Conforms to US OSHA Hazard Communication 29CFR1910.1200

SAFETY DATA SHEET

Agilent Technologies

Brilliant II QRT-PCR - AffinityScript Two-Step Master Mix, Part Number 600827

Section 1. Identification

1.1 Product identifier

Product name : Brilliant II QRT-PCR - AffinityScript Two-Step Master Mix, Part Number 600827

Part no. (chemical kit) : 600827

Part no. : 600559 AffinityScript QPCR cDNA Synthesis Kit

RNase-Free Water	600164-58
Oligo (dT) Primer	600554-53
Random Primers	600554-54
2X cDNA Synthesis Master Mix	600559-51
AffinityScript RT/RNase Block Enzyme Mixture	600559-52

600804 Brilliant II QPCR Master Mix

2X Brilliant II QPCR Master Mix	600804-51
Reference Dye	600530-53

Validation date : 12/26/2023

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

Identified uses : Analytical reagent.

RNase-Free Water	1.2 ml
Oligo (dT) Primer	0.2 ml (15 µg 100 ng/µl)
Random Primers	0.2 ml (15 µg 100 ng/µl)
2X cDNA Synthesis Master Mix	0.5 ml
AffinityScript RT/RNase Block Enzyme Mixture	0.05 ml
2X Brilliant II QPCR Master Mix	2 x 2.5 ml
Reference Dye	0.1 ml (100 µl 1 mM)

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 :

RNase-Free Water	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 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 and other users of this product.
Oligo (dT) Primer	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 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 and other users of this product.
Random Primers	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR

Section 2. Hazards identification

	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 and other users of this product.
2X cDNA Synthesis Master Mix	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 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 and other users of this product.
AffinityScript RT/RNase Block Enzyme Mixture	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
2X Brilliant II QPCR Master Mix	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Reference Dye	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 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 and other users of this product.

Classification of the substance or mixture

AffinityScript RT/RNase Block Enzyme Mixture

H320 EYE IRRITATION - Category 2B

2X Brilliant II QPCR Master Mix

H320 EYE IRRITATION - Category 2B

2.2 GHS label elements

Signal word	: RNase-Free Water	No signal word.
	Oligo (dT) Primer	No signal word.
	Random Primers	No signal word.
	2X cDNA Synthesis Master Mix	No signal word.
	AffinityScript RT/RNase Block Enzyme Mixture	Warning
	2X Brilliant II QPCR Master Mix	Warning
	Reference Dye	No signal word.
Hazard statements	: RNase-Free Water	No known significant effects or critical hazards.
	Oligo (dT) Primer	No known significant effects or critical hazards.
	Random Primers	No known significant effects or critical hazards.
	2X cDNA Synthesis Master Mix	No known significant effects or critical hazards.
	AffinityScript RT/RNase Block Enzyme Mixture	H320 - Causes eye irritation.
	2X Brilliant II QPCR Master Mix	H320 - Causes eye irritation.
	Reference Dye	No known significant effects or critical hazards.

Precautionary statements

Prevention	: RNase-Free Water	Not applicable.
	Oligo (dT) Primer	Not applicable.
	Random Primers	Not applicable.
	2X cDNA Synthesis Master Mix	Not applicable.
	AffinityScript RT/RNase Block Enzyme Mixture	Not applicable.
	2X Brilliant II QPCR Master Mix	Not applicable.
	Reference Dye	Not applicable.

Section 2. Hazards identification

Response	:	RNase-Free Water	Not applicable.
		Oligo (dT) Primer	Not applicable.
		Random Primers	Not applicable.
		2X cDNA Synthesis Master Mix	Not applicable.
		AffinityScript 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.
		2X Brilliant II QPCR 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.
		Reference Dye	Not applicable.
Storage	:	RNase-Free Water	Not applicable.
		Oligo (dT) Primer	Not applicable.
		Random Primers	Not applicable.
		2X cDNA Synthesis Master Mix	Not applicable.
		AffinityScript RT/RNase Block Enzyme Mixture	Not applicable.
		2X Brilliant II QPCR Master Mix	Not applicable.
		Reference Dye	Not applicable.
Disposal	:	RNase-Free Water	Not applicable.
		Oligo (dT) Primer	Not applicable.
		Random Primers	Not applicable.
		2X cDNA Synthesis Master Mix	Not applicable.
		AffinityScript RT/RNase Block Enzyme Mixture	Not applicable.
		2X Brilliant II QPCR Master Mix	Not applicable.
		Reference Dye	Not applicable.
Supplemental label elements	:	RNase-Free Water	None known.
		Oligo (dT) Primer	None known.
		Random Primers	None known.
		2X cDNA Synthesis Master Mix	None known.
		AffinityScript RT/RNase Block Enzyme Mixture	None known.
		2X Brilliant II QPCR Master Mix	None known.
		Reference Dye	None known.

2.3 Other hazards

Hazards not otherwise classified	:	RNase-Free Water	None known.
		Oligo (dT) Primer	None known.
		Random Primers	None known.
		2X cDNA Synthesis Master Mix	None known.
		AffinityScript RT/RNase Block Enzyme Mixture	None known.
		2X Brilliant II QPCR Master Mix	None known.
		Reference Dye	None known.

Section 3. Composition/information on ingredients

Substance/mixture : RNase-Free Water — Substance
Oligo (dT) Primer — Mixture
Random Primers — Mixture
2X cDNA Synthesis Master Mix — Mixture
AffinityScript RT/RNase Block Enzyme Mixture — Mixture
2X Brilliant II QPCR Master Mix — Mixture
Reference Dye — Mixture

Ingredient name	%	CAS number
RNase-Free Water		
water	100	7732-18-5
AffinityScript RT/RNase Block Enzyme Mixture		
Glycerol	≥50 - ≤75	56-81-5
2X Brilliant II QPCR Master Mix		
Glycerol	≥10 - ≤25	56-81-5
Magnesium chloride	<0.25	7786-30-3
Polyoxyethylene octyl phenyl ether	<0.1	9002-93-1
Reference Dye		
Potassium chloride	≤5	7447-40-7

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

4.1 Description of necessary first aid measures

Eye contact : RNase-Free 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.

Oligo (dT) Primer — 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.

Random Primers — 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.

2X cDNA Synthesis Master Mix — Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

AffinityScript RT/RNase Block — Immediately flush eyes with plenty of water,

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		Enzyme Mixture	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.
		2X Brilliant II QPCR 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.
		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.
Inhalation	:	RNase-Free Water	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		Oligo (dT) Primer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		Random Primers	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		2X cDNA Synthesis Master Mix	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.
		AffinityScript 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 and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
		2X Brilliant II QPCR 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.

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Skin contact	:	RNase-Free Water	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Oligo (dT) Primer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Random Primers	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		2X cDNA Synthesis Master Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		AffinityScript 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 QPCR 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.
		Reference Dye	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	:	RNase-Free Water	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.
		Oligo (dT) Primer	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.
		Random Primers	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.
		2X cDNA Synthesis Master Mix	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		AffinityScript 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,

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2X Brilliant II QPCR Master Mix	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. 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.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	:	RNase-Free Water	No known significant effects or critical hazards.
		Oligo (dT) Primer	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		2X cDNA Synthesis Master Mix	No known significant effects or critical hazards.
		AffinityScript RT/RNase Block Enzyme Mixture	Causes eye irritation.
		2X Brilliant II QPCR Master Mix	Causes eye irritation.
		Reference Dye	No known significant effects or critical hazards.
Inhalation	:	RNase-Free Water	No known significant effects or critical hazards.
		Oligo (dT) Primer	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		2X cDNA Synthesis Master Mix	No known significant effects or critical hazards.
		AffinityScript RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards.
		2X Brilliant II QPCR Master Mix	No known significant effects or critical hazards.
		Reference Dye	No known significant effects or critical hazards.
Skin contact	:	RNase-Free Water	No known significant effects or critical hazards.
		Oligo (dT) Primer	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		2X cDNA Synthesis Master Mix	No known significant effects or critical hazards.
		AffinityScript RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards.
		2X Brilliant II QPCR Master Mix	No known significant effects or critical hazards.
		Reference Dye	No known significant effects or critical hazards.
Ingestion	:	RNase-Free Water	No known significant effects or critical hazards.
		Oligo (dT) Primer	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		2X cDNA Synthesis Master Mix	No known significant effects or critical hazards.
		AffinityScript RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards.
		2X Brilliant II QPCR Master Mix	No known significant effects or critical hazards.
		Reference Dye	No known significant effects or critical hazards.

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Over-exposure signs/symptoms

Eye contact	:	RNase-Free Water	No specific data.
		Oligo (dT) Primer	No specific data.
		Random Primers	No specific data.
		2X cDNA Synthesis Master Mix	No specific data.
		AffinityScript RT/RNase Block Enzyme Mixture	Adverse symptoms may include the following: irritation watering redness
		2X Brilliant II QPCR Master Mix	Adverse symptoms may include the following: irritation watering redness
		Reference Dye	No specific data.
Inhalation	:	RNase-Free Water	No specific data.
		Oligo (dT) Primer	No specific data.
		Random Primers	No specific data.
		2X cDNA Synthesis Master Mix	No specific data.
		AffinityScript RT/RNase Block Enzyme Mixture	No specific data.
		2X Brilliant II QPCR Master Mix	No specific data.
		Reference Dye	No specific data.
Skin contact	:	RNase-Free Water	No specific data.
		Oligo (dT) Primer	No specific data.
		Random Primers	No specific data.
		2X cDNA Synthesis Master Mix	No specific data.
		AffinityScript RT/RNase Block Enzyme Mixture	No specific data.
		2X Brilliant II QPCR Master Mix	No specific data.
		Reference Dye	No specific data.
Ingestion	:	RNase-Free Water	No specific data.
		Oligo (dT) Primer	No specific data.
		Random Primers	No specific data.
		2X cDNA Synthesis Master Mix	No specific data.
		AffinityScript RT/RNase Block Enzyme Mixture	No specific data.
		2X Brilliant II QPCR Master Mix	No specific data.
		Reference Dye	No specific data.

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

Notes to physician	:	RNase-Free Water	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Oligo (dT) Primer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Random Primers	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		2X cDNA Synthesis Master Mix	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.
		AffinityScript RT/RNase Block Enzyme Mixture	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		2X Brilliant II QPCR Master Mix	Treat symptomatically. Contact poison treatment

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		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.
Specific treatments :	RNase-Free Water	No specific treatment.
	Oligo (dT) Primer	No specific treatment.
	Random Primers	No specific treatment.
	2X cDNA Synthesis Master Mix	No specific treatment.
	AffinityScript RT/RNase Block Enzyme Mixture	No specific treatment.
	2X Brilliant II QPCR Master Mix	No specific treatment.
	Reference Dye	No specific treatment.
Protection of first-aiders :	RNase-Free Water	No action shall be taken involving any personal risk or without suitable training.
	Oligo (dT) Primer	No action shall be taken involving any personal risk or without suitable training.
	Random Primers	No action shall be taken involving any personal risk or without suitable training.
	2X cDNA Synthesis Master Mix	No action shall be taken involving any personal risk or without suitable training.
	AffinityScript 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.
	2X Brilliant II QPCR 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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media :	RNase-Free Water	Use an extinguishing agent suitable for the surrounding fire.
	Oligo (dT) Primer	Use an extinguishing agent suitable for the surrounding fire.
	Random Primers	Use an extinguishing agent suitable for the surrounding fire.
	2X cDNA Synthesis Master Mix	Use an extinguishing agent suitable for the surrounding fire.
	AffinityScript RT/RNase Block Enzyme Mixture	Use an extinguishing agent suitable for the surrounding fire.
	2X Brilliant II QPCR Master Mix	Use an extinguishing agent suitable for the surrounding fire.
	Reference Dye	Use an extinguishing agent suitable for the surrounding fire.

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Unsuitable extinguishing media :	RNase-Free Water	None known.
	Oligo (dT) Primer	None known.
	Random Primers	None known.
	2X cDNA Synthesis Master Mix	None known.
	AffinityScript RT/RNase Block Enzyme Mixture	None known.
	2X Brilliant II QPCR Master Mix	None known.
	Reference Dye	None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical :	RNase-Free Water	In a fire or if heated, a pressure increase will occur and the container may burst.
	Oligo (dT) Primer	In a fire or if heated, a pressure increase will occur and the container may burst.
	Random Primers	In a fire or if heated, a pressure increase will occur and the container may burst.
	2X cDNA Synthesis Master Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
	AffinityScript RT/RNase Block Enzyme Mixture	In a fire or if heated, a pressure increase will occur and the container may burst.
	2X Brilliant II QPCR Master Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
	Reference Dye	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products :	RNase-Free Water	No specific data.
	Oligo (dT) Primer	No specific data.
	Random Primers	No specific data.
	2X cDNA Synthesis Master Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds
	AffinityScript RT/RNase Block Enzyme Mixture	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	2X Brilliant II QPCR Master Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	Reference Dye	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters :	RNase-Free Water	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.
	Oligo (dT) Primer	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.

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	Random Primers	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.
	2X cDNA Synthesis 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.
	AffinityScript 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.
	2X Brilliant II QPCR 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.
Special protective equipment for fire-fighters :	RNase-Free Water	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Oligo (dT) Primer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Random Primers	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	2X cDNA Synthesis 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.
	AffinityScript 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.
	2X Brilliant II QPCR 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.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel :	RNase-Free Water	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.
	Oligo (dT) Primer	No action shall be taken involving any personal risk or without suitable training. Evacuate

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		surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
	Random Primers	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.
	2X cDNA Synthesis 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. Put on appropriate personal protective equipment.
	AffinityScript 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.
	2X Brilliant II QPCR 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. 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.
For emergency responders :	RNase-Free Water	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".
	Oligo (dT) Primer	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".
	Random Primers	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".
	2X cDNA Synthesis 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".
	AffinityScript 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".

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	2X Brilliant II QPCR 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".
	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".
6.2 Environmental precautions :	RNase-Free Water	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).
	Oligo (dT) Primer	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).
	Random Primers	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).
	2X cDNA Synthesis 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).
	AffinityScript 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).
	2X Brilliant II QPCR 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).

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up :	RNase-Free Water	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.
	Oligo (dT) Primer	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.
	Random Primers	Stop leak if without risk. Move containers from spill

Section 6. Accidental release measures

		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.
	2X cDNA Synthesis 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.
	AffinityScript 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.
	2X Brilliant II QPCR 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.

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures	:	RNase-Free Water	Put on appropriate personal protective equipment (see Section 8).
		Oligo (dT) Primer	Put on appropriate personal protective equipment (see Section 8).
		Random Primers	Put on appropriate personal protective equipment (see Section 8).
		2X cDNA Synthesis Master Mix	Put on appropriate personal protective equipment (see Section 8).
		AffinityScript 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 tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
		2X Brilliant II QPCR 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).

Section 7. Handling and storage

Advice on general occupational hygiene	:	RNase-Free Water	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.
		Oligo (dT) Primer	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.
		Random Primers	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.
		2X cDNA Synthesis 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.
		AffinityScript RT/RNase Block Enzyme Mixture	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
		2X Brilliant II QPCR Master Mix	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
		Reference Dye	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
7.2 Conditions for safe storage, including any incompatibilities	:	RNase-Free Water	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

Section 7. Handling and storage

	incompatible materials before handling or use.
Oligo (dT) Primer	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.
Random Primers	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.
2X cDNA Synthesis 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.
AffinityScript RT/RNase Block Enzyme Mixture	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
2X Brilliant II QPCR 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.
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

Section 7. Handling and storage

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.

7.3 Specific end use(s)

Recommendations	:	RNase-Free Water	Industrial applications, Professional applications.
		Oligo (dT) Primer	Industrial applications, Professional applications.
		Random Primers	Industrial applications, Professional applications.
		2X cDNA Synthesis Master Mix	Industrial applications, Professional applications.
		AffinityScript RT/RNase Block Enzyme Mixture	Industrial applications, Professional applications.
		2X Brilliant II QPCR Master Mix	Industrial applications, Professional applications.
		Reference Dye	Industrial applications, Professional applications.
Industrial sector specific solutions	:	RNase-Free Water	Not available.
		Oligo (dT) Primer	Not available.
		Random Primers	Not available.
		2X cDNA Synthesis Master Mix	Not available.
		AffinityScript RT/RNase Block Enzyme Mixture	Not available.
		2X Brilliant II QPCR Master Mix	Not available.
		Reference Dye	Not available.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
RNase-Free Water	
water	None.
AffinityScript 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
2X Brilliant II QPCR 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

Section 8. Exposure controls/personal protection

	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
Magnesium chloride	None.
Polyoxyethylene octyl phenyl ether	None.
Reference Dye	
Potassium chloride	None.

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.

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: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

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

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

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

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	:	RNase-Free Water	Liquid.
		Oligo (dT) Primer	Liquid.
		Random Primers	Liquid.
		2X cDNA Synthesis Master Mix	Liquid.
		AffinityScript RT/RNase Block Enzyme Mixture	Liquid.
		2X Brilliant II QPCR Master Mix	Liquid.
		Reference Dye	Liquid.
Color	:	RNase-Free Water	Colorless.
		Oligo (dT) Primer	Not available.
		Random Primers	Not available.
		2X cDNA Synthesis Master Mix	Not available.
		AffinityScript RT/RNase Block Enzyme Mixture	Not available.
		2X Brilliant II QPCR Master Mix	Not available.
		Reference Dye	Not available.
Odor	:	RNase-Free Water	Odorless.
		Oligo (dT) Primer	Not available.
		Random Primers	Not available.
		2X cDNA Synthesis Master Mix	Not available.
		AffinityScript RT/RNase Block Enzyme Mixture	Not available.
		2X Brilliant II QPCR Master Mix	Not available.
		Reference Dye	Not available.
Odor threshold	:	RNase-Free Water	Not available.
		Oligo (dT) Primer	Not available.
		Random Primers	Not available.
		2X cDNA Synthesis Master Mix	Not available.
		AffinityScript RT/RNase Block Enzyme Mixture	Not available.
		2X Brilliant II QPCR Master Mix	Not available.
		Reference Dye	Not available.
pH	:	RNase-Free Water	7
		Oligo (dT) Primer	7.5
		Random Primers	7.5
		2X cDNA Synthesis Master Mix	Not available.
		AffinityScript RT/RNase Block Enzyme Mixture	8
		2X Brilliant II QPCR Master Mix	8
		Reference Dye	8
Melting point/freezing point	:	RNase-Free Water	0°C (32°F)
		Oligo (dT) Primer	0°C (32°F)
		Random Primers	0°C (32°F)
		2X cDNA Synthesis Master Mix	0°C (32°F)
		AffinityScript RT/RNase Block Enzyme Mixture	Not available.
		2X Brilliant II QPCR Master Mix	Not available.
		Reference Dye	Not available.

Section 9. Physical and chemical properties and safety characteristics

Boiling point, initial boiling point, and boiling range :

RNase-Free Water	100°C (212°F)
Oligo (dT) Primer	100°C (212°F)
Random Primers	100°C (212°F)
2X cDNA Synthesis Master Mix	100°C (212°F)
AffinityScript RT/RNase Block Enzyme Mixture	Not available.
2X Brilliant II QPCR Master Mix	Not available.
Reference Dye	Not available.

Flash point :

Ingredient name	Closed cup °C	Closed cup °F	Closed cup Method	Open cup °C	Open cup °F	Open cup Method
AffinityScript RT/ RNase Block Enzyme Mixture						
Glycerol	-	-	-	177	350.6	-
2X Brilliant II QPCR Master Mix						
Glycerol	-	-	-	177	350.6	-

Evaporation rate :

RNase-Free Water	Not available.
Oligo (dT) Primer	Not available.
Random Primers	Not available.
2X cDNA Synthesis Master Mix	Not available.
AffinityScript RT/RNase Block Enzyme Mixture	Not available.
2X Brilliant II QPCR Master Mix	Not available.
Reference Dye	Not available.

Flammability :

RNase-Free Water	Not applicable.
Oligo (dT) Primer	Not applicable.
Random Primers	Not applicable.
2X cDNA Synthesis Master Mix	Not applicable.
AffinityScript RT/RNase Block Enzyme Mixture	Not applicable.
2X Brilliant II QPCR Master Mix	Not applicable.
Reference Dye	Not applicable.

Lower and upper explosion limit/flammability limit :

RNase-Free Water	Not available.
Oligo (dT) Primer	Not available.
Random Primers	Not available.
2X cDNA Synthesis Master Mix	Not available.
AffinityScript RT/RNase Block Enzyme Mixture	Not available.
2X Brilliant II QPCR Master Mix	Not available.
Reference Dye	Not available.

Vapor pressure :

RNase-Free Water: 2.3 kPa (17.5 mm Hg) [room temperature]
12.3 kPa (92.258 mm Hg) [50°C (122°F)]

Ingredient name	Vapor Pressure at 20˚C mm Hg	Vapor Pressure at 20˚C kPa	Vapor Pressure at 20˚C Method	Vapor pressure at 50˚C mm Hg	Vapor pressure at 50˚C kPa	Vapor pressure at 50˚C Method

Section 9. Physical and chemical properties and safety characteristics

Oligo (dT) Primer						
water	17.5	2.3	-	92.258	12.3	-
Random Primers						
water	17.5	2.3	-	92.258	12.3	-
2X cDNA Synthesis Master Mix						
water	17.5	2.3	-	92.258	12.3	-
AffinityScript RT/ RNase Block Enzyme Mixture						
water	17.5	2.3	-	92.258	12.3	-
Glycerol	0.000075	0.00001	-	0.0025	0.00033	-
2X Brilliant II QPCR Master Mix						
water	17.5	2.3	-	92.258	12.3	-
Glycerol	0.000075	0.00001	-	0.0025	0.00033	-
Reference Dye						
water	17.5	2.3	-	92.258	12.3	-

Relative vapor density :

RNase-Free Water	0.62 [Air = 1]
Oligo (dT) Primer	Not available.
Random Primers	Not available.
2X cDNA Synthesis Master Mix	Not available.
AffinityScript RT/RNase Block Enzyme Mixture	Not available.
2X Brilliant II QPCR Master Mix	Not available.
Reference Dye	Not available.

Relative density :

RNase-Free Water	1
Oligo (dT) Primer	Not available.
Random Primers	Not available.
2X cDNA Synthesis Master Mix	Not available.
AffinityScript RT/RNase Block Enzyme Mixture	Not available.
2X Brilliant II QPCR Master Mix	Not available.
Reference Dye	Not available.

Section 9. Physical and chemical properties and safety characteristics

Solubility(ies) :

Media	Result
RNase-Free Water	
water	Soluble
Oligo (dT) Primer	
water	Soluble
Random Primers	
water	Soluble
2X cDNA Synthesis Master Mix	
water	Soluble
AffinityScript RT/RNase Block Enzyme Mixture	
water	Soluble
2X Brilliant II QPCR Master Mix	
water	Soluble
Reference Dye	
water	Soluble

Partition coefficient: n-octanol/water :

RNase-Free Water	-1.38
Oligo (dT) Primer	Not applicable.
Random Primers	Not applicable.
2X cDNA Synthesis Master Mix	Not applicable.
AffinityScript RT/RNase Block Enzyme Mixture	Not applicable.
2X Brilliant II QPCR Master Mix	Not applicable.
Reference Dye	Not applicable.

Auto-ignition temperature :

Ingredient name	°C	°F	Method
AffinityScript RT/RNase Block Enzyme Mixture			
Glycerol	370	698	-
2X Brilliant II QPCR Master Mix			
Glycerol	370	698	-

Decomposition temperature :

RNase-Free Water	Not available.
Oligo (dT) Primer	Not available.
Random Primers	Not available.
2X cDNA Synthesis Master Mix	Not available.
AffinityScript RT/RNase Block Enzyme Mixture	Not available.
2X Brilliant II QPCR Master Mix	Not available.
Reference Dye	Not available.

Viscosity :

RNase-Free Water	Not available.
Oligo (dT) Primer	Not available.
Random Primers	Not available.
2X cDNA Synthesis Master Mix	Not available.
AffinityScript RT/RNase Block Enzyme Mixture	Not available.
2X Brilliant II QPCR Master Mix	Not available.
Reference Dye	Not available.

Particle characteristics

Section 9. Physical and chemical properties and safety characteristics

Median particle size	:	RNase-Free Water	Not applicable.
		Oligo (dT) Primer	Not applicable.
		Random Primers	Not applicable.
		2X cDNA Synthesis Master Mix	Not applicable.
		AffinityScript RT/RNase Block Enzyme Mixture	Not applicable.
		2X Brilliant II QPCR Master Mix	Not applicable.
		Reference Dye	Not applicable.

Section 10. Stability and reactivity

10.1 Reactivity	:	RNase-Free Water	No specific test data related to reactivity available for this product or its ingredients.
		Oligo (dT) Primer	No specific test data related to reactivity available for this product or its ingredients.
		Random Primers	No specific test data related to reactivity available for this product or its ingredients.
		2X cDNA Synthesis Master Mix	No specific test data related to reactivity available for this product or its ingredients.
		AffinityScript RT/RNase Block Enzyme Mixture	No specific test data related to reactivity available for this product or its ingredients.
		2X Brilliant II QPCR Master Mix	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.
10.2 Chemical stability	:	RNase-Free Water	The product is stable.
		Oligo (dT) Primer	The product is stable.
		Random Primers	The product is stable.
		2X cDNA Synthesis Master Mix	The product is stable.
		AffinityScript RT/RNase Block Enzyme Mixture	The product is stable.
		2X Brilliant II QPCR Master Mix	The product is stable.
		Reference Dye	The product is stable.
10.3 Possibility of hazardous reactions	:	RNase-Free Water	Under normal conditions of storage and use, hazardous reactions will not occur.
		Oligo (dT) Primer	Under normal conditions of storage and use, hazardous reactions will not occur.
		Random Primers	Under normal conditions of storage and use, hazardous reactions will not occur.
		2X cDNA Synthesis Master Mix	Under normal conditions of storage and use, hazardous reactions will not occur.
		AffinityScript RT/RNase Block Enzyme Mixture	Under normal conditions of storage and use, hazardous reactions will not occur.
		2X Brilliant II QPCR Master Mix	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.
10.4 Conditions to avoid	:	RNase-Free Water	No specific data.
		Oligo (dT) Primer	No specific data.
		Random Primers	No specific data.
		2X cDNA Synthesis Master Mix	No specific data.
		AffinityScript RT/RNase Block Enzyme Mixture	No specific data.
		2X Brilliant II QPCR Master Mix	No specific data.
		Reference Dye	No specific data.

Section 10. Stability and reactivity

10.5 Incompatible materials :

RNase-Free Water	May react or be incompatible with oxidizing materials.
Oligo (dT) Primer	May react or be incompatible with oxidizing materials.
Random Primers	May react or be incompatible with oxidizing materials.
2X cDNA Synthesis Master Mix	May react or be incompatible with oxidizing materials.
AffinityScript RT/RNase Block Enzyme Mixture	May react or be incompatible with oxidizing materials.
2X Brilliant II QPCR Master Mix	May react or be incompatible with oxidizing materials.
Reference Dye	May react or be incompatible with oxidizing materials.

10.6 Hazardous decomposition products :

RNase-Free Water	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Oligo (dT) Primer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Random Primers	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
2X cDNA Synthesis Master Mix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
AffinityScript RT/RNase Block Enzyme Mixture	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
2X Brilliant II QPCR Master Mix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Reference Dye	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
AffinityScript RT/RNase Block Enzyme Mixture				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
2X Brilliant II QPCR Master Mix				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Magnesium chloride	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat	2800 mg/kg	-
Polyoxyethylene octyl phenyl ether	LD50 Oral	Rat	1800 mg/kg	-
Reference Dye				
Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
AffinityScript RT/RNase Block Enzyme Mixture					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
2X Brilliant II QPCR Master Mix					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Polyoxyethylene octyl phenyl ether	Skin - Mild irritant	Rabbit	-	24 hours 500 uL	-
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)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure :

RNase-Free Water	Not available.
Oligo (dT) Primer	Not available.
Random Primers	Not available.
2X cDNA Synthesis Master Mix	Not available.
AffinityScript RT/RNase Block Enzyme Mixture	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
2X Brilliant II QPCR Master Mix	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Reference Dye	Not available.

Potential acute health effects

Section 11. Toxicological information

Eye contact	:	RNase-Free Water	No known significant effects or critical hazards.
		Oligo (dT) Primer	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		2X cDNA Synthesis Master Mix	No known significant effects or critical hazards.
		AffinityScript RT/RNase Block Enzyme Mixture	Causes eye irritation.
		2X Brilliant II QPCR Master Mix	Causes eye irritation.
		Reference Dye	No known significant effects or critical hazards.
Inhalation	:	RNase-Free Water	No known significant effects or critical hazards.
		Oligo (dT) Primer	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		2X cDNA Synthesis Master Mix	No known significant effects or critical hazards.
		AffinityScript RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards.
		2X Brilliant II QPCR Master Mix	No known significant effects or critical hazards.
		Reference Dye	No known significant effects or critical hazards.
Skin contact	:	RNase-Free Water	No known significant effects or critical hazards.
		Oligo (dT) Primer	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		2X cDNA Synthesis Master Mix	No known significant effects or critical hazards.
		AffinityScript RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards.
		2X Brilliant II QPCR Master Mix	No known significant effects or critical hazards.
		Reference Dye	No known significant effects or critical hazards.
Ingestion	:	RNase-Free Water	No known significant effects or critical hazards.
		Oligo (dT) Primer	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		2X cDNA Synthesis Master Mix	No known significant effects or critical hazards.
		AffinityScript RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards.
		2X Brilliant II QPCR Master Mix	No known significant effects or critical hazards.
		Reference Dye	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	:	RNase-Free Water	No specific data.
		Oligo (dT) Primer	No specific data.
		Random Primers	No specific data.
		2X cDNA Synthesis Master Mix	No specific data.
		AffinityScript RT/RNase Block Enzyme Mixture	Adverse symptoms may include the following: irritation watering redness
		2X Brilliant II QPCR Master Mix	Adverse symptoms may include the following: irritation watering redness
		Reference Dye	No specific data.
Inhalation	:	RNase-Free Water	No specific data.
		Oligo (dT) Primer	No specific data.
		Random Primers	No specific data.
		2X cDNA Synthesis Master Mix	No specific data.
		AffinityScript RT/RNase Block Enzyme Mixture	No specific data.
		2X Brilliant II QPCR Master Mix	No specific data.
		Reference Dye	No specific data.

Section 11. Toxicological information

Skin contact	:	RNase-Free Water	No specific data.
		Oligo (dT) Primer	No specific data.
		Random Primers	No specific data.
		2X cDNA Synthesis Master Mix	No specific data.
		AffinityScript RT/RNase Block Enzyme Mixture	No specific data.
		2X Brilliant II QPCR Master Mix	No specific data.
		Reference Dye	No specific data.
Ingestion	:	RNase-Free Water	No specific data.
		Oligo (dT) Primer	No specific data.
		Random Primers	No specific data.
		2X cDNA Synthesis Master Mix	No specific data.
		AffinityScript RT/RNase Block Enzyme Mixture	No specific data.
		2X Brilliant II QPCR Master Mix	No specific data.
		Reference Dye	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	:	RNase-Free Water	No known significant effects or critical hazards.
		Oligo (dT) Primer	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		2X cDNA Synthesis Master Mix	No known significant effects or critical hazards.
		AffinityScript RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards.
		2X Brilliant II QPCR Master Mix	No known significant effects or critical hazards.
		Reference Dye	No known significant effects or critical hazards.
Carcinogenicity	:	RNase-Free Water	No known significant effects or critical hazards.
		Oligo (dT) Primer	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		2X cDNA Synthesis Master Mix	No known significant effects or critical hazards.
		AffinityScript RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards.
		2X Brilliant II QPCR Master Mix	No known significant effects or critical hazards.
		Reference Dye	No known significant effects or critical hazards.
Mutagenicity	:	RNase-Free Water	No known significant effects or critical hazards.
		Oligo (dT) Primer	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		2X cDNA Synthesis Master Mix	No known significant effects or critical hazards.
		AffinityScript RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards.
		2X Brilliant II QPCR Master Mix	No known significant effects or critical hazards.
		Reference Dye	No known significant effects or critical hazards.

Section 11. Toxicological information

Reproductive toxicity :

RNase-Free Water	No known significant effects or critical hazards.
Oligo (dT) Primer	No known significant effects or critical hazards.
Random Primers	No known significant effects or critical hazards.
2X cDNA Synthesis Master Mix	No known significant effects or critical hazards.
AffinityScript RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards.
2X Brilliant II QPCR Master Mix	No known significant effects or critical hazards.
Reference Dye	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)
AffinityScript RT/RNase Block Enzyme Mixture					
Glycerol	12600	N/A	N/A	N/A	N/A
2X Brilliant II QPCR Master Mix					
Glycerol	12600	N/A	N/A	N/A	N/A
Magnesium chloride	2800	2500	N/A	N/A	N/A
Polyoxyethylene octyl phenyl ether	1800	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

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
AffinityScript RT/RNase Block Enzyme Mixture			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - *Oncorhynchus mykiss*	96 hours
2X Brilliant II QPCR Master Mix			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - *Oncorhynchus mykiss*	96 hours
Magnesium chloride	Acute EC50 >100 mg/l Fresh water	Algae - *Desmodesmus subspicatus*	72 hours
	Acute EC50 180000 µg/l Fresh water	Crustaceans - *Eudiaptomus padanus ssp. padanus* - Adult	48 hours
	Acute IC50 6.8 mg/l Fresh water	Aquatic plants - *Lemna aequinoctialis*	96 hours
	Acute LC50 32000 µg/l Fresh water	Daphnia - *Daphnia hyalina* - Adult	48 hours
	Acute LC50 2120 mg/l Fresh water	Fish - *Pimephales promelas*	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
Polyoxyethylene octyl phenyl ether	Acute LC50 5.85 mg/l Fresh water	Crustaceans - *Ceriodaphnia rigaudi* - Neonate	48 hours
	Acute LC50 11.2 mg/l Fresh water	Daphnia - *Daphnia magna* - Neonate	48 hours
	Acute LC50 4500 µg/l Fresh water	Fish - *Pimephales promelas*	96 hours
	Chronic NOEC 0.004 mg/l Fresh water	Fish - *Gambusia holbrooki*	28 days

Section 12. Ecological information

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 - *Daphnia magna*	48 hours
	Acute LC50 509.65 mg/l Fresh water	Fish - *Danio rerio*	96 hours

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
AffinityScript RT/RNase Block Enzyme Mixture				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
2X Brilliant II QPCR Master Mix				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
RNase-Free Water			
water	-	-	Readily
2X Brilliant II QPCR Master Mix			
Polyoxyethylene octyl phenyl ether	-	-	Readily
Reference Dye			
Potassium chloride	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
RNase-Free Water			
water	-1.38	-	Low
AffinityScript RT/RNase Block Enzyme Mixture			
Glycerol	-1.76	-	Low
2X Brilliant II QPCR Master Mix			
Glycerol	-1.76	-	Low
Polyoxyethylene octyl phenyl ether	4.86	-	High
Reference Dye			
Potassium chloride	-0.46	-	Low

Section 12. Ecological information

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. 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 IMO instruments : 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

Section 15. Regulatory information

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 :

RNase-Free Water	Not applicable.
Oligo (dT) Primer	Not applicable.
Random Primers	Not applicable.
2X cDNA Synthesis Master Mix	Not applicable.
AffinityScript RT/RNase Block Enzyme Mixture	EYE IRRITATION - Category 2B
2X Brilliant II QPCR Master Mix	EYE IRRITATION - Category 2B
Reference Dye	Not applicable.

Composition/information on ingredients

Name	%	Classification
AffinityScript RT/RNase Block Enzyme Mixture		
Glycerol	≥50 - ≤75	EYE IRRITATION - Category 2B
2X Brilliant II QPCR Master Mix		
Glycerol	≥10 - ≤25	EYE IRRITATION - Category 2B
Reference Dye		
Potassium chloride	≤5	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

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.

Section 15. Regulatory information

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.

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

Procedure used to derive the classification

Classification	Justification
AffinityScript RT/RNase Block Enzyme Mixture EYE IRRITATION - Category 2B	Calculation method
2X Brilliant II QPCR Master Mix EYE IRRITATION - Category 2B	Calculation method

History

Date of issue/Date of revision : 12/26/2023

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Version : 7

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

Indicates information that has changed from previously issued version.

Notice to reader

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