master Mix	Not available.
	RT/RNase Block	Not available.
	Reference Dye	Not available.
	100 mM DTT	Not available.
Particle characteristics		
Median particle size	: 2X Brilliant III QRT-PCR Master Mix	Not applicable.
	RT/RNase Block	Not applicable.
	Reference Dye	Not applicable.
	100 mM DTT	Not applicable.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	: 2X Brilliant III QRT-PCR Master Mix	No specific test data related to reactivity available for this product or its ingredients.
	RT/RNase Block	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.
	100 mM DTT	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: 2X Brilliant III QRT-PCR Master Mix	The product is stable.
	RT/RNase Block	The product is stable.
	Reference Dye	The product is stable.
	100 mM DTT	The product is stable.
10.3 Possibility of hazardous reactions	: 2X Brilliant III QRT-PCR Master Mix	Under normal conditions of storage and use, hazardous reactions will not occur.
	RT/RNase Block	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.
	100 mM DTT	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: 2X Brilliant III QRT-PCR Master Mix	No specific data.
	RT/RNase Block	No specific data.
	Reference Dye	No specific data.
	100 mM DTT	No specific data.

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SECTION 10: Stability and reactivity

10.5 Incompatible materials : 2X Brilliant III QRT-PCR Master Mix May react or be incompatible with oxidising materials.
 RT/RNase Block May react or be incompatible with oxidising materials.
 Reference Dye May react or be incompatible with oxidising materials.
 100 mM DTT May react or be incompatible with oxidising materials.

10.6 Hazardous decomposition products : 2X Brilliant III QRT-PCR Master Mix Under normal conditions of storage and use, hazardous decomposition products should not be produced.
 RT/RNase Block 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.
 100 mM DTT 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

Not available.

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
100 mM DTT 100 mM DTT (R*,R*)-1,4-Dimercaptobutane-2,3-diol	33333.3 500	N/A N/A	N/A N/A	N/A N/A	N/A N/A

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : 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)

Product/ingredient name	Category	Route of exposure	Target organs
100 mM DTT (R*,R*)-1,4-Dimercaptobutane-2,3-diol	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

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SECTION 11: Toxicological information

Information on likely routes of exposure	: 2X Brilliant III QRT-PCR Master Mix	Routes of entry anticipated: Oral, Dermal, Inhalation.
	RT/RNase Block	Routes of entry anticipated: Oral, Dermal, Inhalation.
	Reference Dye	Not available.
	100 mM DTT	Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Inhalation	: 2X Brilliant III QRT-PCR Master Mix	No known significant effects or critical hazards.
	RT/RNase Block	No known significant effects or critical hazards.
	Reference Dye	No known significant effects or critical hazards.
	100 mM DTT	No known significant effects or critical hazards.
Ingestion	: 2X Brilliant III QRT-PCR Master Mix	No known significant effects or critical hazards.
	RT/RNase Block	No known significant effects or critical hazards.
	Reference Dye	No known significant effects or critical hazards.
	100 mM DTT	No known significant effects or critical hazards.
Skin contact	: 2X Brilliant III QRT-PCR Master Mix	No known significant effects or critical hazards.
	RT/RNase Block	No known significant effects or critical hazards.
	Reference Dye	No known significant effects or critical hazards.
	100 mM DTT	No known significant effects or critical hazards.
Eye contact	: 2X Brilliant III QRT-PCR Master Mix	No known significant effects or critical hazards.
	RT/RNase Block	No known significant effects or critical hazards.
	Reference Dye	No known significant effects or critical hazards.
	100 mM DTT	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	: 2X Brilliant III QRT-PCR Master Mix	No specific data.
	RT/RNase Block	No specific data.
	Reference Dye	No specific data.
	100 mM DTT	No specific data.
Ingestion	: 2X Brilliant III QRT-PCR Master Mix	No specific data.
	RT/RNase Block	No specific data.
	Reference Dye	No specific data.
	100 mM DTT	No specific data.
Skin contact	: 2X Brilliant III QRT-PCR Master Mix	No specific data.
	RT/RNase Block	No specific data.
	Reference Dye	No specific data.
	100 mM DTT	No specific data.
Eye contact	: 2X Brilliant III QRT-PCR Master Mix	No specific data.
	RT/RNase Block	No specific data.
	Reference Dye	No specific data.
	100 mM DTT	No specific data.

Delayed and immediate effects as well as 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.

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SECTION 11: Toxicological information

Potential delayed effects : Not available.

Potential chronic health effects

General	: 2X Brilliant III QRT-PCR Master Mix	No known significant effects or critical hazards.
	RT/RNase Block	No known significant effects or critical hazards.
	Reference Dye	No known significant effects or critical hazards.
	100 mM DTT	No known significant effects or critical hazards.
Carcinogenicity	: 2X Brilliant III QRT-PCR Master Mix	No known significant effects or critical hazards.
	RT/RNase Block	No known significant effects or critical hazards.
	Reference Dye	No known significant effects or critical hazards.
	100 mM DTT	No known significant effects or critical hazards.
Mutagenicity	: 2X Brilliant III QRT-PCR Master Mix	No known significant effects or critical hazards.
	RT/RNase Block	No known significant effects or critical hazards.
	Reference Dye	No known significant effects or critical hazards.
	100 mM DTT	No known significant effects or critical hazards.
Reproductive toxicity	: 2X Brilliant III QRT-PCR Master Mix	No known significant effects or critical hazards.
	RT/RNase Block	No known significant effects or critical hazards.
	Reference Dye	No known significant effects or critical hazards.
	100 mM DTT	No known significant effects or critical hazards.
Other information	: 2X Brilliant III QRT-PCR Master Mix	Not available.
	RT/RNase Block	Not available.
	Reference Dye	Not available.
	100 mM DTT	Adverse symptoms may include the following: May cause sensitisation by skin contact.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
100 mM DTT (R*,R*) -1,4-Dimercaptobutane-2,3-diol	Acute LC50 27000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours

12.2 Persistence and degradability

Not available.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

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

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

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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 : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

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. 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

	ADR/RID	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

Additional information

14.6 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.

14.7 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

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

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

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SECTION 15: Regulatory information

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Label	: 2X Brilliant III QRT-PCR Master Mix	Not applicable.
	RT/RNase Block	Not applicable.
	Reference Dye	Not applicable.
	100 mM DTT	Not applicable.

Other EU regulations

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

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	: All components are listed or exempted.
Europe	: 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.

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

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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]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
N/A = Not available
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

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

Classification	Justification
Not classified.	

Full text of abbreviated H statements

100 mM DTT H302 H315 H319 H335 H412	Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. Harmful to aquatic life with long lasting effects.
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Full text of classifications [CLP/GHS]

100 mM DTT Acute Tox. 4 Aquatic Chronic 3 Eye Irrit. 2 Skin Irrit. 2 STOT SE 3	ACUTE TOXICITY - Category 4 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3
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Date of previous issue : No previous validation

Version : 1

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