Conforms to US OSHA Hazard Communication 29CFR1910.1200

SAFETY DATA SHEET

Agilent Technologies

Brilliant II QRT-PCR Core Reagent Kit - 1-Step

Section 1. Identification

1.1 Product identifier

Product name : Brilliant II QRT-PCR Core Reagent Kit - 1-Step

Part no. (chemical kit) : 600810

Part no. :

SureStart Taq DNA Polymerase	600530-51
Reference Dye	600530-53
20 mM dNTP Mix (5 mM each dNTP)	600530-52
50 mM Magnesium Chloride	600530-55
10X Core RT-PCR Buffer	600532-51
Reverse Transcriptase	600810-52

Validation date : 7/15/2024

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

Identified uses : Analytical reagent.

SureStart Taq DNA Polymerase	0.1 ml (500 U 5 U/ µl)
Reference Dye	0.1 ml (100 µl 1 mM)
20 mM dNTP Mix (5 mM each dNTP)	0.4 ml
50 mM Magnesium Chloride	1.5 ml
10X Core RT-PCR Buffer	1.7 ml
Reverse Transcriptase	0.4 ml (400 reactions)

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 :

SureStart Taq DNA Polymerase Reference Dye	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). 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.
20 mM dNTP Mix (5 mM each dNTP)	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.
50 mM Magnesium Chloride	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
10X Core RT-PCR Buffer	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.

Section 2. Hazards identification

		This SDS should be retained and available for employees and other users of this product.
	Reverse Transcriptase	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

SureStart Taq DNA Polymerase

H320 EYE IRRITATION - Category 2B

50 mM Magnesium Chloride

H412 AQUATIC HAZARD (LONG-TERM) - Category 3

Reverse Transcriptase

H320 EYE IRRITATION - Category 2B

2.2 GHS label elements

Signal word	:	SureStart Taq DNA Polymerase	Warning
		Reference Dye	No signal word.
		20 mM dNTP Mix (5 mM each dNTP)	No signal word.
		50 mM Magnesium Chloride	No signal word.
		10X Core RT-PCR Buffer	No signal word.
		Reverse Transcriptase	Warning
Hazard statements	:	SureStart Taq DNA Polymerase	H320 - Causes eye irritation.
		Reference Dye	No known significant effects or critical hazards.
		20 mM dNTP Mix (5 mM each dNTP)	No known significant effects or critical hazards.
		50 mM Magnesium Chloride	H412 - Harmful to aquatic life with long lasting effects.
		10X Core RT-PCR Buffer	No known significant effects or critical hazards.
		Reverse Transcriptase	H320 - Causes eye irritation.

Precautionary statements

Prevention	:	SureStart Taq DNA Polymerase	Not applicable.
		Reference Dye	Not applicable.
		20 mM dNTP Mix (5 mM each dNTP)	Not applicable.
		50 mM Magnesium Chloride	P273 - Avoid release to the environment.
		10X Core RT-PCR Buffer	Not applicable.
		Reverse Transcriptase	Not applicable.
Response	:	SureStart Taq DNA Polymerase	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.
		20 mM dNTP Mix (5 mM each dNTP)	Not applicable.
		50 mM Magnesium Chloride	Not applicable.
		10X Core RT-PCR Buffer	Not applicable.
		Reverse Transcriptase	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.

Section 2. Hazards identification

Storage	:	SureStart Taq DNA Polymerase	Not applicable.
		Reference Dye	Not applicable.
		20 mM dNTP Mix (5 mM each dNTP)	Not applicable.
		50 mM Magnesium Chloride	Not applicable.
		10X Core RT-PCR Buffer	Not applicable.
		Reverse Transcriptase	Not applicable.
Disposal	:	SureStart Taq DNA Polymerase	Not applicable.
		Reference Dye	Not applicable.
		20 mM dNTP Mix (5 mM each dNTP)	Not applicable.
		50 mM Magnesium Chloride	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
		10X Core RT-PCR Buffer	Not applicable.
		Reverse Transcriptase	Not applicable.
Supplemental label elements	:	SureStart Taq DNA Polymerase	None known.
		Reference Dye	None known.
		20 mM dNTP Mix (5 mM each dNTP)	None known.
		50 mM Magnesium Chloride	None known.
		10X Core RT-PCR Buffer	None known.
		Reverse Transcriptase	None known.

2.3 Other hazards

Hazards not otherwise classified	:	SureStart Taq DNA Polymerase	None known.
		Reference Dye	None known.
		20 mM dNTP Mix (5 mM each dNTP)	None known.
		50 mM Magnesium Chloride	None known.
		10X Core RT-PCR Buffer	None known.
		Reverse Transcriptase	None known.

Section 3. Composition/information on ingredients

Substance/mixture	:	SureStart Taq DNA Polymerase	Mixture
		Reference Dye	Mixture
		20 mM dNTP Mix (5 mM each dNTP)	Mixture
		50 mM Magnesium Chloride	Mixture
		10X Core RT-PCR Buffer	Mixture
		Reverse Transcriptase	Mixture

Ingredient name	%	CAS number
SureStart Taq DNA Polymerase		
Glycerol	≥50 - ≤75	56-81-5
Reference Dye		
Potassium chloride	≤5	7447-40-7
50 mM Magnesium Chloride		
Magnesium chloride	<2.5	7786-30-3
10X Core RT-PCR Buffer		

Section 3. Composition/information on ingredients

Potassium chloride	≤5	7447-40-7
Reverse Transcriptase		
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

4.1 Description of necessary first aid measures

Eye contact :

SureStart Taq DNA Polymerase: 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.

20 mM dNTP Mix (5 mM each dNTP): 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.

50 mM Magnesium Chloride: 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.

10X Core RT-PCR Buffer: 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.

Reverse Transcriptase: 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 :

SureStart Taq DNA Polymerase: 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

Section 4. First aid measures

			hours.
		20 mM dNTP Mix (5 mM each dNTP)	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		50 mM Magnesium Chloride	Remove victim to fresh air and keep at rest in a position comfortable for breathing.
		10X Core RT-PCR Buffer	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.
		Reverse Transcriptase	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.
Skin contact	:	SureStart Taq DNA Polymerase	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.
		20 mM dNTP Mix (5 mM each dNTP)	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		50 mM Magnesium Chloride	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		10X Core RT-PCR Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Reverse Transcriptase	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.
Ingestion	:	SureStart Taq DNA Polymerase	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

Section 4. First aid measures

		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.
	20 mM dNTP Mix (5 mM each dNTP)	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.
	50 mM Magnesium Chloride	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.
	10X Core RT-PCR Buffer	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.
	Reverse Transcriptase	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	:	SureStart Taq DNA Polymerase	Causes eye irritation.
		Reference Dye	No known significant effects or critical hazards.
		20 mM dNTP Mix (5 mM each dNTP)	No known significant effects or critical hazards.
		50 mM Magnesium Chloride	No known significant effects or critical hazards.
		10X Core RT-PCR Buffer	No known significant effects or critical hazards.
		Reverse Transcriptase	Causes eye irritation.
Inhalation	:	SureStart Taq DNA Polymerase	No known significant effects or critical hazards.
		Reference Dye	No known significant effects or critical hazards.
		20 mM dNTP Mix (5 mM each dNTP)	No known significant effects or critical hazards.
		50 mM Magnesium Chloride	No known significant effects or critical hazards.
		10X Core RT-PCR Buffer	No known significant effects or critical hazards.
		Reverse Transcriptase	No known significant effects or critical hazards.

Section 4. First aid measures

Skin contact	:	SureStart Taq DNA Polymerase	No known significant effects or critical hazards.
		Reference Dye	No known significant effects or critical hazards.
		20 mM dNTP Mix (5 mM each dNTP)	No known significant effects or critical hazards.
		50 mM Magnesium Chloride	No known significant effects or critical hazards.
		10X Core RT-PCR Buffer	No known significant effects or critical hazards.
		Reverse Transcriptase	No known significant effects or critical hazards.
Ingestion	:	SureStart Taq DNA Polymerase	No known significant effects or critical hazards.
		Reference Dye	No known significant effects or critical hazards.
		20 mM dNTP Mix (5 mM each dNTP)	No known significant effects or critical hazards.
		50 mM Magnesium Chloride	No known significant effects or critical hazards.
		10X Core RT-PCR Buffer	No known significant effects or critical hazards.
		Reverse Transcriptase	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	:	SureStart Taq DNA Polymerase	Adverse symptoms may include the following: irritation watering redness
		Reference Dye	No specific data.
		20 mM dNTP Mix (5 mM each dNTP)	No specific data.
		50 mM Magnesium Chloride	No specific data.
		10X Core RT-PCR Buffer	No specific data.
		Reverse Transcriptase	Adverse symptoms may include the following: irritation watering redness
Inhalation	:	SureStart Taq DNA Polymerase	No specific data.
		Reference Dye	No specific data.
		20 mM dNTP Mix (5 mM each dNTP)	No specific data.
		50 mM Magnesium Chloride	No specific data.
		10X Core RT-PCR Buffer	No specific data.
		Reverse Transcriptase	No specific data.
Skin contact	:	SureStart Taq DNA Polymerase	No specific data.
		Reference Dye	No specific data.
		20 mM dNTP Mix (5 mM each dNTP)	No specific data.
		50 mM Magnesium Chloride	No specific data.
		10X Core RT-PCR Buffer	No specific data.
		Reverse Transcriptase	No specific data.
Ingestion	:	SureStart Taq DNA Polymerase	No specific data.
		Reference Dye	No specific data.
		20 mM dNTP Mix (5 mM each dNTP)	No specific data.
		50 mM Magnesium Chloride	No specific data.
		10X Core RT-PCR Buffer	No specific data.
		Reverse Transcriptase	No specific data.

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

Section 4. First aid measures

Notes to physician	:	SureStart Taq DNA Polymerase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Reference Dye	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
		20 mM dNTP Mix (5 mM each dNTP)	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		50 mM Magnesium Chloride	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		10X Core RT-PCR Buffer	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.
		Reverse Transcriptase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	:	SureStart Taq DNA Polymerase	No specific treatment.
		Reference Dye	No specific treatment.
		20 mM dNTP Mix (5 mM each dNTP)	No specific treatment.
		50 mM Magnesium Chloride	No specific treatment.
		10X Core RT-PCR Buffer	No specific treatment.
		Reverse Transcriptase	No specific treatment.
Protection of first-aiders	:	SureStart Taq DNA Polymerase	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.
		20 mM dNTP Mix (5 mM each dNTP)	No action shall be taken involving any personal risk or without suitable training.
		50 mM Magnesium Chloride	No action shall be taken involving any personal risk or without suitable training.
		10X Core RT-PCR Buffer	No action shall be taken involving any personal risk or without suitable training.
		Reverse Transcriptase	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	:	SureStart Taq DNA Polymerase	Use an extinguishing agent suitable for the surrounding fire.
		Reference Dye	Use an extinguishing agent suitable for the surrounding fire.
		20 mM dNTP Mix (5 mM each dNTP)	Use an extinguishing agent suitable for the surrounding fire.
		50 mM Magnesium Chloride	Use an extinguishing agent suitable for the surrounding fire.
		10X Core RT-PCR Buffer	Use an extinguishing agent suitable for the surrounding fire.

Section 5. Fire-fighting measures

		Reverse Transcriptase	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	:	SureStart Taq DNA Polymerase	None known.
		Reference Dye	None known.
		20 mM dNTP Mix (5 mM each dNTP)	None known.
		50 mM Magnesium Chloride	None known.
		10X Core RT-PCR Buffer	None known.
		Reverse Transcriptase	None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	:	SureStart Taq DNA Polymerase	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.
		20 mM dNTP Mix (5 mM each dNTP)	In a fire or if heated, a pressure increase will occur and the container may burst.
		50 mM Magnesium Chloride	In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
		10X Core RT-PCR Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
		Reverse Transcriptase	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	:	SureStart Taq DNA Polymerase	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
		20 mM dNTP Mix (5 mM each dNTP)	No specific data.
		50 mM Magnesium Chloride	Decomposition products may include the following materials: halogenated compounds metal oxide/oxides
		10X Core RT-PCR Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
		Reverse Transcriptase	Decomposition products may include the following materials: carbon dioxide carbon monoxide

5.3 Advice for firefighters

Section 5. Fire-fighting measures

Special protective actions for fire-fighters	:	SureStart Taq DNA Polymerase	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.
		20 mM dNTP Mix (5 mM each dNTP)	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.
		50 mM Magnesium Chloride	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.
		10X Core RT-PCR Buffer	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.
		Reverse Transcriptase	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	:	SureStart Taq DNA Polymerase	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.
		20 mM dNTP Mix (5 mM each dNTP)	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
		50 mM Magnesium Chloride	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
		10X Core RT-PCR Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
		Reverse Transcriptase	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	:	SureStart Taq DNA Polymerase	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

Section 6. Accidental release measures

		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.
	20 mM dNTP Mix (5 mM each dNTP)	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.
	50 mM Magnesium Chloride	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.
	10X Core RT-PCR Buffer	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.
	Reverse Transcriptase	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 :	SureStart Taq DNA Polymerase	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".
	20 mM dNTP Mix (5 mM each dNTP)	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".
	50 mM Magnesium Chloride	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".
	10X Core RT-PCR Buffer	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".
	Reverse Transcriptase	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".

Section 6. Accidental release measures

6.2 Environmental precautions	:	SureStart Taq DNA Polymerase	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).
		20 mM dNTP Mix (5 mM each dNTP)	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).
		50 mM Magnesium Chloride	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). Water polluting material. May be harmful to the environment if released in large quantities.
		10X Core RT-PCR Buffer	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).
		Reverse Transcriptase	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	:	SureStart Taq DNA Polymerase	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.
		20 mM dNTP Mix (5 mM each dNTP)	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.
		50 mM Magnesium Chloride	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.
		10X Core RT-PCR Buffer	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.
	Reverse Transcriptase	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	:	SureStart Taq DNA Polymerase	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).
		20 mM dNTP Mix (5 mM each dNTP)	Put on appropriate personal protective equipment (see Section 8).
		50 mM Magnesium Chloride	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
		10X Core RT-PCR Buffer	Put on appropriate personal protective equipment (see Section 8).
		Reverse Transcriptase	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.
Advice on general occupational hygiene	:	SureStart Taq DNA Polymerase	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.

Section 7. Handling and storage

	20 mM dNTP Mix (5 mM each dNTP)	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.
	50 mM Magnesium Chloride	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.
	10X Core RT-PCR Buffer	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.
	Reverse Transcriptase	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	: SureStart Taq DNA Polymerase	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	Reference Dye	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	20 mM dNTP Mix (5 mM each dNTP)	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid

Section 7. Handling and storage

		environmental contamination. See Section 10 for incompatible materials before handling or use.
	50 mM Magnesium Chloride	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.
	10X Core RT-PCR Buffer	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.
	Reverse Transcriptase	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.

7.3 Specific end use(s)

Recommendations	:	SureStart Taq DNA Polymerase	Industrial applications, Professional applications.
		Reference Dye	Industrial applications, Professional applications.
		20 mM dNTP Mix (5 mM each dNTP)	Industrial applications, Professional applications.
		50 mM Magnesium Chloride	Industrial applications, Professional applications.
		10X Core RT-PCR Buffer	Industrial applications, Professional applications.
		Reverse Transcriptase	Industrial applications, Professional applications.
Industrial sector specific solutions	:	SureStart Taq DNA Polymerase	Not available.
		Reference Dye	Not available.
		20 mM dNTP Mix (5 mM each dNTP)	Not available.
		50 mM Magnesium Chloride	Not available.
		10X Core RT-PCR Buffer	Not available.
		Reverse Transcriptase	Not available.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
SureStart Taq DNA Polymerase	
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
Reference Dye	
Potassium chloride	None.
50 mM Magnesium Chloride	
Magnesium chloride	None.
10X Core RT-PCR Buffer	
Potassium chloride	None.
Reverse Transcriptase	
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.

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

Section 8. Exposure controls/personal protection

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

Physical state :	SureStart Taq DNA Polymerase	Liquid.
	Reference Dye	Liquid.
	20 mM dNTP Mix (5 mM each dNTP)	Liquid.
	50 mM Magnesium Chloride	Liquid.
	10X Core RT-PCR Buffer	Liquid.
	Reverse Transcriptase	Liquid.
Color :	SureStart Taq DNA Polymerase	Not available.
	Reference Dye	Not available.
	20 mM dNTP Mix (5 mM each dNTP)	Not available.
	50 mM Magnesium Chloride	Not available.
	10X Core RT-PCR Buffer	Not available.
	Reverse Transcriptase	Not available.
Odor :	SureStart Taq DNA Polymerase	Not available.
	Reference Dye	Not available.
	20 mM dNTP Mix (5 mM each dNTP)	Not available.
	50 mM Magnesium Chloride	Not available.
	10X Core RT-PCR Buffer	Not available.
	Reverse Transcriptase	Not available.

Section 9. Physical and chemical properties and safety characteristics

Odor threshold :

SureStart Taq DNA Polymerase	Not available.
Reference Dye	Not available.
20 mM dNTP Mix (5 mM each dNTP)	Not available.
50 mM Magnesium Chloride	Not available.
10X Core RT-PCR Buffer	Not available.
Reverse Transcriptase	Not available.

pH :

SureStart Taq DNA Polymerase	Not available.
Reference Dye	8
20 mM dNTP Mix (5 mM each dNTP)	Not available.
50 mM Magnesium Chloride	Not available.
10X Core RT-PCR Buffer	Not available.
Reverse Transcriptase	Not available.

Melting point/freezing point :

SureStart Taq DNA Polymerase	Not available.
Reference Dye	Not available.
20 mM dNTP Mix (5 mM each dNTP)	0°C (32°F)
50 mM Magnesium Chloride	0°C (32°F)
10X Core RT-PCR Buffer	Not available.
Reverse Transcriptase	Not available.

Boiling point, initial boiling point, and boiling range :

SureStart Taq DNA Polymerase	Not available.
Reference Dye	Not available.
20 mM dNTP Mix (5 mM each dNTP)	100°C (212°F)
50 mM Magnesium Chloride	100°C (212°F)
10X Core RT-PCR Buffer	Not available.
Reverse Transcriptase	Not available.

Flash point :

	Closed cup			Open cup		
Ingredient name	**°C**	**°F**	**Method**	**°C**	**°F**	**Method**
SureStart Taq DNA Polymerase						
Glycerol	-	-	-	177	350.6	-
Reverse Transcriptase						
Glycerol	-	-	-	177	350.6	-

Evaporation rate :

SureStart Taq DNA Polymerase	Not available.
Reference Dye	Not available.
20 mM dNTP Mix (5 mM each dNTP)	Not available.
50 mM Magnesium Chloride	Not available.
10X Core RT-PCR Buffer	Not available.
Reverse Transcriptase	Not available.

Flammability :

SureStart Taq DNA Polymerase	Not applicable.
Reference Dye	Not applicable.
20 mM dNTP Mix (5 mM each dNTP)	Not applicable.
50 mM Magnesium Chloride	Not applicable.
10X Core RT-PCR Buffer	Not applicable.
Reverse Transcriptase	Not applicable.

Section 9. Physical and chemical properties and safety characteristics

Lower and upper explosion limit/flammability limit :

SureStart Taq DNA Polymerase	Not available.
Reference Dye	Not available.
20 mM dNTP Mix (5 mM each dNTP)	Not available.
50 mM Magnesium Chloride	Not available.
10X Core RT-PCR Buffer	Not available.
Reverse Transcriptase	Not available.

Vapor pressure :

Ingredient name	Vapor Pressure at 20˚C			Vapor pressure at 50˚C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
SureStart Taq DNA Polymerase						
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	-
20 mM dNTP Mix (5 mM each dNTP)						
water	17.5	2.3	-	92.258	12.3	-
50 mM Magnesium Chloride						
water	17.5	2.3	-	92.258	12.3	-
10X Core RT-PCR Buffer						
water	17.5	2.3	-	92.258	12.3	-
Reverse Transcriptase						
water	17.5	2.3	-	92.258	12.3	-
Glycerol	0.000075	0.00001	-	0.0025	0.00033	-

Relative vapor density :

SureStart Taq DNA Polymerase	Not available.
Reference Dye	Not available.
20 mM dNTP Mix (5 mM each dNTP)	Not available.
50 mM Magnesium Chloride	Not available.
10X Core RT-PCR Buffer	Not available.
Reverse Transcriptase	Not available.

Section 9. Physical and chemical properties and safety characteristics

Relative density :

SureStart Taq DNA Polymerase	Not available.
Reference Dye	Not available.
20 mM dNTP Mix (5 mM each dNTP)	Not available.
50 mM Magnesium Chloride	Not available.
10X Core RT-PCR Buffer	Not available.
Reverse Transcriptase	Not available.

Solubility(ies) :

Media	Result
SureStart Taq DNA Polymerase	
water	Soluble
Reference Dye	
water	Soluble
20 mM dNTP Mix (5 mM each dNTP)	
water	Soluble
50 mM Magnesium Chloride	
water	Soluble
10X Core RT-PCR Buffer	
water	Soluble
Reverse Transcriptase	
water	Soluble

Partition coefficient: n-octanol/water :

SureStart Taq DNA Polymerase	Not applicable.
Reference Dye	Not applicable.
20 mM dNTP Mix (5 mM each dNTP)	Not applicable.
50 mM Magnesium Chloride	Not applicable.
10X Core RT-PCR Buffer	Not applicable.
Reverse Transcriptase	Not applicable.

Auto-ignition temperature :

Ingredient name	°C	°F	Method
SureStart Taq DNA Polymerase			
Glycerol	370	698	-
Reverse Transcriptase			
Glycerol	370	698	-

Decomposition temperature :

SureStart Taq DNA Polymerase	Not available.
Reference Dye	Not available.
20 mM dNTP Mix (5 mM each dNTP)	Not available.
50 mM Magnesium Chloride	Not available.
10X Core RT-PCR Buffer	Not available.
Reverse Transcriptase	Not available.

Viscosity :

SureStart Taq DNA Polymerase	Not available.
Reference Dye	Not available.
20 mM dNTP Mix (5 mM each dNTP)	Not available.
50 mM Magnesium Chloride	Not available.
10X Core RT-PCR Buffer	Not available.
Reverse Transcriptase	Not available.

Particle characteristics

Section 9. Physical and chemical properties and safety characteristics

Median particle size	:	SureStart Taq DNA Polymerase	Not applicable.
		Reference Dye	Not applicable.
		20 mM dNTP Mix (5 mM each dNTP)	Not applicable.
		50 mM Magnesium Chloride	Not applicable.
		10X Core RT-PCR Buffer	Not applicable.
		Reverse Transcriptase	Not applicable.

Section 10. Stability and reactivity

10.1 Reactivity	:	SureStart Taq DNA Polymerase	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.
		20 mM dNTP Mix (5 mM each dNTP)	No specific test data related to reactivity available for this product or its ingredients.
		50 mM Magnesium Chloride	No specific test data related to reactivity available for this product or its ingredients.
		10X Core RT-PCR Buffer	No specific test data related to reactivity available for this product or its ingredients.
		Reverse Transcriptase	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	:	SureStart Taq DNA Polymerase	The product is stable.
		Reference Dye	The product is stable.
		20 mM dNTP Mix (5 mM each dNTP)	The product is stable.
		50 mM Magnesium Chloride	The product is stable.
		10X Core RT-PCR Buffer	The product is stable.
		Reverse Transcriptase	The product is stable.
10.3 Possibility of hazardous reactions	:	SureStart Taq DNA Polymerase	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.
		20 mM dNTP Mix (5 mM each dNTP)	Under normal conditions of storage and use, hazardous reactions will not occur.
		50 mM Magnesium Chloride	Under normal conditions of storage and use, hazardous reactions will not occur.
		10X Core RT-PCR Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
		Reverse Transcriptase	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	:	SureStart Taq DNA Polymerase	No specific data.
		Reference Dye	No specific data.
		20 mM dNTP Mix (5 mM each dNTP)	No specific data.
		50 mM Magnesium Chloride	No specific data.
		10X Core RT-PCR Buffer	No specific data.
		Reverse Transcriptase	No specific data.

Section 10. Stability and reactivity

10.5 Incompatible materials	:	SureStart Taq DNA Polymerase	May react or be incompatible with oxidizing materials.
		Reference Dye	May react or be incompatible with oxidizing materials.
		20 mM dNTP Mix (5 mM each dNTP)	May react or be incompatible with oxidizing materials.
		50 mM Magnesium Chloride	May react or be incompatible with oxidizing materials.
		10X Core RT-PCR Buffer	May react or be incompatible with oxidizing materials.
		Reverse Transcriptase	May react or be incompatible with oxidizing materials.
10.6 Hazardous decomposition products	:	SureStart Taq DNA Polymerase	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.
		20 mM dNTP Mix (5 mM each dNTP)	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		50 mM Magnesium Chloride	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		10X Core RT-PCR Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		Reverse Transcriptase	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
SureStart Taq DNA Polymerase				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Reference Dye				
Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-
50 mM Magnesium Chloride				
Magnesium chloride	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat	2800 mg/kg	-
10X Core RT-PCR Buffer				
Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-
Reverse Transcriptase				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
SureStart Taq DNA Polymerase					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Reference Dye					
Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
10X Core RT-PCR Buffer					
Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
Reverse Transcriptase					
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.

Information on the likely routes of exposure :

SureStart Taq DNA Polymerase	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Reference Dye	Not available.
20 mM dNTP Mix (5 mM each dNTP)	Not available.
50 mM Magnesium Chloride	Not available.
10X Core RT-PCR Buffer	Not available.
Reverse Transcriptase	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

Section 11. Toxicological information

Eye contact	:	SureStart Taq DNA Polymerase	Causes eye irritation.
		Reference Dye	No known significant effects or critical hazards.
		20 mM dNTP Mix (5 mM each dNTP)	No known significant effects or critical hazards.
		50 mM Magnesium Chloride	No known significant effects or critical hazards.
		10X Core RT-PCR Buffer	No known significant effects or critical hazards.
		Reverse Transcriptase	Causes eye irritation.
Inhalation	:	SureStart Taq DNA Polymerase	No known significant effects or critical hazards.
		Reference Dye	No known significant effects or critical hazards.
		20 mM dNTP Mix (5 mM each dNTP)	No known significant effects or critical hazards.
		50 mM Magnesium Chloride	No known significant effects or critical hazards.
		10X Core RT-PCR Buffer	No known significant effects or critical hazards.
		Reverse Transcriptase	No known significant effects or critical hazards.
Skin contact	:	SureStart Taq DNA Polymerase	No known significant effects or critical hazards.
		Reference Dye	No known significant effects or critical hazards.
		20 mM dNTP Mix (5 mM each dNTP)	No known significant effects or critical hazards.
		50 mM Magnesium Chloride	No known significant effects or critical hazards.
		10X Core RT-PCR Buffer	No known significant effects or critical hazards.
		Reverse Transcriptase	No known significant effects or critical hazards.
Ingestion	:	SureStart Taq DNA Polymerase	No known significant effects or critical hazards.
		Reference Dye	No known significant effects or critical hazards.
		20 mM dNTP Mix (5 mM each dNTP)	No known significant effects or critical hazards.
		50 mM Magnesium Chloride	No known significant effects or critical hazards.
		10X Core RT-PCR Buffer	No known significant effects or critical hazards.
		Reverse Transcriptase	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	:	SureStart Taq DNA Polymerase	Adverse symptoms may include the following: irritation watering redness
		Reference Dye	No specific data.
		20 mM dNTP Mix (5 mM each dNTP)	No specific data.
		50 mM Magnesium Chloride	No specific data.
		10X Core RT-PCR Buffer	No specific data.
		Reverse Transcriptase	Adverse symptoms may include the following: irritation watering redness
Inhalation	:	SureStart Taq DNA Polymerase	No specific data.
		Reference Dye	No specific data.
		20 mM dNTP Mix (5 mM each dNTP)	No specific data.
		50 mM Magnesium Chloride	No specific data.
		10X Core RT-PCR Buffer	No specific data.
		Reverse Transcriptase	No specific data.
Skin contact	:	SureStart Taq DNA Polymerase	No specific data.
		Reference Dye	No specific data.
		20 mM dNTP Mix (5 mM each dNTP)	No specific data.
		50 mM Magnesium Chloride	No specific data.
		10X Core RT-PCR Buffer	No specific data.
		Reverse Transcriptase	No specific data.

Section 11. Toxicological information

Ingestion	:	SureStart Taq DNA Polymerase	No specific data.
		Reference Dye	No specific data.
		20 mM dNTP Mix (5 mM each dNTP)	No specific data.
		50 mM Magnesium Chloride	No specific data.
		10X Core RT-PCR Buffer	No specific data.
		Reverse Transcriptase	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	:	SureStart Taq DNA Polymerase	No known significant effects or critical hazards.
		Reference Dye	No known significant effects or critical hazards.
		20 mM dNTP Mix (5 mM each dNTP)	No known significant effects or critical hazards.
		50 mM Magnesium Chloride	No known significant effects or critical hazards.
		10X Core RT-PCR Buffer	No known significant effects or critical hazards.
		Reverse Transcriptase	No known significant effects or critical hazards.
Carcinogenicity	:	SureStart Taq DNA Polymerase	No known significant effects or critical hazards.
		Reference Dye	No known significant effects or critical hazards.
		20 mM dNTP Mix (5 mM each dNTP)	No known significant effects or critical hazards.
		50 mM Magnesium Chloride	No known significant effects or critical hazards.
		10X Core RT-PCR Buffer	No known significant effects or critical hazards.
		Reverse Transcriptase	No known significant effects or critical hazards.
Mutagenicity	:	SureStart Taq DNA Polymerase	No known significant effects or critical hazards.
		Reference Dye	No known significant effects or critical hazards.
		20 mM dNTP Mix (5 mM each dNTP)	No known significant effects or critical hazards.
		50 mM Magnesium Chloride	No known significant effects or critical hazards.
		10X Core RT-PCR Buffer	No known significant effects or critical hazards.
		Reverse Transcriptase	No known significant effects or critical hazards.
Reproductive toxicity	:	SureStart Taq DNA Polymerase	No known significant effects or critical hazards.
		Reference Dye	No known significant effects or critical hazards.
		20 mM dNTP Mix (5 mM each dNTP)	No known significant effects or critical hazards.
		50 mM Magnesium Chloride	No known significant effects or critical hazards.
		10X Core RT-PCR Buffer	No known significant effects or critical hazards.
		Reverse Transcriptase	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
SureStart Taq DNA Polymerase					
Glycerol	12600	N/A	N/A	N/A	N/A
Reference Dye					
Reference Dye	70270.3	N/A	N/A	N/A	N/A
Potassium chloride	2600	N/A	N/A	N/A	N/A
50 mM Magnesium Chloride					
50 mM Magnesium Chloride	280000.0	250000	N/A	N/A	N/A
Magnesium chloride	2800	2500	N/A	N/A	N/A
10X Core RT-PCR Buffer					
10X Core RT-PCR Buffer	70270.3	N/A	N/A	N/A	N/A
Potassium chloride	2600	N/A	N/A	N/A	N/A
Reverse Transcriptase					
Glycerol	12600	N/A	N/A	N/A	N/A

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
SureStart Taq DNA Polymerase			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - *Oncorhynchus mykiss*	96 hours
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
50 mM Magnesium Chloride			
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
10X Core RT-PCR Buffer			
Potassium chloride	Acute EC50 9.24 g/L Fresh water	Algae - *Desmodesmus subspicatus*	72 hours

Section 12. Ecological information

	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
Reverse Transcriptase			
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
SureStart Taq DNA Polymerase				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
Reverse Transcriptase				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Reference Dye			
Potassium chloride	-	-	Readily
10X Core RT-PCR Buffer			
Potassium chloride	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
SureStart Taq DNA Polymerase			
Glycerol	-1.76	-	Low
Reference Dye			
Potassium chloride	-0.46	-	Low
10X Core RT-PCR Buffer			
Potassium chloride	-0.46	-	Low
Reverse Transcriptase			
Glycerol	-1.76	-	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 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**: 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: EDTA

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

Section 15. Regulatory information

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 :

SureStart Taq DNA Polymerase	EYE IRRITATION - Category 2B
Reference Dye	Not applicable.
20 mM dNTP Mix (5 mM each dNTP)	Not applicable.
50 mM Magnesium Chloride	Not applicable.
10X Core RT-PCR Buffer	Not applicable.
Reverse Transcriptase	EYE IRRITATION - Category 2B

Composition/information on ingredients

Name	%	Classification
SureStart Taq DNA Polymerase		
Glycerol	≥50 - ≤75	EYE IRRITATION - Category 2B
Reference Dye		
Potassium chloride	≤5	EYE IRRITATION - Category 2B
10X Core RT-PCR Buffer		
Potassium chloride	≤5	EYE IRRITATION - Category 2B
Reverse Transcriptase		
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

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.

Section 15. Regulatory information

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
SureStart Taq DNA Polymerase EYE IRRITATION - Category 2B	Calculation method
50 mM Magnesium Chloride AQUATIC HAZARD (LONG-TERM) - Category 3	Calculation method
Reverse Transcriptase EYE IRRITATION - Category 2B	Calculation method

History

Date of issue/Date of revision : 07/15/2024

Date of previous issue : 06/23/2021

Version : 8

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

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.