

SAFETY DATA SHEET

Brilliant III Ultra-Fast SYBR Green QRT-PCR Master Mix, Part Number 600886

Section 1. Identification

Product identifier	: Brilliant III Ultra-Fast SYBR Green QRT-PCR Master Mix, Part Number 600886		
Part no. (chemical kit)	: 600886		
Part no.	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	600886-51	
	RT/RNase Block	600886-52	
	Reference Dye	600530-53	
	100 mM DTT	600089-53	
Material uses	: Analytical reagent.		
	2X Brilliant III SYBR® Green 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	
Supplier/Manufacturer	: Agilent Technologies, Inc. 5301 Stevens Creek Blvd Santa Clara, CA 95051, USA 800-227-9770		
Emergency telephone number (with hours of operation)	: CHEMTREC®: 1-800-424-9300		

Section 2. Hazard identification

Classification of the substance or mixture

Brilliant III SYBR® Green

QRT-PCR Master Mix

H320 EYE IRRITATION - Category 2B

RT/RNase Block

H320 EYE IRRITATION - Category 2B

GHS label elements

Signal word

: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	Warning
RT/RNase Block	Warning
Reference Dye	No signal word.
100 mM DTT	No signal word.

Hazard statements

: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	H320 - Causes eye irritation.
RT/RNase Block	H320 - Causes eye irritation.
Reference Dye	No known significant effects or critical hazards.
100 mM DTT	No known significant effects or critical hazards.

Precautionary statements

Prevention

: <input checked="" type="checkbox"/> Brilliant III SYBR® Green QRT-PCR Master Mix	Not applicable.
RT/RNase Block	Not applicable.
Reference Dye	Not applicable.
100 mM DTT	Not applicable.

Section 2. Hazard identification

Response	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.
	RT/RNase Block	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.
	Reference Dye 100 mM DTT	Not applicable. Not applicable.
Storage	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	Not applicable.
	RT/RNase Block	Not applicable.
	Reference Dye 100 mM DTT	Not applicable. Not applicable.
Disposal	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	Not applicable.
	RT/RNase Block	Not applicable.
	Reference Dye 100 mM DTT	Not applicable. Not applicable.
Supplemental label elements	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	None known.
	RT/RNase Block	None known.
	Reference Dye 100 mM DTT	None known. None known.
Other hazards which do not result in classification	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	None known.
	RT/RNase Block	None known.
	Reference Dye 100 mM DTT	None known. None known.

Section 3. Composition/information on ingredients

Substance/mixture	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	Mixture
	RT/RNase Block	Mixture
	Reference Dye	Mixture
	100 mM DTT	Mixture

Ingredient name	% (w/w)	CAS number
2X Brilliant III SYBR® Green QRT-PCR Master Mix		
Glycerol	10 - 30	56-81-5
Dimethyl sulfoxide	3 - 7	67-68-5
Potassium chloride	0.5 - 1.5	7447-40-7
RT/RNase Block		
Glycerol	30 - 60	56-81-5
Reference Dye		
Potassium chloride	1 - 5	7447-40-7
100 mM DTT		
(R*,R*)-1,4-Dimercaptobutane-2,3-diol	0.5 - 1.5	3483-12-3

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.

Section 3. Composition/information on ingredients

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

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
	RT/RNase Block	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
	Reference Dye	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	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 SYBR® Green QRT-PCR Master Mix	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	RT/RNase Block	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	Reference Dye	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	100 mM DTT	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Section 4. First-aid measures

Skin contact	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	RT/RNase Block	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Reference Dye	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	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 SYBR® Green QRT-PCR Master Mix	Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	RT/RNase Block	Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	Reference Dye	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Section 4. First-aid measures

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

Over-exposure signs/symptoms

Eye contact	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	Adverse symptoms may include the following: irritation watering redness
	RT/RNase Block	Adverse symptoms may include the following: irritation watering redness
	Reference Dye	No specific data.
	100 mM DTT	No specific data.
Inhalation	: 2X Brilliant III SYBR® Green 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 SYBR® Green 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 SYBR® Green QRT-PCR Master Mix	No specific data.
	RT/RNase Block	No specific data.
	Reference Dye	No specific data.
	100 mM DTT	No specific data.

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

Notes to physician	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	RT/RNase Block	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Reference Dye	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed

Section 4. First-aid measures

	100 mM DTT	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 SYBR® Green QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	No specific treatment. No specific treatment. No specific treatment. No specific treatment.
Protection of first-aiders	: 2X Brilliant III SYBR® Green 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. 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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	: 2X Brilliant III SYBR® Green 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 SYBR® Green QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	None known. None known. None known. None known.
Specific hazards arising from the chemical	: 2X Brilliant III SYBR® Green 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 thermal decomposition products	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix RT/RNase Block	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides halogenated compounds metal oxide/oxides Decomposition products may include the following

Section 5. Fire-fighting measures

	Reference Dye	materials: carbon dioxide carbon monoxide Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
	100 mM DTT	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides
Special protective actions for fire-fighters	: 2X Brilliant III SYBR® Green 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 SYBR® Green 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.
	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.
	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.
	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.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
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Section 6. Accidental release measures

	RT/RNase Block	Put on appropriate personal protective equipment. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
	Reference Dye	Put on appropriate personal protective equipment. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. 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. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
For emergency responders	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	RT/RNase Block	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Reference Dye	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	100 mM DTT	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	: 2X Brilliant III SYBR® Green 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).

Section 6. Accidental release measures

Methods and materials for containment and cleaning up

Methods for cleaning up	: 2X Brilliant III SYBR® Green 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.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	RT/RNase Block	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	Reference Dye	Put on appropriate personal protective equipment (see Section 8).
	100 mM DTT	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	: 2X Brilliant III SYBR® Green 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

Section 7. Handling and storage

	Reference Dye	contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove 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.
<p>Conditions for safe storage, including any incompatibilities</p>	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	Reference Dye	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	100 mM DTT	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid

Section 7. Handling and storage

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

Section 8. Exposure controls/personal protection

[Control parameters](#)

[Occupational exposure limits](#)

Ingredient name	Exposure limits
2X Brilliant III SYBR® Green QRT-PCR Master Mix Glycerol	CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 10 mg/m ³ 8 hours. Form: Mist CA Quebec Provincial (Canada, 7/2019). TWAEV: 10 mg/m ³ 8 hours. Form: mist CA Saskatchewan Provincial (Canada, 7/2013). STEL: 20 mg/m ³ 15 minutes. Form: mist TWA: 10 mg/m ³ 8 hours. Form: mist CA British Columbia Provincial (Canada, 1/2021). TWA: 3 mg/m ³ 8 hours. Form: respirable mist TWA: 10 mg/m ³ 8 hours. Form: total mist OARS WEEL (United States, 1/2021). TWA: 250 ppm 8 hours.
Dimethyl sulfoxide RT/RNase Block Glycerol	CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 10 mg/m ³ 8 hours. Form: Mist CA Quebec Provincial (Canada, 7/2019). TWAEV: 10 mg/m ³ 8 hours. Form: mist CA Saskatchewan Provincial (Canada, 7/2013). STEL: 20 mg/m ³ 15 minutes. Form: mist TWA: 10 mg/m ³ 8 hours. Form: mist CA British Columbia Provincial (Canada, 1/2021). TWA: 3 mg/m ³ 8 hours. Form: respirable mist TWA: 10 mg/m ³ 8 hours. Form: total mist

[Appropriate engineering controls](#)

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

[Environmental exposure controls](#)

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

[Individual protection measures](#)

[Hygiene measures](#)

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

Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties and safety characteristics

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

Appearance

Physical state	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	Liquid.
	RT/RNase Block	Liquid.
	Reference Dye	Liquid.
	100 mM DTT	Liquid.
Color	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	Not available.
	RT/RNase Block	Not available.
	Reference Dye	Not available.
	100 mM DTT	Not available.
Odor	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	Not available.
	RT/RNase Block	Not available.
	Reference Dye	Not available.
	100 mM DTT	Not available.
Odor threshold	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	Not available.
	RT/RNase Block	Not available.
	Reference Dye	Not available.
	100 mM DTT	Not available.
pH	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	7.8
	RT/RNase Block	8
	Reference Dye	8
	100 mM DTT	Not available.

Section 9. Physical and chemical properties and safety characteristics

Melting point/freezing point : 2X Brilliant III SYBR® Green QRT-PCR Master Mix Not available.
RT/RNase Block Not available.
Reference Dye Not available.
100 mM DTT 0°C (32°F)

Boiling point, initial boiling point, and boiling range : 2X Brilliant III SYBR® Green QRT-PCR Master Mix Not available.
RT/RNase Block Not available.
Reference Dye Not available.
100 mM DTT 100°C (212°F)

Flash point :

Ingredient name	Closed cup			Open cup		
	°C	°F	Method	°C	°F	Method
2X Brilliant III SYBR® Green QRT-PCR Master Mix						
Dimethyl sulfoxide	87	188.6	ASTM D 93	87	188.6	
Edetic acid	>100	>212	DIN 51758			
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				

Evaporation rate : 2X Brilliant III SYBR® Green QRT-PCR Master Mix Not available.
RT/RNase Block Not available.
Reference Dye Not available.
100 mM DTT Not available.

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

Lower and upper explosion limit/flammability limit : 2X Brilliant III SYBR® Green QRT-PCR Master Mix Not available.
RT/RNase Block Not available.
Reference Dye Not available.
100 mM DTT Not available.

Vapor pressure :

Section 9. Physical and chemical properties and safety characteristics

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
2X Brilliant III SYBR® Green 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	

Relative vapor density	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	Not available.
	RT/RNase Block	Not available.
	Reference Dye	Not available.
	100 mM DTT	Not available.
Relative density	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	Not available.
	RT/RNase Block	Not available.
	Reference Dye	Not available.
	100 mM DTT	Not available.
Solubility	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	Easily soluble in the following materials: cold water and hot water.
	RT/RNase Block	Easily soluble in the following materials: cold water and hot water.
	Reference Dye	Easily soluble in the following materials: cold water and hot water.
	100 mM DTT	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	Not applicable.
	RT/RNase Block	Not applicable.
	Reference Dye	Not applicable.
	100 mM DTT	Not applicable.
Auto-ignition temperature	:	

Section 9. Physical and chemical properties and safety characteristics

Ingredient name	°C	°F	Method
<input checked="" type="checkbox"/> Brilliant III SYBR® Green QRT-PCR Master Mix			
Dimethyl sulfoxide	300 to 302	572 to 575.6	
Glycerol	370	698	
RT/RNase Block			
Glycerol	370	698	
Edetic acid	>400	>752	VDI 2263

Decomposition temperature : 2X Brilliant III SYBR® Green QRT-PCR Master Mix Not available.
RT/RNase Block Not available.
Reference Dye Not available.
100 mM DTT Not available.

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

Section 10. Stability and reactivity

Reactivity : 2X Brilliant III SYBR® Green 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.

Chemical stability : 2X Brilliant III SYBR® Green 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.

Possibility of hazardous reactions : 2X Brilliant III SYBR® Green 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.

Section 10. Stability and reactivity

Conditions to avoid	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	No specific data. No specific data. No specific data. No specific data.
Incompatible materials	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials.
Hazardous decomposition products	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix RT/RNase Block Reference Dye 100 mM DTT	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2X Brilliant III SYBR® Green 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	-
Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-
RT/RNase Block				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Reference Dye				
Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2X Brilliant III SYBR® Green QRT-PCR Master Mix					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Dimethyl sulfoxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Eyes - Mild irritant	Rabbit	-	100 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-

Section 11. Toxicological information

Potassium chloride	Skin - Mild irritant Eyes - Mild irritant	Rabbit Rabbit	- -	mg 100 mg 24 hours 500 mg	- -
RT/RNase Block Glycerol	Eyes - Mild irritant Skin - Mild irritant	Rabbit Rabbit	- -	24 hours 500 mg 24 hours 500 mg	- -
Reference Dye Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

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.

Information on the likely routes of exposure

: Brilliant III SYBR® Green QRT-PCR Master Mix
RT/RNase Block
Reference Dye
100 mM DTT

Routes of entry anticipated: Oral, Dermal, Inhalation.
Routes of entry anticipated: Oral, Dermal, Inhalation.
Not available.
Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact

: 2X Brilliant III SYBR® Green QRT-PCR Master Mix
RT/RNase Block
Reference Dye
100 mM DTT

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

Inhalation

: 2X Brilliant III SYBR® Green 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.

Section 11. Toxicological information

Skin contact	: 2X Brilliant III SYBR® Green 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 SYBR® Green 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

Eye contact	: 2X Brilliant III SYBR® Green QRT-PCR Master Mix	Adverse symptoms may include the following: irritation watering redness
	RT/RNase Block	Adverse symptoms may include the following: irritation watering redness
	Reference Dye	No specific data.
	100 mM DTT	No specific data.
Inhalation	: 2X Brilliant III SYBR® Green 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 SYBR® Green 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 SYBR® Green 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 and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	: 2X Brilliant III SYBR® Green 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.

Section 11. Toxicological information

Carcinogenicity	: 2X Brilliant III SYBR® Green 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 SYBR® Green 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	: <input checked="" type="checkbox"/> 2X Brilliant III SYBR® Green 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.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
2X Brilliant III SYBR® Green QRT-PCR Master Mix					
2X Brilliant III SYBR® Green QRT-PCR Master Mix	179217.6	N/A	N/A	N/A	N/A
Glycerol	12600	N/A	N/A	N/A	N/A
Dimethyl sulfoxide	14500	40000	N/A	N/A	N/A
Potassium chloride	2600	N/A	N/A	N/A	N/A
RT/RNase Block					
Glycerol	12600	N/A	N/A	N/A	N/A
Reference Dye					
Reference Dye	70270.3	N/A	N/A	N/A	N/A
Potassium chloride	2600	N/A	N/A	N/A	N/A
100 mM DTT					
100 mM DTT	33333.3	N/A	N/A	N/A	N/A
(R*,R*)-1,4-Dimercaptobutane-2,3-diol	500	N/A	N/A	N/A	N/A

Other information	: <input checked="" type="checkbox"/> 2X Brilliant III SYBR® Green 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 sensitization by skin contact.

Section 12. Ecological information

Toxicity

Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure	
2X Brilliant III SYBR® Green QRT-PCR Master Mix Glycerol Dimethyl sulfoxide	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours	
	Acute LC50 25000 ppm Fresh water	Daphnia - Daphnia magna - Neonate	48 hours	
	Acute LC50 34000000 µg/l Fresh water	Fish - Pimephales promelas	96 hours	
	Chronic NOEC 100 µl/L Marine water	Algae - Ulva lactuca	72 hours	
	Chronic NOEC 100 µl/L Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	21 days	
	Potassium chloride	Acute EC50 1337000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
		Acute EC50 9.24 g/L Fresh water	Algae - Desmodesmus subspicatus	72 hours
		Acute EC50 83000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	RT/RNase Block Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
		Acute LC50 9.68 mg/l Fresh water	Crustaceans - Pseudosida ramosa - Neonate	48 hours
Reference Dye Potassium chloride	Acute EC50 1337000 µg/l Fresh water	Algae - Navicula seminulum	96 hours	
	Acute EC50 9.24 g/L Fresh water	Algae - Desmodesmus subspicatus	72 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	
100 mM DTT (R*,R*) -1,4-Dimercaptobutane-2,3-diol	Acute LC50 509.65 mg/l Fresh water	Fish - Danio rerio	96 hours	
	Acute LC50 27000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours	

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
2X Brilliant III SYBR® Green QRT-PCR Master Mix Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
	Dimethyl sulfoxide	OECD 301D Ready Biodegradability - Closed Bottle Test	31 % - Not readily - 28 days	-
RT/RNase Block Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

Section 12. Ecological information

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

Bioaccumulative potential

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

Mobility in soil

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

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

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

TDG / IMDG / IATA : Not regulated.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 14. Transport information

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

Canadian lists

Canadian NPRI : None of the components are listed.

CEPA Toxic substances : None of the components are listed.

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.

Section 16. Other information


History

Date of issue/Date of revision	: 05/27/2022
Date of previous issue	: 09/16/2019
Version	: 8

Section 16. Other information

Key to abbreviations	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals HPR = Hazardous Products Regulations IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) N/A = Not available UN = United Nations
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Procedure used to derive the classification

Classification	Justification
 2X Brilliant III SYBR® Green QRT-PCR Master Mix EYE IRRITATION - Category 2B	Calculation method
RT/RNase Block EYE IRRITATION - Category 2B	Calculation method

References : Not available.

 Indicates information that has changed from previously issued version.

Notice to reader

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