Section 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2X Brilliant III QRT-PCR Master Mix				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-
RT/RNase Block				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2X Brilliant III QRT-PCR Master Mix					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Polyethylene glycol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
RT/RNase Block					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Section 11. Toxicological information

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
2X Brilliant III QRT-PCR Master Mix			
Polyethylene glycol	Category 3	Not applicable.	Respiratory tract irritation
100 mM DTT			
(R*,R*)-1,4-Dimercaptobutane-2,3-diol	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure

2X Brilliant III QRT-PCR Master Mix	Routes of entry anticipated: Oral, Dermal, Inhalation.
RT/RNase Block	Routes of entry anticipated: Oral, Dermal, Inhalation.
100 mM DTT	Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact

2X Brilliant III QRT-PCR Master Mix	Causes eye irritation.
RT/RNase Block	Causes eye irritation.
	No known significant effects or critical hazards.
100 mM DTT	No known significant effects or critical hazards.

Inhalation

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

Skin contact

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

Ingestion

2X Brilliant III QRT-PCR Master Mix	No known significant effects or critical hazards.
RT/RNase Block	No known significant effects or critical hazards.
	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

Section 11. Toxicological information

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

Section 11. Toxicological information

Teratogenicity	:	2X Brilliant III QRT-PCR Master Mix	No known significant effects or critical hazards.
		RT/RNase Block	No known significant effects or critical hazards.
			No known significant effects or critical hazards.
		100 mM DTT	No known significant effects or critical hazards.
Developmental effects	:	2X Brilliant III QRT-PCR Master Mix	No known significant effects or critical hazards.
		RT/RNase Block	No known significant effects or critical hazards.
		100 mM DTT	No known significant effects or critical hazards.
			No known significant effects or critical hazards.
Fertility effects	:	2X Brilliant III QRT-PCR Master Mix	No known significant effects or critical hazards.
		RT/RNase Block	No known significant effects or critical hazards.
		100 mM DTT	No known significant effects or critical hazards.
			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 QRT-PCR Master Mix					
2X Brilliant III QRT-PCR Master Mix	193152.7	N/A	N/A	N/A	N/A
Glycerol	12600	N/A	N/A	N/A	N/A
Polyethylene glycol	28000	N/A	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
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

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
2X Brilliant III QRT-PCR Master Mix			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Polyethylene glycol	Acute LC50 >1000000 µg/l Fresh water	Fish - Salmo salar - Parr	96 hours
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 141.46 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 12.92 mg/l Fresh water	Crustaceans - Pseudosida ramosa - Neonate	48 hours

Section 12. Ecological information

	Acute LC50 880 mg/l Fresh water	Fish - Pimephales promelas	96 hours
RT/RNase Block			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
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 141.46 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 12.92 mg/l Fresh water	Crustaceans - Pseudosida ramosa - Neonate	48 hours
	Acute LC50 880 mg/l Fresh water	Fish - Pimephales promelas	96 hours
100 mM DTT			
(R*,R*) -1,4-Dimercaptobutane-2,3-diol	Acute LC50 27000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
2X Brilliant III QRT-PCR Master Mix				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
RT/RNase Block				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2X Brilliant III QRT-PCR Master Mix			
Potassium chloride	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
2X Brilliant III QRT-PCR Master Mix			
Glycerol	-1.76	-	low
Polyethylene glycol	-	3.2	low
Potassium chloride	-0.46	-	low
RT/RNase Block			
Glycerol	-1.76	-	low

Section 12. Ecological information

Potassium chloride	-0.46	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : 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 / 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.

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

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**: Polyoxyethylene octyl phenyl ether; 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 Class I Substances : Not listed

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 III QRT-PCR Master Mix	EYE IRRITATION - Category 2B
RT/RNase Block	EYE IRRITATION - Category 2B
100 mM DTT	Not applicable.
	Not applicable.

Composition/information on ingredients

Name	%	Classification
2X Brilliant III QRT-PCR Master Mix		
Glycerol	≥10 - ≤25	EYE IRRITATION - Category 2A
Polyethylene glycol	≤10	EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Potassium chloride	≤3	EYE IRRITATION - Category 2A
RT/RNase Block		
Glycerol	≥50 - ≤75	EYE IRRITATION - Category 2A
100 mM DTT		
(R*,R*)-1,4-Dimercaptobutane-2,3-diol	≤3	ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

Section 15. Regulatory information

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; 1,2,3-PROPANETRIOL

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

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 (ENCS)**: 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 : 09/17/2019

Date of previous issue : 08/21/2017

Version : 7

Section 16. Other information

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

Procedure used to derive the classification

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

Indicates information that has changed from previously issued version.

Notice to reader

Disclaimer: The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.