

SAFETY DATA SHEET



Brilliant II QRT-PCR Master Mix - 1-Step - 10-pack, Part Number 600818

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

1.1 Product identifier

Product name	: Brilliant II QRT-PCR Master Mix - 1-Step - 10-pack, Part Number 600818		
Part No. (Kit)	: 600818		
Part No.	: 2× Brilliant II QRT-PCR	600809-51	
	Master Mix		
	Reference dye, 1mM	600530-53	
	RT/RNase Block	600809-52	
	Enzyme Mixture		

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

Identified uses	
Analytical reagent.	
2× Brilliant II QRT-PCR Master Mix	50 ml (20 Tubes x 2.5 ml)
Reference dye, 1mM	1 ml
RT/RNase Block Enzyme Mixture	4 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 II QRT-PCR	Mixture
	Master Mix	
	Reference dye, 1mM	Mixture
	RT/RNase Block	Mixture
	Enzyme Mixture	

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

2× Brilliant II QRT-PCR Master Mix

H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

Reference dye, 1mM

H412 LONG-TERM AQUATIC HAZARD - Category 3

RT/RNase Block Enzyme Mixture

H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

SECTION 2: Hazards identification

Ingredients of unknown toxicity	: 2× Brilliant II QRT-PCR Master Mix	Not applicable.
	Reference dye, 1mM	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 2.4%
	RT/RNase Block Enzyme Mixture	Not applicable.
Ingredients of unknown ecotoxicity	: 2× Brilliant II QRT-PCR 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%
	RT/RNase Block Enzyme Mixture	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 50%

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

2× Brilliant II QRT-PCR 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.
RT/RNase Block Enzyme Mixture	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification	: 2× Brilliant II QRT-PCR Master Mix	Not classified.
	Reference dye, 1mM	Not classified.
	RT/RNase Block Enzyme Mixture	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

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Signal word

: 2× Brilliant II QRT-PCR Master Mix	Warning
Reference dye, 1mM	No signal word.
RT/RNase Block Enzyme Mixture	Warning

Hazard statements

: 2× Brilliant II QRT-PCR Master Mix	GHS08 - May cause damage to organs through prolonged or repeated exposure.
Reference dye, 1mM	Harmful to aquatic life with long lasting effects.
RT/RNase Block Enzyme Mixture	GHS08 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention

: 2× Brilliant II QRT-PCR Master Mix	P260 - Do not breathe vapour.
Reference dye, 1mM	P273 - Avoid release to the environment.
RT/RNase Block Enzyme Mixture	P260 - Do not breathe vapour.

Response

: 2× Brilliant II QRT-PCR Master Mix	P314 - Get medical attention if you feel unwell.
Reference dye, 1mM	Not applicable.
RT/RNase Block Enzyme Mixture	P314 - Get medical attention if you feel unwell.

Storage

: 2× Brilliant II QRT-PCR Master Mix	Not applicable.
Reference dye, 1mM	Not applicable.
RT/RNase Block Enzyme Mixture	Not applicable.

SECTION 2: Hazards identification

Disposal	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients	: 2× Brilliant II QRT-PCR Master Mix Glycerol RT/RNase Block Enzyme Mixture Glycerol	
Supplemental label elements	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Not applicable. Not applicable. Not applicable.
Special packaging requirements		
Tactile warning of danger	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Not applicable. Not applicable. Not applicable.

2.3 Other hazards

Other hazards which do not result in classification	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	None known. None known. None known.
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SECTION 3: Composition/information on ingredients

Substance/mixture	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Mixture Mixture Mixture
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Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
2× Brilliant II QRT-PCR Master Mix Glycerol	EC: 200-289-5 CAS: 56-81-5	>=15 - <20	Not classified.	STOT RE 2, H373 (kidneys) (inhalation)	[1]
Dimethyl sulfoxide	EC: 200-664-3 CAS: 67-68-5	>=1 - <5	Not classified.	STOT RE 2, H373 (kidneys and liver) (oral)	[1]
Reference dye, 1mM Potassium chloride	EC: 231-211-8 CAS: 7447-40-7	>=1 - <5	Not classified.	STOT RE 2, H373 (gastrointestinal tract) 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 (Respiratory tract irritation)	[1]
RT/RNase Block Enzyme Mixture Glycerol	EC: 200-289-5 CAS: 56-81-5	>=50 - <75	Not classified.	STOT RE 2, H373 (kidneys) (inhalation)	[1]

SECTION 3: Composition/information on ingredients

			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.	
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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	: 2x Brilliant II QRT-PCR Master Mix	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell.
	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 if irritation occurs.
	RT/RNase Block Enzyme Mixture	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell.
Inhalation	: 2x Brilliant II QRT-PCR Master Mix	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention 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.
	RT/RNase Block Enzyme Mixture	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention 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.

SECTION 4: First aid measures

Skin contact	: 2× Brilliant II QRT-PCR 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.
	RT/RNase Block Enzyme Mixture	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.
Ingestion	: 2× Brilliant II QRT-PCR 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.
	RT/RNase Block Enzyme Mixture	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.
Protection of first-aiders	: 2× Brilliant II QRT-PCR Master Mix	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	Reference dye, 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.
	RT/RNase Block Enzyme Mixture	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

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

Eye contact	: Reference dye, 1mM 2× Brilliant II QRT-PCR Master Mix RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Inhalation	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. No known significant effects or critical hazards.
Skin contact	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	No specific data. No specific data. No specific data.
Inhalation	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	No specific data. No specific data. No specific data.
Skin contact	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	No specific data. No specific data. No specific data.
Ingestion	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	No specific data. No specific data. No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	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	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	No specific treatment. No specific treatment. No specific treatment.

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

Suitable extinguishing media	: 2× Brilliant II QRT-PCR Master Mix	Use an extinguishing agent suitable for the surrounding fire.
	Reference dye, 1mM	Use an extinguishing agent suitable for the surrounding fire.
	RT/RNase Block	Use an extinguishing agent suitable for the surrounding fire.
	Enzyme Mixture	
Unsuitable extinguishing media	: 2× Brilliant II QRT-PCR Master Mix	None known.
	Reference dye, 1mM	None known.
	RT/RNase Block	None known.
	Enzyme Mixture	

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	: 2× Brilliant II QRT-PCR Master Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
	Reference dye, 1mM	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.
	RT/RNase Block	In a fire or if heated, a pressure increase will occur and the container may burst.
	Enzyme Mixture	
Hazardous combustion products	: 2× Brilliant II QRT-PCR Master Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides
	Reference dye, 1mM	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
	RT/RNase Block	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	Enzyme Mixture	

5.3 Advice for firefighters

Special precautions for fire-fighters	: 2× Brilliant II QRT-PCR Master Mix	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Reference dye, 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.
	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.
	Enzyme Mixture	
Special protective equipment for fire-fighters	: 2× Brilliant II QRT-PCR Master Mix	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. 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, 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.
	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)
	Enzyme Mixture	

SECTION 5: Firefighting measures

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 II QRT-PCR Master Mix	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	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.
	RT/RNase Block Enzyme Mixture	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	: 2× Brilliant II QRT-PCR Master Mix	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, 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".
	RT/RNase Block Enzyme Mixture	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 II QRT-PCR Master Mix	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).
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). Water polluting material. May be harmful to the environment if released in large quantities.
RT/RNase Block Enzyme Mixture	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).

6.3 Methods and materials for containment and cleaning up

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

SECTION 6: Accidental release measures

RT/RNase Block Enzyme Mixture	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.
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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 II QRT-PCR Master Mix	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.
	Reference dye, 1mM	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.
	RT/RNase Block Enzyme Mixture	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.
Advice on general occupational hygiene	: 2× Brilliant II QRT-PCR Master Mix	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	Reference dye, 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.
	RT/RNase Block Enzyme Mixture	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities : 2× Brilliant II QRT-PCR Master Mix Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental

SECTION 7: Handling and storage

Reference dye, 1mM	contamination. 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.
RT/RNase Block Enzyme Mixture	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Industrial applications, Professional applications. 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

No exposure limit value known.

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 European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.
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Derived effect levels

No DNELs available.

Predicted effect concentrations

No PNECs available.

8.2 Exposure controls

Appropriate engineering controls	: If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
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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.

SECTION 8: Exposure controls/personal protection**Skin protection**

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : 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** : 2× Brilliant II QRT-PCR Master Mix Liquid.
Reference dye, 1mM Liquid.
RT/RNase Block Liquid.
Enzyme Mixture
- Colour** : 2× Brilliant II QRT-PCR Master Mix Not available.
Reference dye, 1mM Not available.
RT/RNase Block Not available.
Enzyme Mixture
- Odour** : 2× Brilliant II QRT-PCR Master Mix Not available.
Reference dye, 1mM Not available.
RT/RNase Block Not available.
Enzyme Mixture
- Odour threshold** : 2× Brilliant II QRT-PCR Master Mix Not available.
Reference dye, 1mM Not available.
RT/RNase Block Not available.
Enzyme Mixture
- pH** : 2× Brilliant II QRT-PCR Master Mix Not available.
Reference dye, 1mM 8
RT/RNase Block Not available.
Enzyme Mixture
- Melting point/freezing point** : 2× Brilliant II QRT-PCR Master Mix Not available.
Reference dye, 1mM Not available.
RT/RNase Block Not available.
Enzyme Mixture
- Initial boiling point and boiling range** : 2× Brilliant II QRT-PCR Master Mix Not available.
Reference dye, 1mM Not available.
RT/RNase Block Not available.
Enzyme Mixture

SECTION 9: Physical and chemical properties

Flash point	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Not available. Not available. Not available.
Evaporation rate	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Not available. Not available. Not available.
Flammability (solid, gas)	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Not applicable. Not applicable. Not applicable.
Upper/lower flammability or explosive limits	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Not available. Not available. Not available.
Vapour pressure	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Not available. Not available. Not available.
Vapour density	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Not available. Not available. Not available.
Relative density	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Not available. Not available. Not available.
Solubility(ies)	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Not available. Not available. Not available.
Auto-ignition temperature	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Not available. Not available. Not available.
Decomposition temperature	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Not available. Not available. Not available.
Viscosity	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Not available. Not available. Not available.

SECTION 9: Physical and chemical properties

Explosive properties	: 2× Brilliant II QRT-PCR Master Mix	Not available.
	Reference dye, 1mM	Not available.
	RT/RNase Block	Not available.
	Enzyme Mixture	

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	: 2× Brilliant II QRT-PCR 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.
	RT/RNase Block	No specific test data related to reactivity available for this product or its ingredients.
	Enzyme Mixture	

10.2 Chemical stability

10.3 Possibility of hazardous reactions	: 2× Brilliant II QRT-PCR 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.
	RT/RNase Block	Under normal conditions of storage and use, hazardous reactions will not occur.
	Enzyme Mixture	

10.4 Conditions to avoid	: 2× Brilliant II QRT-PCR Master Mix	No specific data.
	Reference dye, 1mM	No specific data.
	RT/RNase Block	No specific data.
	Enzyme Mixture	

10.5 Incompatible materials	: 2× Brilliant II QRT-PCR Master Mix	No specific data.
	Reference dye, 1mM	No specific data.
	RT/RNase Block	No specific data.
	Enzyme Mixture	

10.6 Hazardous decomposition products	: 2× Brilliant II QRT-PCR 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.
	RT/RNase Block	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Enzyme Mixture	

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2× Brilliant II QRT-PCR Master Mix				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Dimethyl sulfoxide	LD50 Dermal	Rat	40000 mg/kg	-
	LD50 Oral	Rat	14500 mg/kg	-
Reference dye, 1mM				
Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-
RT/RNase Block Enzyme				

SECTION 11: Toxicological information

Mixture Glycerol	LD50 Oral	Rat	12600 mg/kg	-
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Acute toxicity estimates

Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation	
2× Brilliant II QRT-PCR 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	-
Reference dye, 1mM Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-	
RT/RNase Block Enzyme Mixture Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-	
	Skin - 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
2× Brilliant II QRT-PCR Master Mix Glycerol Dimethyl sulfoxide	Category 2	Inhalation	kidneys
	Category 2	Oral	kidneys and liver
Reference dye, 1mM Potassium chloride	Category 2	Not determined	gastrointestinal tract
RT/RNase Block Enzyme Mixture Glycerol	Category 2	Inhalation	kidneys

Aspiration hazard

Not available.

SECTION 11: Toxicological information

Information on the likely routes of exposure : Not available.

Potential acute health effects

Inhalation	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. No known significant effects or critical hazards.
Ingestion	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Eye contact	: Reference dye, 1mM 2× Brilliant II QRT-PCR Master Mix RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	No specific data. No specific data. No specific data.
Ingestion	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	No specific data. No specific data. No specific data.
Skin contact	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	No specific data. No specific data. No specific data.
Eye contact	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	No specific data. No specific data. No specific data.

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

SECTION 11: Toxicological information

General	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	May cause damage to organs through prolonged or repeated exposure. No known significant effects or critical hazards. May cause damage to organs through prolonged or repeated exposure.
Carcinogenicity	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Teratogenicity	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Developmental effects	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Fertility effects	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Toxicokinetics		
Absorption	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Not available. Not available. Not available.
Distribution	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Not available. Not available. Not available.
Metabolism	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Not available. Not available. Not available.
Elimination	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Not available. Not available. Not available.
Other information	: Not available.	

SECTION 12: Ecological information**12.1 Toxicity**

SECTION 12: Ecological information

Product/ingredient name	Result	Species	Exposure
2× Brilliant II QRT-PCR 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
	Chronic NOEC 0.1 g/L Fresh water	Fish - Danio rerio - Embryo	30 days
Reference dye, 1mM Potassium chloride	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

Product/ingredient name	LogP _{ow}	BCF	Potential
2× Brilliant II QRT-PCR Master Mix Glycerol	-1.76	-	low
	Dimethyl sulfoxide	-1.35	3.16
RT/RNase Block Enzyme Mixture Glycerol	-1.76	-	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.

SECTION 13: Disposal considerations

- 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 spilled 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.

- 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** : Not 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]

SECTION 16: Other information

Classification	Justification
2× Brilliant II QRT-PCR Master Mix STOT RE 2, H373	Calculation method
Reference dye, 1mM Aquatic Chronic 3, H412	Calculation method
RT/RNase Block Enzyme Mixture STOT RE 2, H373	Calculation method

Full text of abbreviated H statements : **2× Brilliant II QRT-PCR Master Mix**

H373	May cause damage to organs through prolonged or repeated exposure.
H373 (kidneys and liver) (oral)	May cause damage to organs through prolonged or repeated exposure if swallowed. (kidneys and liver)
H373 (kidneys) (inhalation)	May cause damage to organs through prolonged or repeated exposure if inhaled. (kidneys)
Reference dye, 1mM	
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335 (Respiratory tract irritation)	May cause respiratory irritation. (Respiratory tract irritation)
H373 (gastrointestinal tract)	May cause damage to organs through prolonged or repeated exposure. (gastrointestinal tract)
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

RT/RNase Block Enzyme Mixture

H373	May cause damage to organs through prolonged or repeated exposure.
H373 (kidneys) (inhalation)	May cause damage to organs through prolonged or repeated exposure if inhaled. (kidneys)

Full text of classifications [CLP/GHS] : **2× Brilliant II QRT-PCR Master Mix**

STOT RE 2, H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
STOT RE 2, H373 (kidneys and liver) (oral)	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys and liver) (oral) - Category 2
STOT RE 2, H373 (kidneys) (inhalation)	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys) (inhalation) - Category 2
Reference dye, 1mM	
Aquatic Chronic 2, H411	LONG-TERM AQUATIC HAZARD - Category 2
Aquatic Chronic 3, H412	LONG-TERM AQUATIC HAZARD - Category 3
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
STOT RE 2, H373 (gastrointestinal tract)	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (gastrointestinal tract) - Category 2
STOT SE 3, H335 (Respiratory tract irritation)	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

RT/RNase Block Enzyme Mixture

STOT RE 2, H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
STOT RE 2, H373 (kidneys) (inhalation)	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys) (inhalation) - Category 2

SECTION 16: Other information

Full text of abbreviated R phrases	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Not applicable. R36/37/38- Irritating to eyes, respiratory system and skin. Not applicable.
Full text of classifications [DSD/DPD]	: 2× Brilliant II QRT-PCR Master Mix Reference dye, 1mM RT/RNase Block Enzyme Mixture	Not applicable. Xi - Irritant Not applicable.
Date of issue/ Date of revision	: 28/04/2014	
Date of previous issue	: 05/03/2012.	
Version	: 3	

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