

SAFETY DATA SHEET

Brilliant II QRT-PCR Core Reagent Kit - 1-Step - 10-pack, Part Number 600819

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier

Product name	: Brilliant II QRT-PCR Core Reagent Kit - 1-Step - 10-pack, Part Number 600819		
Part No. (Kit)	: 600819		
Part No.	: SureStart Taq DNA Polymerase	600530-51	
	: Reference dye, 1mM	600530-53	
	: dNTP mix	600530-52	
	: Magnesium chloride	600530-55	
	: Core RT-PCR Buffer	600532-51	
	: Reverse Transcriptase	600810-52	

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

Identified uses	
Analytical reagent.	
SureStart Taq DNA Polymerase	1 ml
Reference dye, 1mM	1 ml
dNTP mix	4 ml
Magnesium chloride	15 ml
Core RT-PCR Buffer	17 ml
Reverse Transcriptase	4 ml

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation) : CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition	: SureStart Taq DNA Polymerase	Mixture
	: Reference dye, 1mM	Mixture
	: dNTP mix	Mixture
	: Magnesium chloride	Mixture
	: Core RT-PCR Buffer	Mixture
	: Reverse Transcriptase	Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

SureStart Taq DNA Polymerase

H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

Reference dye, 1mM

H412 LONG-TERM AQUATIC HAZARD - Category 3

Core RT-PCR Buffer

H412 LONG-TERM AQUATIC HAZARD - Category 3

Date of issue/Date of revision : 28/04/2014

SECTION 2: Hazards identification

Reverse Transcriptase

H373

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

Ingredients of unknown toxicity	: Reference dye, 1mM	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 2.4%
	: Core RT-PCR Buffer	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 2.4%
Ingredients of unknown ecotoxicity	: Reference dye, 1mM	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 2.4%
	: Core RT-PCR Buffer	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 2.4%

Classification according to Directive 1999/45/EC [DPD]

SureStart Taq DNA Polymerase	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
Reference dye, 1mM	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
dNTP mix	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
Magnesium chloride	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
Core RT-PCR Buffer	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
Reverse Transcriptase	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification	: SureStart Taq DNA Polymerase	Not classified.
	: Reference dye, 1mM	Not classified.
	: dNTP mix	Not classified.
	: Magnesium chloride	Not classified.
	: Core RT-PCR Buffer	Not classified.
	: Reverse Transcriptase	Not classified.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms

:



Signal word

: SureStart Taq DNA Polymerase	Warning
: Reference dye, 1mM	No signal word.
: dNTP mix	No signal word.
: Magnesium chloride	No signal word.
: Core RT-PCR Buffer	No signal word.
: Reverse Transcriptase	Warning

Hazard statements

: SureStart Taq DNA Polymerase	GHS08 - May cause damage to organs through prolonged or repeated exposure.
: Reference dye, 1mM	Harmful to aquatic life with long lasting effects.
: dNTP mix	No known significant effects or critical hazards.
: Magnesium chloride	No known significant effects or critical hazards.
: Core RT-PCR Buffer	Harmful to aquatic life with long lasting effects.
: Reverse Transcriptase	GHS08 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

SECTION 2: Hazards identification

Prevention	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	P260 - Do not breathe vapour. P273 - Avoid release to the environment. Not applicable. Not applicable. P273 - Avoid release to the environment. P260 - Do not breathe vapour.
Response	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	P314 - Get medical attention if you feel unwell. Not applicable. Not applicable. Not applicable. Not applicable. P314 - Get medical attention if you feel unwell.
Storage	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
Disposal	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. Not applicable. Not applicable. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients	: SureStart Taq DNA Polymerase Glycerol Reverse Transcriptase Glycerol	
Supplemental label elements	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<u>Special packaging requirements</u>		
Tactile warning of danger	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
2.3 Other hazards		
Other hazards which do not result in classification	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	None known. None known. None known. None known. None known. None known.

SECTION 3: Composition/information on ingredients

Substance/mixture	: SureStart Taq DNA Polymerase	Mixture
	Reference dye, 1mM	Mixture
	dNTP mix	Mixture
	Magnesium chloride	Mixture
	Core RT-PCR Buffer	Mixture
	Reverse Transcriptase	Mixture

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
SureStart Taq DNA Polymerase Glycerol	EC: 200-289-5 CAS: 56-81-5	>=50 - <75	Not classified.	STOT RE 2, H373 (kidneys) (inhalation)	[1]
Reference dye, 1mM Potassium chloride	EC: 231-211-8 CAS: 7447-40-7	>=1 - <5	Not classified.	STOT RE 2, H373 (gastrointestinal tract) Aquatic Chronic 2, H411	[1]
2-Amino-2-(hydroxymethyl) propane-1,3-diol hydrochloride	EC: 214-684-5 CAS: 1185-53-1	>=1 - <5	Xi; R36/37/38	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 (Respiratory tract irritation)	[1]
Core RT-PCR Buffer Potassium chloride	EC: 231-211-8 CAS: 7447-40-7	>=1 - <5	Not classified.	STOT RE 2, H373 (gastrointestinal tract) Aquatic Chronic 2, H411	[1]
2-Amino-2-(hydroxymethyl) propane-1,3-diol hydrochloride	EC: 214-684-5 CAS: 1185-53-1	>=1 - <5	Xi; R36/37/38	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 (Respiratory tract irritation)	[1]
Reverse Transcriptase Glycerol	EC: 200-289-5 CAS: 56-81-5	>=50 - <75	Not classified. See Section 16 for the full text of the R-phrases declared above.	STOT RE 2, H373 (kidneys) (inhalation) See Section 16 for the full text of the H statements declared above.	[1]

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

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern

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

SECTION 4: First aid measures

4.1 Description of 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. Get medical attention following exposure or if feeling unwell.
	Reference dye, 1mM	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. Get medical attention if irritation occurs.
	dNTP 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.
	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.
	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. Continue to rinse for at least 10 minutes. 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. Get medical attention following exposure or if feeling unwell.
	Inhalation	: SureStart Taq DNA Polymerase
Reference dye, 1mM		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. 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.
dNTP mix		Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Magnesium chloride		Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Core RT-PCR Buffer		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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical

SECTION 4: First aid measures

	Reverse Transcriptase	surveillance for 48 hours. 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 following exposure or if feeling unwell. 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. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Reference dye, 1mM	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.
	dNTP mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Magnesium chloride	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Core RT-PCR Buffer	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.
	Reverse Transcriptase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	: SureStart Taq DNA Polymerase	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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 following exposure or if feeling unwell. 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, 1mM	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.
	dNTP mix	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is

SECTION 4: First aid measures

Magnesium chloride	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. Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.
Core RT-PCR Buffer	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.
Reverse Transcriptase	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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 following exposure or if feeling unwell. 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.
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, 1mM	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.
dNTP mix	No action shall be taken involving any personal risk or without suitable training.
Magnesium chloride	No action shall be taken involving any personal risk or without suitable training.
Core RT-PCR Buffer	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.
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.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact	: SureStart Taq DNA Polymerase	No known significant effects or critical hazards.
	Reference dye, 1mM	No known significant effects or critical hazards.
	dNTP mix	No known significant effects or critical hazards.
	Magnesium chloride	No known significant effects or critical hazards.
	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

Inhalation	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	No known significant effects or critical hazards. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. No known significant effects or critical hazards. No known significant effects or critical hazards. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. No known significant effects or critical hazards.
Skin contact	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	No specific data. No specific data. No specific data. No specific data. No specific data.
Inhalation	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	No specific data. No specific data. No specific data. No specific data. No specific data.
Skin contact	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	No specific data. No specific data. No specific data. No specific data. No specific data.
Ingestion	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	No specific data. No specific data. No specific data. No specific data. No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
---------------------------	--	--

SECTION 4: First aid measures

	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, 1mM	No specific treatment.
	dNTP mix	No specific treatment.
	Magnesium chloride	No specific treatment.
	Core RT-PCR Buffer	No specific treatment.
	Reverse Transcriptase	No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	: SureStart Taq DNA Polymerase	Use an extinguishing agent suitable for the surrounding fire.
	Reference dye, 1mM	Use an extinguishing agent suitable for the surrounding fire.
	dNTP mix	Use an extinguishing agent suitable for the surrounding fire.
	Magnesium chloride	Use an extinguishing agent suitable for the surrounding fire.
	Core RT-PCR Buffer	Use an extinguishing agent suitable for the surrounding fire.
	Reverse Transcriptase	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: SureStart Taq DNA Polymerase	None known.
	Reference dye, 1mM	None known.
	dNTP mix	None known.
	Magnesium chloride	None known.
	Core RT-PCR Buffer	None known.
	Reverse Transcriptase	None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	: SureStart Taq DNA Polymerase	In a fire or if heated, a pressure increase will occur and the container may burst.
	Reference dye, 1mM	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.
	dNTP mix	In a fire or if heated, a pressure increase will occur and the container may burst.
	Magnesium chloride	In a fire or if heated, a pressure increase will occur and the container may burst.
	Core RT-PCR Buffer	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.
	Reverse Transcriptase	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	: SureStart Taq DNA Polymerase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	Reference dye, 1mM	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
	dNTP mix	No specific data.
	Magnesium chloride	Decomposition products may include the following materials: halogenated compounds metal oxide/oxides
	Core RT-PCR Buffer	Decomposition products may include the following materials:

SECTION 5: Firefighting measures

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

Special precautions for fire-fighters

- : SureStart Taq DNA Polymerase
- Reference dye, 1mM
- dNTP mix
- Magnesium chloride
- Core RT-PCR Buffer
- 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.
 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.
 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.
 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.
 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
- Reference dye, 1mM
- dNTP mix
- Magnesium chloride
- Core RT-PCR Buffer
- 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
 Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
 Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
 Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
 Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
 Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

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 spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
		Reference dye, 1mM	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 spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
		dNTP 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 spilt material. Put on appropriate personal protective equipment.
		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 spilt material. Put on appropriate personal protective equipment.
		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 spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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 spilt material. Avoid breathing vapour 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 specialised 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, 1mM	If specialised 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".
		dNTP mix	If specialised 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".
		Magnesium chloride	If specialised 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".
		Core RT-PCR Buffer	If specialised 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 specialised 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 spilt 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, 1mM	Avoid dispersal of spilt 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.
	dNTP mix	Avoid dispersal of spilt 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).
	Magnesium chloride	Avoid dispersal of spilt 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).
	Core RT-PCR Buffer	Avoid dispersal of spilt 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.
	Reverse Transcriptase	Avoid dispersal of spilt 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, 1mM	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.
	dNTP 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.
	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.
	Core RT-PCR Buffer	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.
	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.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

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 breathe vapour or mist. Do not ingest. Avoid contact with eyes, skin and clothing. 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, 1mM	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour 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.
	dNTP mix	Put on appropriate personal protective equipment (see Section 8).
	Magnesium chloride	Put on appropriate personal protective equipment (see Section 8).
	Core RT-PCR Buffer	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour 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.
	Reverse Transcriptase	Put on appropriate personal protective equipment (see Section 8). Do not breathe vapour or mist. Do not ingest. Avoid contact with eyes, skin and clothing. 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, 1mM	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.
	dNTP 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.
	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.
	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 7: Handling and storage

Reverse Transcriptase

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

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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

Reference dye, 1mM

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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

dNTP 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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

SECTION 7: Handling and storage

Recommendations	: SureStart Taq DNA Polymerase	Industrial applications, Professional applications.
	Reference dye, 1mM	Industrial applications, Professional applications.
	dNTP mix	Industrial applications, Professional applications.
	Magnesium chloride	Industrial applications, Professional applications.
	Core RT-PCR Buffer	Industrial applications, Professional applications.
	Reverse Transcriptase	Industrial applications, Professional applications.

Industrial sector specific solutions : Not applicable.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Derived effect levels

No DNELs available.

Predicted effect concentrations

No PNECs available.

8.2 Exposure controls

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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. 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.

SECTION 8: Exposure controls/personal protection

- 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** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- 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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : SureStart Taq DNA Polymerase Liquid.
Reference dye, 1mM Liquid.
dNTP mix Liquid.
Magnesium chloride Liquid.
Core RT-PCR Buffer Liquid.
Reverse Transcriptase Liquid.
- Colour** : SureStart Taq DNA Polymerase Not available.
Reference dye, 1mM Not available.
dNTP mix Not available.
Magnesium chloride Not available.
Core RT-PCR Buffer Not available.
Reverse Transcriptase Not available.
- Odour** : SureStart Taq DNA Polymerase Not available.
Reference dye, 1mM Not available.
dNTP mix Not available.
Magnesium chloride Not available.
Core RT-PCR Buffer Not available.
Reverse Transcriptase Not available.
- Odour threshold** : SureStart Taq DNA Polymerase Not available.
Reference dye, 1mM Not available.
dNTP mix Not available.
Magnesium chloride Not available.
Core RT-PCR Buffer Not available.
Reverse Transcriptase Not available.
- pH** : SureStart Taq DNA Polymerase 8
Reference dye, 1mM 8
dNTP mix Not available.
Magnesium chloride Not available.
Core RT-PCR Buffer Not available.
Reverse Transcriptase Not available.
- Melting point/freezing point** : SureStart Taq DNA Polymerase Not available.
Reference dye, 1mM Not available.
dNTP mix 0°C
Magnesium chloride 0°C
Core RT-PCR Buffer Not available.
Reverse Transcriptase Not available.

SECTION 9: Physical and chemical properties

Initial boiling point and boiling range	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	Not available. Not available. 100°C 100°C Not available. Not available.
Flash point	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	Not available. Not available. Not available. Not available. Not available. Not available.
Evaporation rate	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	Not available. Not available. Not available. Not available. Not available. Not available.
Flammability (solid, gas)	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
Upper/lower flammability or explosive limits	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	Not available. Not available. Not available. Not available. Not available.
Vapour pressure	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	Not available. Not available. Not available. Not available. Not available.
Vapour density	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	Not available. Not available. Not available. Not available. Not available.
Relative density	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	Not available. Not available. Not available. Not available. Not available.
Solubility(ies)	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride	Soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and

SECTION 9: Physical and chemical properties

	Core RT-PCR Buffer	hot water. Easily soluble in the following materials: cold water and hot water.
	Reverse Transcriptase	Soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: SureStart Taq DNA Polymerase	Not available.
	Reference dye, 1mM	Not available.
	dNTP mix	Not available.
	Magnesium chloride	Not available.
	Core RT-PCR Buffer	Not available.
	Reverse Transcriptase	Not available.
Auto-ignition temperature	: SureStart Taq DNA Polymerase	Not available.
	Reference dye, 1mM	Not available.
	dNTP mix	Not available.
	Magnesium chloride	Not available.
	Core RT-PCR Buffer	Not available.
	Reverse Transcriptase	Not available.
Decomposition temperature	: SureStart Taq DNA Polymerase	Not available.
	Reference dye, 1mM	Not available.
	dNTP mix	Not available.
	Magnesium chloride	Not available.
	Core RT-PCR Buffer	Not available.
	Reverse Transcriptase	Not available.
Viscosity	: SureStart Taq DNA Polymerase	Not available.
	Reference dye, 1mM	Not available.
	dNTP mix	Not available.
	Magnesium chloride	Not available.
	Core RT-PCR Buffer	Not available.
	Reverse Transcriptase	Not available.
Explosive properties	: SureStart Taq DNA Polymerase	Not available.
	Reference dye, 1mM	Not available.
	dNTP mix	Not available.
	Magnesium chloride	Not available.
	Core RT-PCR Buffer	Not available.
	Reverse Transcriptase	Not available.

9.2 Other information

No additional information.

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, 1mM	No specific test data related to reactivity available for this product or its ingredients.
	dNTP mix	No specific test data related to reactivity available for this product or its ingredients.
	Magnesium chloride	No specific test data related to reactivity available for this product or its ingredients.
	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.

SECTION 10: Stability and reactivity

10.2 Chemical stability	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable.
10.3 Possibility of hazardous reactions	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
10.5 Incompatible materials	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
10.6 Hazardous decomposition products	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information**11.1 Information on toxicological effects**Acute toxicity

SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
SureStart Taq DNA Polymerase Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Reference dye, 1mM Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-
Core RT-PCR Buffer Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-
Reverse Transcriptase Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Conclusion/Summary : Not available.

Acute toxicity estimates

Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
SureStart Taq DNA Polymerase Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Reference dye, 1mM Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Core RT-PCR Buffer Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Reverse Transcriptase Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitiser

Conclusion/Summary : Not available.

Mutagenicity

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Specific target organ toxicity (single exposure)

SECTION 11: Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
Reference dye, 1mM 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Category 3	Not applicable.	Respiratory tract irritation
Core RT-PCR Buffer 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
SureStart Taq DNA Polymerase Glycerol	Category 2	Inhalation	kidneys
Reference dye, 1mM Potassium chloride	Category 2	Not determined	gastrointestinal tract
Core RT-PCR Buffer Potassium chloride	Category 2	Not determined	gastrointestinal tract
Reverse Transcriptase Glycerol	Category 2	Inhalation	kidneys

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Inhalation	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	No known significant effects or critical hazards. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. No known significant effects or critical hazards. No known significant effects or critical hazards. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. No known significant effects or critical hazards.
Ingestion	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Eye contact	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

SECTION 11: Toxicological informationSymptoms related to the physical, chemical and toxicological characteristics

Inhalation	: SureStart Taq DNA Polymerase	No specific data.
	Reference dye, 1mM	No specific data.
	dNTP mix	No specific data.
	Magnesium chloride	No specific data.
	Core RT-PCR Buffer	No specific data.
	Reverse Transcriptase	No specific data.
Ingestion	: SureStart Taq DNA Polymerase	No specific data.
	Reference dye, 1mM	No specific data.
	dNTP mix	No specific data.
	Magnesium chloride	No specific data.
	Core RT-PCR Buffer	No specific data.
	Reverse Transcriptase	No specific data.
Skin contact	: SureStart Taq DNA Polymerase	No specific data.
	Reference dye, 1mM	No specific data.
	dNTP mix	No specific data.
	Magnesium chloride	No specific data.
	Core RT-PCR Buffer	No specific data.
	Reverse Transcriptase	No specific data.
Eye contact	: SureStart Taq DNA Polymerase	No specific data.
	Reference dye, 1mM	No specific data.
	dNTP mix	No specific data.
	Magnesium chloride	No specific data.
	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 exposureShort 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	May cause damage to organs through prolonged or repeated exposure.
	Reference dye, 1mM	No known significant effects or critical hazards.
	dNTP mix	No known significant effects or critical hazards.
	Magnesium chloride	No known significant effects or critical hazards.
	Core RT-PCR Buffer	No known significant effects or critical hazards.
	Reverse Transcriptase	May cause damage to organs through prolonged or repeated exposure.
Carcinogenicity	: SureStart Taq DNA Polymerase	No known significant effects or critical hazards.
	Reference dye, 1mM	No known significant effects or critical hazards.
	dNTP mix	No known significant effects or critical hazards.
	Magnesium chloride	No known significant effects or critical hazards.
	Core RT-PCR Buffer	No known significant effects or critical hazards.
	Reverse Transcriptase	No known significant effects or critical hazards.

SECTION 11: Toxicological information

Mutagenicity	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Teratogenicity	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Developmental effects	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Fertility effects	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Absorption	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	Not available. Not available. Not available. Not available. Not available.
Distribution	: SureStart Taq DNA Polymerase Reference dye, 1mM dNTP mix Magnesium chloride Core RT-PCR Buffer Reverse Transcriptase	Not available. Not available. Not available. Not available. Not available.
Other information	: Not available.	

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Reference dye, 1mM Potassium chloride	Acute EC50 1337000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 83000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 9.68 mg/l Fresh water	Crustaceans - Pseudosida ramosa - Neonate	48 hours
	Acute LC50 880000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Core RT-PCR Buffer Potassium chloride	Acute EC50 1337000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 83000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 9.68 mg/l Fresh water	Crustaceans - Pseudosida ramosa - Neonate	48 hours
	Acute LC50 880000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

12.2 Persistence and degradability

Date of issue/Date of revision : 28/04/2014

SECTION 12: Ecological information**Conclusion/Summary** : Not available.**12.3 Bioaccumulative potential**

Product/ingredient name	LogP _{ow}	BCF	Potential
SureStart Taq DNA Polymerase Glycerol	-1.76	-	low
Reverse Transcriptase Glycerol	-1.76	-	low

12.4 Mobility in soil**Soil/water partition coefficient (K_{oc})** : Not available.**Mobility** : Not available.**12.5 Results of PBT and vPvB assessment****PBT** : Not applicable.**vPvB** : Not applicable.**12.6 Other adverse effects** : No known significant effects or critical hazards.**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product****Methods of disposal** : The generation of waste should be avoided or minimised 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.**Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.**Packaging****Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.**Special precautions** : 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 spilt material and runoff and contact with soil, waterways, drains and sewers.**SECTION 14: Transport information****Regulatory information****ADR/RID / IMDG / IATA** : Not regulated.**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Substances of very high concern

None of the components are listed.

Annex XVII - : Not applicable.

Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Other EU regulations

Europe inventory : At least one component is not listed.

Black List Chemicals : Not listed

Priority List Chemicals : Not listed

Integrated pollution prevention and control list (IPPC) - Air : Not listed

Integrated pollution prevention and control list (IPPC) - Water : Not listed

15.2 Chemical Safety Assessment : This product contains substances for which Chemical Safety Assessments might still be required.

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
SureStart Taq DNA Polymerase STOT RE 2, H373	Calculation method
Reference dye, 1mM Aquatic Chronic 3, H412	Calculation method
Core RT-PCR Buffer Aquatic Chronic 3, H412	Calculation method
Reverse Transcriptase STOT RE 2, H373	Calculation method

Full text of abbreviated H statements : **SureStart Taq DNA Polymerase**
 H373 : May cause damage to organs through prolonged or repeated exposure.
 H373 (kidneys) (inhalation) : May cause damage to organs through prolonged or repeated exposure if inhaled. (kidneys)
Reference dye, 1mM
 H315 : Causes skin irritation.

SECTION 16: Other information

H319	Causes serious eye irritation.
H335 (Respiratory tract irritation)	May cause respiratory irritation. (Respiratory tract irritation)
H373 (gastrointestinal tract)	May cause damage to organs through prolonged or repeated exposure. (gastrointestinal tract)
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Core RT-PCR Buffer

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335 (Respiratory tract irritation)	May cause respiratory irritation. (Respiratory tract irritation)
H373 (gastrointestinal tract)	May cause damage to organs through prolonged or repeated exposure. (gastrointestinal tract)
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Reverse Transcriptase

H373	May cause damage to organs through prolonged or repeated exposure.
H373 (kidneys) (inhalation)	May cause damage to organs through prolonged or repeated exposure if inhaled. (kidneys)

Full text of classifications [CLP/GHS]

SureStart Taq DNA Polymerase

STOT RE 2, H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
STOT RE 2, H373 (kidneys) (inhalation)	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys) (inhalation) - Category 2

Reference dye, 1mM

Aquatic Chronic 2, H411	LONG-TERM AQUATIC HAZARD - Category 2
Aquatic Chronic 3, H412	LONG-TERM AQUATIC HAZARD - Category 3
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
STOT RE 2, H373 (gastrointestinal tract)	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (gastrointestinal tract) - Category 2
STOT SE 3, H335 (Respiratory tract irritation)	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

Core RT-PCR Buffer

Aquatic Chronic 2, H411	LONG-TERM AQUATIC HAZARD - Category 2
Aquatic Chronic 3, H412	LONG-TERM AQUATIC HAZARD - Category 3
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
STOT RE 2, H373 (gastrointestinal tract)	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (gastrointestinal tract) - Category 2
STOT SE 3, H335 (Respiratory tract irritation)	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

Reverse Transcriptase

STOT RE 2, H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
STOT RE 2, H373 (kidneys) (inhalation)	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys) (inhalation) - Category 2

Full text of abbreviated R phrases

SureStart Taq DNA Polymerase	Not applicable.
Reference dye, 1mM	R36/37/38- Irritating to eyes, respiratory system and skin.
dNTP mix	Not applicable.
Magnesium chloride	Not applicable.
Core RT-PCR Buffer	R36/37/38- Irritating to eyes, respiratory system and skin.
Reverse Transcriptase	Not applicable.

SECTION 16: Other information

Full text of classifications [DSD/DPD] : SureStart Taq DNA Polymerase Not applicable.
 Reference dye, 1mM Xi - Irritant
 dNTP mix Not applicable.
 Magnesium chloride Not applicable.
 Core RT-PCR Buffer Xi - Irritant
 Reverse Transcriptase Not applicable.

Date of issue/ Date of revision : 28/04/2014

Date of previous issue : 19/03/2012.

Version : 3

[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.