

# SAFETY DATA SHEET

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

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

### 1.1 Product identifier

<b>Product name</b>	: Brilliant II QRT-PCR Core Reagent Kit - 1-Step		
<b>Part no. (chemical kit)</b>	: 600810		
<b>Part no.</b>	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

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

<b>Identified uses</b>	: 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)
<b>Uses advised against</b>	: None known.		

### 1.3 Details of the supplier of the safety data sheet

Agilent Technologies LDA UK Ltd.  
 5500 Lakeside Cheadle Royal Business Park,  
 Cheadle, Cheshire, SK8 3GR  
 United Kingdom  
 Tel: +44 (0) 345 712 5292  
**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

<b>Product definition</b>	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

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

**50 mM Magnesium Chloride**  
 H412

LONG-TERM (CHRONIC) AQUATIC HAZARD

Category 3

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**SECTION 2: Hazards identification**

SureStart Taq DNA Polymerase	The product is not classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.
Reference Dye	The product is not classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.
20 mM dNTP Mix (5 mM each dNTP)	The product is not classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.
50 mM Magnesium Chloride	The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.
10X Core RT-PCR Buffer	The product is not classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.
Reverse Transcriptase	The product is not classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

**Ingredients of unknown toxicity**

SureStart Taq DNA Polymerase	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%
Reference Dye	Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10%
	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%
50 mM Magnesium Chloride	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%
10X Core RT-PCR Buffer	Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10%
	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%
Reverse Transcriptase	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%

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

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

**2.2 Label elements**

**Signal word**

SureStart Taq DNA Polymerase	No signal word.
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	No signal word.

**Hazard statements**

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	H412 - Harmful to aquatic life with long lasting effects.
10X Core RT-PCR Buffer	No known significant effects or critical hazards.
Reverse Transcriptase	No known significant effects or critical hazards.

**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.

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**SECTION 2: Hazards identification**

<b>Response</b>	: SureStart Taq DNA Polymerase Reference Dye 20 mM dNTP Mix (5 mM each dNTP) 50 mM Magnesium Chloride 10X Core RT-PCR Buffer Reverse Transcriptase	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<b>Storage</b>	: SureStart Taq DNA Polymerase Reference Dye 20 mM dNTP Mix (5 mM each dNTP) 50 mM Magnesium Chloride 10X Core RT-PCR Buffer Reverse Transcriptase	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<b>Disposal</b>	: SureStart Taq DNA Polymerase Reference Dye 20 mM dNTP Mix (5 mM each dNTP) 50 mM Magnesium Chloride 10X Core RT-PCR Buffer Reverse Transcriptase	Not applicable. Not applicable. Not applicable. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. Not applicable. Not applicable.
<b>Supplemental label elements</b>	: SureStart Taq DNA Polymerase Reference Dye 20 mM dNTP Mix (5 mM each dNTP) 50 mM Magnesium Chloride 10X Core RT-PCR Buffer Reverse Transcriptase	Safety data sheet available on request. Not applicable. Not applicable. Not applicable. Not applicable. Safety data sheet available on request.
<b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>	: SureStart Taq DNA Polymerase Reference Dye 20 mM dNTP Mix (5 mM each dNTP) 50 mM Magnesium Chloride 10X Core RT-PCR Buffer Reverse Transcriptase	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<b><u>Special packaging requirements</u></b>		
<b>Containers to be fitted with child-resistant fastenings</b>	: SureStart Taq DNA Polymerase Reference Dye 20 mM dNTP Mix (5 mM each dNTP) 50 mM Magnesium Chloride 10X Core RT-PCR Buffer Reverse Transcriptase	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<b>Tactile warning of danger</b>	: SureStart Taq DNA Polymerase Reference Dye 20 mM dNTP Mix (5 mM each dNTP) 50 mM Magnesium Chloride	Not applicable. Not applicable. Not applicable. Not applicable.

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**SECTION 2: Hazards identification**

10X Core RT-PCR Buffer Not applicable.  
Reverse Transcriptase Not applicable.

**2.3 Other hazards**

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII**

**SureStart Taq DNA Polymerase** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.  
**Reference Dye** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.  
**20 mM dNTP Mix (5 mM each dNTP)** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.  
**50 mM Magnesium Chloride** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.  
**10X Core RT-PCR Buffer** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.  
**Reverse Transcriptase** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**Other hazards which do not result in classification**

**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**

**3.1 Substances** : **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

Product/ingredient name	Identifiers	%	Classification	Type
<b>SureStart Taq DNA Polymerase</b> Glycerol	UK (GB) REACH #: Annex V REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[1]
<b>50 mM Magnesium Chloride</b> Magnesium chloride	EC: 232-094-6 CAS: 7786-30-3	<2.5	Aquatic Chronic 1, H410 (M=1)	[1]
<b>Reverse Transcriptase</b> Glycerol	UK (GB) REACH #: Annex V REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[1]
			<b>See Section 16 for the full text of the H statements declared above.</b>	

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

**Type**  
**SureStart Taq DNA Polymerase** [1] Substance with a workplace exposure limit  
**50 mM Magnesium Chloride** [1] Substance classified with a health or environmental hazard  
**Reverse Transcriptase** [1] Substance with a workplace exposure limit

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**SECTION 3: Composition/information on ingredients**

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. Get medical attention if irritation occurs.
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. Get medical attention if irritation occurs.

**Inhalation**

: SureStart Taq DNA Polymerase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Reference Dye	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
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. Get medical attention if symptoms occur.

**Skin contact**

: SureStart Taq DNA Polymerase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
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.

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**SECTION 4: First aid measures**

<b>Ingestion</b>	<b>:</b> SureStart Taq DNA Polymerase	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.
	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. 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.
<b>Protection of first-aiders</b>	<b>:</b> SureStart Taq DNA Polymerase	No action shall be taken involving any personal risk or without suitable training.
	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.

**4.2 Most important symptoms and effects, both acute and delayed**

Over-exposure signs/symptoms

<b>Eye contact</b>	<b>:</b> 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.
<b>Inhalation</b>	<b>:</b> 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.

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**SECTION 4: First aid measures**

<b>Skin contact</b>	:	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.
<b>Ingestion</b>	:	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 any immediate medical attention and special treatment needed**

<b>Notes to physician</b>	:	SureStart Taq DNA Polymerase Reference Dye	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.
		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.
		<b>Specific treatments</b>	:

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

<b>Suitable extinguishing media</b>	:	SureStart Taq DNA Polymerase Reference Dye 20 mM dNTP Mix (5 mM each dNTP) 50 mM Magnesium Chloride 10X Core RT-PCR Buffer Reverse Transcriptase	Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
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**SECTION 5: Firefighting measures**

<b>Unsuitable extinguishing media</b>	<b>:</b> 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**

<b>Hazards from the substance or mixture</b>	<b>:</b> 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.

<b>Hazardous combustion products</b>	<b>:</b> 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**

<b>Special protective actions for fire-fighters</b>	<b>:</b> 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.

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**SECTION 5: Firefighting measures**

**Special protective equipment for fire-fighters**

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.
: 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 spilt material. Put on appropriate personal protective equipment.
Reference Dye	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt 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 spilt 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 spilt 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 spilt 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 spilt material. Put on appropriate personal protective equipment.

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**SECTION 6: Accidental release measures**

**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	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".
20 mM dNTP Mix (5 mM each dNTP)	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".
50 mM 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".
10X 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".

**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	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).
20 mM dNTP Mix (5 mM each dNTP)	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).
50 mM 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). Water polluting material. May be harmful to the environment if released in large quantities.
10X 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).
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 material 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

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**SECTION 6: Accidental release measures**

20 mM dNTP Mix (5 mM each dNTP)	of via a licensed waste disposal contractor. 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 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**

<b>Protective measures</b>	: SureStart Taq DNA Polymerase Reference Dye	Put on appropriate personal protective equipment (see Section 8). Put on appropriate personal protective equipment (see Section 8).
	20 mM dNTP Mix (5 mM each dNTP) 50 mM Magnesium Chloride	Put on appropriate personal protective equipment (see Section 8). 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.
	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).
<b>Advice on general occupational hygiene</b>	: 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.
	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

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**SECTION 7: Handling and storage**

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

**Storage**

: 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. 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 unlabelled 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 unlabelled containers. Use appropriate containment to avoid 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 unlabelled 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

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Reverse Transcriptase

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. See Section 10 for incompatible materials before handling or use.

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

**7.3 Specific end use(s)**

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

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

Occupational exposure limits

Product/ingredient name	Exposure limit values
SureStart Taq DNA Polymerase Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist
Reverse Transcriptase Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist

Biological exposure indices

No exposure indices known.

**Recommended monitoring procedures** : Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

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**SECTION 8: Exposure controls/personal protection**

Product/ingredient name	Type	Exposure	Value	Population	Effects
50 mM Magnesium Chloride Magnesium chloride	DNEL	Long term Oral	7 mg/kg bw/day	General population	Systemic

**PNECs**

No PNECs available

**8.2 Exposure controls**

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

**Skin protection**

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

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

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

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

**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**

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

**9.1 Information on basic physical and chemical properties**

**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.

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**SECTION 9: Physical and chemical properties**

<b>Colour</b>	:	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.
<b>Odour</b>	:	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.
<b>Odour threshold</b>	:	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.
<b>Melting point/freezing point</b>	:	SureStart Taq DNA Polymerase	Not available.
		Reference Dye	Not available.
		20 mM dNTP Mix (5 mM each dNTP)	0°C
		50 mM Magnesium Chloride	0°C
		10X Core RT-PCR Buffer	Not available.
		Reverse Transcriptase	Not available.
<b>Initial boiling point and boiling range</b>	:	SureStart Taq DNA Polymerase	Not available.
		Reference Dye	Not available.
		20 mM dNTP Mix (5 mM each dNTP)	100°C
		50 mM Magnesium Chloride	100°C
		10X Core RT-PCR Buffer	Not available.
		Reverse Transcriptase	Not available.
<b>Flammability</b>	:	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.
<b>Upper/lower flammability or explosive limits</b>	:	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.

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**SECTION 9: Physical and chemical properties**

<b>Flash point</b>	:	<b>Ingredient name</b>	<b>Closed cup</b>		<b>Open cup</b>	
			<b>°C</b>	<b>Method</b>	<b>°C</b>	<b>Method</b>
		<b>SureStart Taq DNA Polymerase</b>				
		glycerol	-	-	177	-
		<b>Reverse Transcriptase</b>				
		glycerol	-	-	177	-

<b>Auto-ignition temperature</b>	:	<b>Ingredient name</b>	<b>°C</b>	<b>Method</b>
		<b>SureStart Taq DNA Polymerase</b>		
		glycerol	370	-
		<b>Reverse Transcriptase</b>		
		glycerol	370	-

<b>Decomposition temperature</b>	:	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.

<b>pH</b>	:	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.

<b>Viscosity</b>	:	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.

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

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**SECTION 9: Physical and chemical properties**

**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.

**Vapour pressure** :

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
<b>SureStart Taq DNA Polymerase</b>						
water	17.5	2.3	-	92.258	12.3	-
glycerol	0.000075	0.00001	-	0.0025	0.00033	-
<b>Reference Dye</b>						
water	17.5	2.3	-	92.258	12.3	-
<b>20 mM dNTP Mix (5 mM each dNTP)</b>						
water	17.5	2.3	-	92.258	12.3	-
<b>50 mM Magnesium Chloride</b>						
water	17.5	2.3	-	92.258	12.3	-
<b>10X Core RT-PCR Buffer</b>						
water	17.5	2.3	-	92.258	12.3	-
<b>Reverse Transcriptase</b>						
water	17.5	2.3	-	92.258	12.3	-
glycerol	0.000075	0.00001	-	0.0025	0.00033	-

**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.

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**SECTION 9: Physical and chemical properties**

<b>Relative density</b>	:	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.
<b>Vapour density</b>	:	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.
<b>Explosive properties</b>	:	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.
<b>Oxidising properties</b>	:	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**

<b>Median particle size</b>	:	<input checked="" type="checkbox"/> 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.

**9.2 Other information**

No additional information.

**SECTION 10: Stability and reactivity**

<b>10.1 Reactivity</b>	:	<input checked="" type="checkbox"/> 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.

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**SECTION 10: Stability and reactivity**

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.

**10.5 Incompatible materials**

: SureStart Taq DNA Polymerase May react or be incompatible with oxidising materials.  
 Reference Dye May react or be incompatible with oxidising materials.  
 20 mM dNTP Mix (5 mM each dNTP) May react or be incompatible with oxidising materials.  
 50 mM Magnesium Chloride May react or be incompatible with oxidising materials.  
 10X Core RT-PCR Buffer May react or be incompatible with oxidising materials.  
 Reverse Transcriptase May react or be incompatible with oxidising 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.

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**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

**Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
<b>SureStart Taq DNA Polymerase</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-
<b>50 mM Magnesium Chloride</b> Magnesium chloride	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat	2800 mg/kg	-
<b>Reverse Transcriptase</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-

**Acute toxicity estimates**

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
<b>SureStart Taq DNA Polymerase</b> Glycerol	12600	N/A	N/A	N/A	N/A
<b>50 mM Magnesium Chloride</b> Magnesium chloride	2800	N/A	N/A	N/A	N/A
<b>Reverse Transcriptase</b> Glycerol	12600	N/A	N/A	N/A	N/A

**Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>SureStart Taq DNA Polymerase</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
<b>Reverse Transcriptase</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-

**Conclusion/Summary** : Not available.

**Sensitiser**

**Conclusion/Summary** : 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)**

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Not available.

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Not available.

**Information on 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**

**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.

**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.

**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.

**Eye 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.

**Symptoms related to the physical, chemical and toxicological characteristics**

**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.

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	10X Core RT-PCR Buffer	No specific data.
	Reverse Transcriptase	No specific data.
<b>Ingestion</b>	: 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.
<b>Skin contact</b>	: 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.
<b>Eye contact</b>	: 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 as well as 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**

**Conclusion/Summary** : Not available.

<b>General</b>	: 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.
<b>Carcinogenicity</b>	: 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.

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<b>Mutagenicity</b>	:	Reverse Transcriptase	No known significant effects or critical hazards.
	:	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.
<b>Reproductive toxicity</b>	:	10X Core RT-PCR Buffer	No known significant effects or critical hazards.
	:	Reverse Transcriptase	No known significant effects or critical hazards.
	:	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 12: Ecological information**

**12.1 Toxicity**

Product/ingredient name	Result	Species	Exposure
SureStart Taq DNA Polymerase	Acute LC50 54000 mg/l Fresh water	Fish - Trout - <i>Oncorhynchus mykiss</i>	96 hours
Glycerol			
50 mM Magnesium Chloride Magnesium chloride	Acute EC50 >100 mg/l Fresh water	Algae - <i>Desmodesmus subspicatus</i>	72 hours
	Acute EC50 180000 µg/l Fresh water	Crustaceans - Calanoid copepod - <i>Eudiaptomus padanus</i> ssp. <i>padanus</i> - Adult	48 hours
	Acute IC50 6.8 mg/l Fresh water	Aquatic plants - Lesser Duckweed - <i>Lemna aequinoctialis</i>	96 hours
	Acute LC50 32000 µg/l Fresh water	Daphnia - Water flea - <i>Daphnia hyalina</i> - Adult	48 hours
	Acute LC50 2120 mg/l Fresh water	Fish - Fathead minnow - <i>Pimephales promelas</i>	96 hours
	Acute NOEC 100 mg/l Fresh water	Algae - <i>Desmodesmus subspicatus</i>	72 hours
	Chronic NOEC 0.1 mg/l Fresh water	Fish - common carp - <i>Cyprinus carpio</i>	35 days
	Reverse Transcriptase	Acute LC50 54000 mg/l Fresh water	Fish - Trout - <i>Oncorhynchus mykiss</i>
Glycerol			

**Conclusion/Summary** : Not available.

**12.2 Persistence and degradability**

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**SECTION 12: Ecological information**

Product/ingredient name	Test	Result	Dose	Inoculum
<b>SureStart Taq DNA Polymerase</b> Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
<b>Reverse Transcriptase</b> Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

**Conclusion/Summary** : Not available.

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>SureStart Taq DNA Polymerase</b> Glycerol	-1.76	-	Low
<b>Reverse Transcriptase</b> Glycerol	-1.76	-	Low

**12.4 Mobility in soil**

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

**12.5 Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**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** : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

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. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

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**SECTION 14: Transport information**

	ADR/RID	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

Additional information

**14.6 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.

**14.7 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 UK (GB)/REACH**

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Ozone depleting substances

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants

Not listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**

Product / Ingredient name	Identifiers	Status
50 mM Magnesium Chloride 50 mM Magnesium Chloride	-	3

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**SECTION 15: Regulatory information**

<b>Label</b>	: 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.

**Seveso Directive**

This product is not controlled under the Seveso Directive.

**EU regulations**

**Industrial emissions (integrated pollution prevention and control) - Air** : Not listed

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

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

**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**

**United States** : Not determined.

**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**

Classification	Justification
50 mM Magnesium Chloride Aquatic Chronic 3, H412	Calculation method

**Full text of abbreviated H statements**

50 mM Magnesium Chloride	
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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## SECTION 16: Other information

### [Full text of classifications](#)

50 mM Magnesium  
Chloride

Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3

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