SAFETY DATA SHEET



Brilliant II SYBR Green QRT-PCR Master Mix - 1-Step - 10-pack, Part Number 600826

Section 1. Identification

1.1 Product identifier

Product name : Brilliant II SYBR Green QRT-PCR Master Mix - 1-Step - 10-pack, Part Number 600826

Part no. (chemical kit) : 600826

Part no. : 2X Brilliant II SYBR® QRT-PCR Master Mix 600825-51

Reference Dye 600530-53 RT/RNase Block Enzyme Mixture 600825-52

Validation date : 4/29/2024

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

Identified uses : Analytical reagent.

X Brilliant II SYBR® QRT-PCR Master Mix 20 x 2.5 ml

Reference Dye 0.1 ml (100 µl 1 mM)

RT/RNase Block Enzyme Mixture 0.4 ml

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer: Agilent Technologies, Inc.

5301 Stevens Creek Blvd Santa Clara, CA 95051, USA

800-227-9770

1.4 Emergency telephone number

In case of emergency : CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

2.1 Classification of the substance or mixture

OSHA/HCS status : 2X Brilliant II SYBR® QRT-

PCR Master Mix

Reference Dye

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information

1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees

This material is considered hazardous by the OSHA

Hazard Communication Standard (29 CFR 1910.1200).

and other users of this product.

RT/RNase Block Enzyme

Mixture

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

Classification of the substance or mixture

2X Brilliant II SYBR® QRT-PCR

Master Mix

H320 EYE IRRITATION - Category 2B

RT/RNase Block Enzyme

Mixture

H320 EYE IRRITATION - Category 2B

2.2 GHS label elements

Signal word : 2X Brilliant II SYBR® QRT-PCR Warning

Master Mix

Reference Dye No signal word. RT/RNase Block Enzyme Mixture Warning

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Section 2. Hazards identification

Hazard statements : 2X Brilliant II SYBR® QRT-PCR H320 - Causes eye irritation.

Master Mix

Reference Dye No known significant effects or critical hazards.

RT/RNase Block Enzyme Mixture H320 - Causes eye irritation.

Precautionary statements

Prevention : 2X Brilliant II SYBR® QRT-PCR Not applicable.

Master Mix
Reference Dye
RT/RNase Block Enzyme Mixture
Not applicable.
Not applicable.

Response : 2X Brilliant II SYBR® QRT-PCR P305 + P351 + P338 - IF IN EYES: Rinse

Master Mix 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 Not applicable.

RT/RNase Block Enzyme Mixture P305 + P351 + P338 - IF IN EYES: Rinse

cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue

rinsing.

P337 + P313 - If eye irritation persists: Get medical

advice or attention.

Storage : 2X Brilliant II SYBR® QRT-PCR Not applicable.

Master Mix

Reference Dye
RT/RNase Block Enzyme Mixture
Not applicable.

Disposal : 2X Brilliant II SYBR® QRT-PCR Not applicable.

Master Mix Reference Dye

Reference Dye
RT/RNase Block Enzyme Mixture

2X Brilliant II SYBR® QRT-PCR
None known.

Supplemental label : 2X Brilliant II SYBR® QRT-PCR elements Master Mix

Master Mix
Reference Dye
RT/RNase Block Enzyme Mixture
None known.

2.3 Other hazards

Hazards not otherwise : 2X Brilliant II SYBR® QRT-PCR None known.

classified Master Mix

Reference Dye
RT/RNase Block Enzyme Mixture
None known.

Section 3. Composition/information on ingredients

Substance/mixture : 2X Brilliant II SYBR® QRT-PCR Mixture

Master Mix_

Reference Dye Mixture RT/RNase Block Enzyme Mixture Mixture

%	CAS number
≥10 - ≤25	56-81-5
≤10	67-68-5
<0.25	7786-30-3
	≥10 - ≤25 ≤10

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Section 3. Composition/information on ingredients

Reference Dye		
Potassium chloride	≤5	7447-40-7
RT/RNase Block Enzyme Mixture		
Glycerol	≥50 - ≤75	56-81-5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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

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

Section 4. First aid measures

11	Deceription of	necessary first	aid magazirea
4. I	Describition of	Hecessary Hist	aiu illeasures

Eye contact : 2X Brilliant II SYBR® QRT-PCR

Master Mix

Reference Dye

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. Immediately flush eyes with plenty of water,

Immediately flush eyes with plenty of water,

occasionally lifting the upper and lower eyelids.
Check for and remove any contact lenses. Get

medical attention if irritation occurs.

RT/RNase Block 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. If irritation persists, get medical attention.

Inhalation : 2X Brilliant II SYBR® 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.

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.

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 if adverse health effects persist or are severe. If unconscious, place in recovery position

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Section 4. First aid measures

: 2X Brilliant II SYBR® QRT-PCR Skin contact

Master Mix

and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a

collar, tie, belt or waistband.

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.

RT/RNase Block Enzyme Mixture

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.

: 2X Brilliant II SYBR® QRT-PCR Ingestion

Master Mix

Reference Dye

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. Wash out mouth with water. If material has been

swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms

occur.

RT/RNase Block Enzyme Mixture

Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact

: 2X Brilliant II SYBR® QRT-PCR

Master Mix Reference Dye

RT/RNase Block Enzyme Mixture

Causes eye irritation.

No known significant effects or critical hazards.

Causes eye irritation.

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Section 4. First aid measures

: 2X Brilliant II SYBR® QRT-PCR Inhalation No known significant effects or critical hazards.

> Master Mix Reference Dye

No known significant effects or critical hazards. RT/RNase Block Enzyme Mixture No known significant effects or critical hazards.

2X Brilliant II SYBR® QRT-PCR Skin contact No known significant effects or critical hazards.

> Master Mix Reference Dve

No known significant effects or critical hazards.

RT/RNase Block Enzyme Mixture

No known significant effects or critical hazards. : 2X Brilliant II SYBR® QRT-PCR No known significant effects or critical hazards.

Master Mix

Reference Dye No known significant effects or critical hazards.

RT/RNase Block Enzyme Mixture No known significant effects or critical hazards.

Over-exposure signs/symptoms

Ingestion

Eye contact : 2X Brilliant II SYBR® QRT-PCR Adverse symptoms may include the following:

Master Mix

irritation watering redness

Reference Dye No specific data.

RT/RNase Block Enzyme Mixture Adverse symptoms may include the following:

> irritation watering redness

Inhalation : 2X Brilliant II SYBR® QRT-PCR No specific data.

Master Mix

Reference Dye No specific data. RT/RNase Block Enzyme Mixture No specific data.

: 2X Brilliant II SYBR® QRT-PCR **Skin contact** No specific data.

Master Mix

Reference Dye No specific data. RT/RNase Block Enzyme Mixture No specific data.

Ingestion 2X Brilliant II SYBR® QRT-PCR No specific data.

Master Mix

Reference Dye No specific data. RT/RNase Block Enzyme Mixture No specific data.

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

Notes to physician : 2X Brilliant II SYBR® QRT-PCR Treat symptomatically. Contact poison treatment

Master Mix 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 person may need to be kept under medical

surveillance for 48 hours.

Treat symptomatically. Contact poison treatment RT/RNase Block Enzyme Mixture

specialist immediately if large quantities have been

ingested or inhaled.

Specific treatments : 2X Brilliant II SYBR® QRT-PCR No specific treatment.

Master Mix

Reference Dye No specific treatment. RT/RNase Block Enzyme Mixture No specific treatment.

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Section 4. First aid measures

Protection of first-aiders

: 2X Brilliant II SYBR® 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 No action shall be taken involving any personal risk

or without suitable training.

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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

: 2X Brilliant II SYBR® QRT-PCR

Master Mix

Reference Dye

Use an extinguishing agent suitable for the

surrounding fire.

Use an extinguishing agent suitable for the

surrounding fire.

surrounding fire.

Unsuitable extinguishing media

: 2X Brilliant II SYBR® QRT-PCR

Master Mix

Reference Dye

RT/RNase Block Enzyme Mixture

None known.

None known. None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical

: 2X Brilliant II SYBR® QRT-PCR

Master Mix

Reference Dve

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.

RT/RNase Block Enzyme Mixture

In a fire or if heated, a pressure increase will occur

and the container may burst.

Hazardous thermal decomposition products

: 2X Brilliant II SYBR® QRT-PCR

Master Mix

Decomposition products may include the following

materials:

carbon dioxide carbon monoxide sulfur oxides

Reference Dye Decomposition products may include the following

materials: carbon dioxide carbon monoxide nitrogen oxides

halogenated compounds metal oxide/oxides

RT/RNase Block Enzyme Mixture

Decomposition products may include the following

materials: carbon dioxide carbon monoxide

5.3 Advice for firefighters

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Section 5. Fire-fighting measures

Special protective actions for fire-fighters

2X Brilliant II SYBR® 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

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 Enzyme Mixture

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 II SYBR® 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.

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.

RT/RNase Block Enzyme Mixture

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive

pressure mode.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: 2X Brilliant II SYBR® QRT-PCR Master Mix

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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate

personal protective equipment.

Reference Dye

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and

unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. No action shall be taken involving any personal

risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate

personal protective equipment.

For emergency responders: 2X Brilliant II SYBR® QRT-PCR

Master Mix

spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

If specialized clothing is required to deal with the

Reference Dye

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Section 6. Accidental release measures

RT/RNase Block Enzyme Mixture

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".

6.2 Environmental precautions

: 2X Brilliant II SYBR® 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).

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).

RT/RNase Block Enzyme Mixture

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers,

waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up

: 2X Brilliant II SYBR® 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

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 Enzyme Mixture

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

7.1 Precautions for safe handling

Protective measures

: 2X Brilliant II SYBR® 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.

Reference Dye Put on appropriate personal protective equipment

(see Section 8).

RT/RNase Block Enzyme Mixture

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

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Section 7. Handling and storage

Advice on general occupational hygiene

7.2 Conditions for safe

storage, including any

incompatibilities

: 2X Brilliant II SYBR® QRT-PCR Master Mix

Reference Dye

RT/RNase Block Enzyme Mixture

: 2X Brilliant II SYBR® QRT-PCR Master Mix

Reference Dye

RT/RNase Block Enzyme Mixture

tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove 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.

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. 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. 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.

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Section 7. Handling and storage

7.3 Specific end use(s)

Recommendations : 2X Brilliant II SYBR® QRT-PCR

Master Mix

Industrial applications, Professional applications.

Reference Dye

RT/RNase Block Enzyme Mixture

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

Industrial sector specific

solutions

2X Brilliant II SYBR® QRT-PCR

Master Mix Reference Dye

RT/RNase Block Enzyme Mixture

Not available. Not available. Not available.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
2X Brilliant II SYBR® QRT-PCR Master Mix	
Glycerol	OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 10 mg/m³ 8 hours. Form: Total dust OSHA PEL (United States, 5/2018). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust CAL OSHA PEL (United States, 5/2018). TWA: 5 mg/m³ 8 hours. Form: respirable fraction TWA: 10 mg/m³ 8 hours. Form: total dust
Dimethyl sulfoxide	OARS WEEL (United States, 4/2022). TWA: 250 ppm 8 hours.
Magnesium chloride	None.
Reference Dye Potassium chloride	None.
RT/RNase Block Enzyme Mixture Glycerol	OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 10 mg/m³ 8 hours. Form: Total dust OSHA PEL (United States, 5/2018). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust CAL OSHA PEL (United States, 5/2018). TWA: 5 mg/m³ 8 hours. Form: respirable fraction TWA: 10 mg/m³ 8 hours. Form: total dust

Biological exposure indices

No exposure indices known.

8.2 Exposure controls

Appropriate engineering controls

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

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Section 8. Exposure controls/personal protection

Environmental exposure controls

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

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties and safety characteristics

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

Appearance

Odor threshold

Physical state : 2X Brilliant II SYBR® QRT-PCR Liquid.

Master Mix

Reference Dye Liquid. RT/RNase Block Enzyme Mixture Liquid.

Color : 2X Brilliant II SYBR® QRT-PCR Not available.

Master Mix

Reference Dye
RT/RNase Block Enzyme Mixture
Not available.
Not available.

Odor : 2X Brilliant II SYBR® QRT-PCR Not available.

Master Mix

Deference Du

Reference Dye
RT/RNase Block Enzyme Mixture
Not available.

2X Brilliant II SYBR® QRT-PCR
Not available.

Master Mix Reference Dye Not available.

Reference Dye

RT/RNase Block Enzyme Mixture

Not available.

pH :

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Section 9. Physical and chemical properties and safety characteristics

2X Brilliant II SYBR® QRT-PCR

Master Mix

Reference Dye 8 RT/RNase Block Enzyme Mixture 8

Melting point/freezing point

2X Brilliant II SYBR® QRT-PCR

Master Mix Reference Dye

Reference Dye Not available. RT/RNase Block Enzyme Mixture Not available.

Boiling point, initial boiling point, and boiling range

: 2X Brilliant II SYBR® QRT-PCR

Not available.

Not available.

Master Mix

Reference Dye Not available. RT/RNase Block Enzyme Mixture Not available.

Flash point

	Closed cup			cup		
Ingredient name	°C	°F	Method	°C	°F	Method
2X Brilliant II SYBR® QRT-PCR Master Mix						
Dimethyl sulfoxide	87	188.6	ASTM D 93	87	188.6	-
Glycerol	-	-	-	177	350.6	-
RT/RNase Block Enzyme Mixture						
Glycerol	-	-	-	177	350.6	-

Evaporation rate : 2X Brilliant II SYBR® QRT-PCR Not available.

Master Mix

Reference Dye Not available. RT/RNase Block Enzyme Mixture Not available. 2X Brilliant II SYBR® QRT-PCR Not applicable.

Flammability : 2X Brilliant II SYBR® QRT-PCR

Master Mix

Reference Dye
RT/RNase Block Enzyme Mixture

2X Brilliant II SYBR® QRT-PCR
Not applicable.
Not available.

Lower and upper explosion limit/flammability limit

Master Mix

Reference Dye
RT/RNase Block Enzyme Mixture
Not available.

Vapor pressure

	Vapo	Vapor Pressure at 20°C			Vapor pressure at 50°		
Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method	
ZX Brilliant II SYBR® QRT-PCR Master Mix							
water	17.5	2.3	-	92.258	12.3	-	
Dimethyl sulfoxide	0.42	0.056	EU A.4	-	-	-	
Reference Dye							
water	17.5	2.3	-	92.258	12.3	-	

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Section 9. Physical and chemical properties and safety characteristics

	-	P				-,		
	RT/RNase Block Enzyme Mixture							
	water	17.5	2.3	-	9	92.258	12.3	-
	Glycerol	0.000075	0.00001	-	(0.0025	0.00033	-
Relative vapor density :	2X Brilliant II SYBR® Master Mix Reference Dye RT/RNase Block Enzy		Not a	ıvailable ıvailable ıvailable	e.			
Relative density :	2X Brilliant II SYBR® Master Mix Reference Dye	-	Not a	vailable vailable	e.			
-	RT/RNase Block Enzy	yme Mixtur	e Not a	vailable	е.			1
Solubility(ies)	Media			Res	ult			
	ZX Brilliant II SYBR® Mix water Reference Dye	9 QRT-PCF	K Master	Solu				
	water RT/RNase Block En	zvme Mixtı	ure	Solu	ble			
	water			Solu	ble			
Partition coefficient: n- octanol/water	X Brilliant II SYBR® Master Mix Reference Dye		Not a	ipplicab	ole.			
Auto-ignition temperature :	RT/RNase Block Enzy	yme wixtur	e Not a	ipplicab	°F		Method	
	2X Brilliant II SYBRO	® QRT-					- Induited	
	Dimethyl sulfoxide		300 to 3	302	572 to 5	75.6 -		
	Glycerol		370	6	698	-		
	RT/RNase Block En Mixture	zyme						
	Glycerol		370	6	698	-		
Decomposition temperature :	2X Brilliant II SYBR® Master Mix Reference Dye	QRT-PCR		ıvailable ıvailable				
	RT/RNase Block Enzy	yme Mixtur		vailable				
Viscosity :	2X Brilliant II SYBR® Master Mix	QRT-PCR		vailable				
	Reference Dye RT/RNase Block Enz	yme Mixtur		ıvailable ıvailable				
Particle characteristics	_							
Median particle size :	2X Brilliant II SYBR® Master Mix	QRT-PCR		ıpplicab 				
	Reference Dye RT/RNase Block Enzy	yme Mixtur		ipplicab ipplicab				

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Section 10. Stability and reactivity

10.1 Reactivity 2X Brilliant II SYBR® QRT-PCR No specific test data related to reactivity available Master Mix for this product or its ingredients. No specific test data related to reactivity available Reference Dye for this product or its ingredients. RT/RNase Block Enzyme Mixture No specific test data related to reactivity available for this product or its ingredients. : 2X Brilliant II SYBR® QRT-PCR 10.2 Chemical stability The product is stable. Master Mix Reference Dye The product is stable. RT/RNase Block Enzyme Mixture The product is stable. : 2X Brilliant II SYBR® QRT-PCR 10.3 Possibility of Under normal conditions of storage and use, hazardous reactions will not occur. Master Mix hazardous reactions Under normal conditions of storage and use. Reference Dye hazardous reactions will not occur. Under normal conditions of storage and use, RT/RNase Block Enzyme Mixture hazardous reactions will not occur. : 2X Brilliant II SYBR® QRT-PCR 10.4 Conditions to avoid No specific data. Master Mix Reference Dye No specific data. RT/RNase Block Enzyme Mixture No specific data. : 2X Brilliant II SYBR® QRT-PCR 10.5 Incompatible materials May react or be incompatible with oxidizing Master Mix materials. Reference Dye May react or be incompatible with oxidizing materials. RT/RNase Block Enzyme Mixture May react or be incompatible with oxidizing materials. Under normal conditions of storage and use, 10.6 Hazardous 2X Brilliant II SYBR® QRT-PCR Master Mix hazardous decomposition products should not be decomposition products produced. Reference Dye

Under normal conditions of storage and use,

hazardous decomposition products should not be

produced.

RT/RNase Block Enzyme Mixture

Under normal conditions of storage and use, hazardous decomposition products should not be

produced.

Section 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2X Brilliant II SYBR® 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	-
Magnesium chloride	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat	2800 mg/kg	-
Reference Dye				

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Section 11. Toxicological information

Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-
RT/RNase Block Enzyme Mixture				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2X Brilliant II SYBR® QRT- PCR Master Mix					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500	-
Dimethyl sulfoxide	Eyes - Mild irritant Eyes - Mild irritant	Rabbit Rabbit	-	mg 100 mg 24 hours 500 mg	-
	Skin - Mild irritant Skin - Mild irritant	Rabbit Rabbit	-	100 mg 24 hours 500 mg	-
Reference Dye Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
RT/RNase Block Enzyme Mixture					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-

Sensitization

Not available.

Mutagenicity

Conclusion/Summary: Not available.

Carcinogenicity

Conclusion/Summary: Not available.

Reproductive toxicity

Conclusion/Summary: Not available.

Teratogenicity

Conclusion/Summary: Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

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Section 11. Toxicological information

Information on the likely routes of exposure

: **2X** Brilliant II SYBR® QRT-PCR

Master Mix Inhalation, Eyes.

Reference Dye Not available.

RT/RNase Block Enzyme Mixture Routes of entry anticipated: Oral, Dermal,

Inhalation, Eyes.

Routes of entry anticipated: Oral, Dermal,

Potential acute health effects

Eye contact : 2X Brilliant II SYBR® QRT-PCR Causes eye irritation.

Master Mix

Reference Dye No known significant effects or critical hazards.

RT/RNase Block Enzyme Mixture Causes eye irritation.

Inhalation : 2X Brilliant II SYBR® QRT-PCR No known significant effects or critical hazards.

Master Mix

Reference Dye No known significant effects or critical hazards.

RT/RNase Block Enzyme Mixture No known significant effects or critical hazards.

Skin contact : 2X Brilliant II SYBR® QRT-PCR No known significant effects or critical hazards.

Master Mix Reference Dve

Reference Dye No known significant effects or critical hazards.

RT/RNase Block Enzyme Mixture No known significant effects or critical hazards.

Ingestion : 2X Brilliant II SYBR® QRT-PCR No known significant effects or critical hazards.

Master Mix

Reference Dye No known significant effects or critical hazards.

RT/RNase Block Enzyme Mixture No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: 2X Brilliant II SYBR® QRT-PCR Adverse symptoms may include the following:

Master Mix

irritation watering redness

Reference Dye No specific data.

RT/RNase Block Enzyme Mixture Adverse symptoms may include the following:

irritation watering redness

Inhalation : 2X Brilliant II SYBR® QRT-PCR No specific data.

Master Mix

Reference Dye
RT/RNase Block Enzyme Mixture

2X Brilliant II SYBR® QRT-PCR
No specific data.
No specific data.

Skin contact : 2X Brilliant II SYBR® QRT-PCR

Master Mix

Reference Dye

RT/RNase Block Enzyme Mixture

No specific data.

No specific data.

Ingestion : 2X Brilliant II SYBR® QRT-PCR No specific data.

Master Mix Reference Dve

Reference Dye
RT/RNase Block Enzyme Mixture
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 : Not available.

effects

Potential delayed effects : Not available.

Long term exposure

Potential immediate : Not available.

effects

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Section 11. Toxicological information

Potential delayed effects : Not available.

Potential chronic health effects

General : 2X Brilliant II SYBR® QRT-PCR No known significant effects or critical hazards.

Master Mix Reference Dye

Reference Dye No known significant effects or critical hazards. RT/RNase Block Enzyme Mixture No known significant effects or critical hazards.

Carcinogenicity : 2X Brilliant II SYBR® QRT-PCR No known significant effects or critical hazards.

Master Mix

Reference Dye

No known significant effects or critical hazards.

RT/RNase Block Enzyme Mixture

No known significant effects or critical hazards.

Mutagenicity : 2X Brilliant II SYBR® QRT-PCR No known significant effects or critical hazards.

Master Mix Reference Dye

Reference Dye

No known significant effects or critical hazards.

RT/RNase Block Enzyme Mixture

No known significant effects or critical hazards.

Reproductive toxicity : 2X Brilliant II SYBR® QRT-PCR No known significant effects or critical hazards.

Master Mix Reference Dye

Reference Dye

No known significant effects or critical hazards.

RT/RNase Block Enzyme Mixture

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/ I)
2X Brilliant II SYBR® QRT-PCR Master Mix					
Glycerol	12600	N/A	N/A	N/A	N/A
Dimethyl sulfoxide	14500	40000	N/A	N/A	N/A
Magnesium chloride	2800	2500	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
RT/RNase Block Enzyme Mixture					
Glycerol	12600	N/A	N/A	N/A	N/A

Other information : RT/RNase Block Enzyme Mixture Adverse symptoms may include the following: May cause skin sensitization.

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
ZX Brilliant II SYBR® QRT- PCR Master Mix			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Dimethyl sulfoxide	Acute LC50 25000 ppm Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate	48 hours
	Acute LC50 34000000 µg/l Fresh water Chronic NOEC 100 ul/L Marine water Chronic NOEC 100 ul/L Fresh water	Fish - <i>Pimephales promelas</i> Algae - <i>Ulva lactuca</i> Daphnia - <i>Daphnia magna</i> -	96 hours 72 hours 21 days
	omonio ivolo 100 di/Li 1001 Water	Juvenile (Fledgling, Hatchling, Weanling)	2 i dayo

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Section 12. Ecological information

Magnesium chloride	Acute EC50 >100 mg/l Fresh water	Algae - Desmodesmus	72 hours
	Acute EC50 180000 μg/l Fresh water	subspicatus Crustaceans - Eudiaptomus	48 hours
	Acute EC30 100000 µg/i Fresii watei	padanus ssp. padanus - Adult	40 Hours
	Acute IC50 6.8 mg/l Fresh water	Aquatic plants - <i>Lemna</i>	96 hours
		aequinoctialis	
	Acute LC50 32000 μg/l Fresh water	Daphnia - <i>Daphnia hyalina</i> - Adult	
	Acute LC50 2120 mg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours
	Acute NOEC 100 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Chronic NOEC 0.1 mg/l Fresh water	Fish - Cyprinus carpio	35 days
Reference Dye			
Potassium chloride	Acute EC50 9.24 g/L Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Acute EC50 1337000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute LC50 9.68 mg/l Fresh water	Crustaceans - Pseudosida ramosa - Neonate	48 hours
	Acute LC50 93000 μg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 509.65 mg/l Fresh water	Fish - Danio rerio	96 hours
RT/RNase Block Enzyme Mixture			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

12.2 Persistence and degradability

Product/ingredient name	Test	Result		Dose		Inoculum
2X Brilliant II SYBR® QRT- PCR Master Mix	0045 5	00.04				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 d	ays	-		-
Dimethyl sulfoxide	OECD 301D Ready Biodegradability - Closed Bottle Test	31 % - Not	readily - 28 days	-		-
RT/RNase Block Enzyme Mixture Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 d	ays	-		-
Product/ingredient name	Aquatic half-life		Photolysis		Biodeg	radability
2X Brilliant II SYBR® QRT- PCR Master Mix Dimethyl sulfoxide	-		-		Not read	dily
Reference Dye Potassium chloride	-		-		Readily	

12.3 Bioaccumulative potential

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Section 12. Ecological information

Product/ingredient name	LogPow	BCF	Potential
2X Brilliant II SYBR® QRT- PCR Master Mix			
Glycerol Dimethyl sulfoxide	-1.76 -1.35	3.16	Low
Reference Dye Potassium chloride	-0.46	-	Low
RT/RNase Block Enzyme Mixture	4.70		
Glycerol	-1.76	-	Low

12.4 Mobility in soil

Soil/water partition coefficient (Koc)

: Not available.

12.5 Other adverse effects

: No known significant effects or critical hazards.

Section 13. Disposal considerations

13.1 Waste treatment methods

Disposal methods

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

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

DOT / TDG / Mexico / IMDG / : Not regulated. **IATA**

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

Transport in bulk according : Not available. to IMO instruments

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Section 15. Regulatory information

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

U.S. Federal regulations

: TSCA 8(a) PAIR: Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.

omega.-hydroxy-

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

Clean Water Act (CWA) 311: Edetic acid

Clean Air Act Section 112

(b) Hazardous Air **Pollutants (HAPs)** : Not listed

Clean Air Act Section 602

: Not listed

Class I Substances

Clean Air Act Section 602

Class II Substances

: Not listed

DEA List I Chemicals

(Precursor Chemicals)

: Not listed

DEA List II Chemicals

(Essential Chemicals)

: Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification 2X Brilliant II SYBR® QRT-PCR Master Mix EYE IRRITATION - Category 2B

Reference Dye Not applicable.

RT/RNase Block Enzyme Mixture EYE IRRITATION - Category 2B

Composition/information on ingredients

Name	%	Classification
2X Brilliant II SYBR® QRT- PCR Master Mix		
Glycerol	00	EYE IRRITATION - Category 2B
Dimethyl sulfoxide		FLAMMABLE LIQUIDS - Category 4 EYE IRRITATION - Category 2B
Reference Dye Potassium chloride	≤5	EYE IRRITATION - Category 2B
RT/RNase Block Enzyme Mixture		
Glycerol	≥50 - ≤75	EYE IRRITATION - Category 2B

State regulations

Massachusetts : The following components are listed: GLYCERINE MIST

New York : None of the components are listed.

New Jersey : The following components are listed: GLYCERIN; DIMETHYL SULFOXIDE; METHANE,

SULFINYLBIS-

Pennsylvania : The following components are listed: 1,2,3-PROPANETRIOL

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

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Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : Not determined.

Canada : Not determined.

China : Not determined.

Japan : Japan inventory (CSCL): Not determined.

Japan inventory (ISHL): Not determined.

New Zealand Not determined. : Not determined. **Philippines** Republic of Korea : Not determined. : Not determined. Taiwan **Thailand** : Not determined. **Turkey** Not determined. **United States** : Not determined. **Viet Nam** : Not determined.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
ZX Brilliant II SYBR® QRT-PCR Master Mix EYE IRRITATION - Category 2B	Calculation method
RT/RNase Block Enzyme Mixture EYE IRRITATION - Category 2B	Calculation method

History

Date of issue/Date of

: 04/29/2024

revision

Date of previous issue : 03/29/2021

Version : 6

Key to abbreviations : ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973

as modified by the Protocol of 1978. ("Marpol" = marine pollution)

N/A = Not available UN = United Nations

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Section 16. Other information

▼ Indicates information that has changed from previously issued version.

Notice to reader

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