

# SAFETY DATA SHEET



OnePGT Box 2, Part Number 5190-9667

## Section 1. Identification

<b>Product identifier</b>	: OnePGT Box 2, Part Number 5190-9667
<b>Part No. (Chemical Kit)</b>	: 5190-9667
<b>Part No.</b>	: PCR grade water 5190-9681
	Enzyme 2 5190-9676
	Enzyme 1 & Enzyme 2 buffer 5190-9677
	Ligase 5190-9678
	Ligase buffer 5190-9679
	PCR Mix 5190-9680
	TE 5190-9682
	Adapter 1 5190-9669
	Adapter 2 5190-9670
	Forward PCR primer 5190-9671
	Reverse PCR Primer – Index 1 – 96 5190-9674
	Reverse PCR primer – NTC 5190-9673
	Custom Read 1 Sequencing Primer 5190-9672

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

Analytical reagent.

PCR grade water	0.16 mL
Enzyme 2	0.056 mL
Enzyme 1 & Enzyme 2 buffer	0.224 mL
Ligase	0.056 mL
Ligase buffer	0.336 mL
PCR Mix	8 x 0.35 mL
TE	8 x 0.35 mL
Adapter 1	0.26 mL
Adapter 2	0.26 mL
Forward PCR primer	0.28 mL
Reverse PCR Primer – Index 1 – 96	0.48 mL
Reverse PCR primer – NTC	0.02 mL
Custom Read 1 Sequencing Primer	0.14 mL

**Supplier/Manufacturer** : Agilent Technologies Australia Pty Ltd  
679 Springvale Road  
Mulgrave  
Victoria 3170, Australia  
1800 802 402

**Emergency telephone number (with hours of operation)** : CHEMTREC®: (61)-290372994

## Section 2. Hazard(s) identification

### Classification of the substance or mixture

Not classified.

Enzyme 1 & Enzyme 2 buffer	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 3.6%
PCR Mix	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 1.6%
Enzyme 1 & Enzyme 2 buffer	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 3.6%
PCR Mix	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1.5%

## Section 2. Hazard(s) identification

### GHS label elements

#### Signal word

: PCR grade water	No signal word.
Enzyme 2	No signal word.
Enzyme 1 & Enzyme 2 buffer	No signal word.
Ligase	No signal word.
Ligase buffer	No signal word.
PCR Mix	No signal word.
TE	No signal word.
Adapter 1	No signal word.
Adapter 2	No signal word.
Forward PCR primer	No signal word.
Reverse PCR Primer –	No signal word.
Index 1 – 96	
Reverse PCR primer – NTC	No signal word.
Custom Read 1 Sequencing Primer	No signal word.

#### Hazard statements

: PCR grade water	No known significant effects or critical hazards.
Enzyme 2	No known significant effects or critical hazards.
Enzyme 1 & Enzyme 2 buffer	No known significant effects or critical hazards.
Ligase	No known significant effects or critical hazards.
Ligase buffer	No known significant effects or critical hazards.
PCR Mix	No known significant effects or critical hazards.
TE	No known significant effects or critical hazards.
Adapter 1	No known significant effects or critical hazards.
Adapter 2	No known significant effects or critical hazards.
Forward PCR primer	No known significant effects or critical hazards.
Reverse PCR Primer –	No known significant effects or critical hazards.
Index 1 – 96	
Reverse PCR primer – NTC	No known significant effects or critical hazards.
Custom Read 1 Sequencing Primer	No known significant effects or critical hazards.

### Precautionary statements

#### Prevention

: PCR grade water	Not applicable.
Enzyme 2	Not applicable.
Enzyme 1 & Enzyme 2 buffer	Not applicable.
Ligase	Not applicable.
Ligase buffer	Not applicable.
PCR Mix	Not applicable.
TE	Not applicable.
Adapter 1	Not applicable.
Adapter 2	Not applicable.
Forward PCR primer	Not applicable.
Reverse PCR Primer –	Not applicable.
Index 1 – 96	
Reverse PCR primer – NTC	Not applicable.
Custom Read 1 Sequencing Primer	Not applicable.

#### Response

: PCR grade water	Not applicable.
Enzyme 2	Not applicable.
Enzyme 1 & Enzyme 2 buffer	Not applicable.
Ligase	Not applicable.
Ligase buffer	Not applicable.
PCR Mix	Not applicable.
TE	Not applicable.
Adapter 1	Not applicable.
Adapter 2	Not applicable.
Forward PCR primer	Not applicable.
Reverse PCR Primer –	Not applicable.
Index 1 – 96	
Reverse PCR primer – NTC	Not applicable.
Custom Read 1 Sequencing Primer	Not applicable.

## Section 2. Hazard(s) identification

<b>Storage</b>	:	PCR grade water	Not applicable.
		Enzyme 2	Not applicable.
		Enzyme 1 & Enzyme 2 buffer	Not applicable.
		Ligase	Not applicable.
		Ligase buffer	Not applicable.
		PCR Mix	Not applicable.
		TE	Not applicable.
		Adapter 1	Not applicable.
		Adapter 2	Not applicable.
		Forward PCR primer	Not applicable.
		Reverse PCR Primer –	Not applicable.
		Index 1 – 96	
		Reverse PCR primer – NTC	Not applicable.
		Custom Read 1 Sequencing	Not applicable.
		Primer	
<b>Disposal</b>	:	PCR grade water	Not applicable.
		Enzyme 2	Not applicable.
		Enzyme 1 & Enzyme 2 buffer	Not applicable.
		Ligase	Not applicable.
		Ligase buffer	Not applicable.
		PCR Mix	Not applicable.
		TE	Not applicable.
		Adapter 1	Not applicable.
		Adapter 2	Not applicable.
		Forward PCR primer	Not applicable.
		Reverse PCR Primer –	Not applicable.
		Index 1 – 96	
		Reverse PCR primer – NTC	Not applicable.
		Custom Read 1 Sequencing	Not applicable.
		Primer	
<b>Supplemental label elements</b>	:	PCR grade water	Not applicable.
		Enzyme 2	Not applicable.
		Enzyme 1 & Enzyme 2 buffer	Not applicable.
		Ligase	Not applicable.
		Ligase buffer	Not applicable.
		PCR Mix	Not applicable.
		TE	Not applicable.
		Adapter 1	Not applicable.
		Adapter 2	Not applicable.
		Forward PCR primer	Not applicable.
		Reverse PCR Primer –	Not applicable.
		Index 1 – 96	
		Reverse PCR primer – NTC	Not applicable.
		Custom Read 1 Sequencing	Not applicable.
		Primer	
<b>Other hazards which do not result in classification</b>	:	PCR grade water	None known.
		Enzyme 2	None known.
		Enzyme 1 & Enzyme 2 buffer	None known.
		Ligase	None known.
		Ligase buffer	None known.
		PCR Mix	None known.
		TE	None known.
		Adapter 1	None known.
		Adapter 2	None known.
		Forward PCR primer	None known.
		Reverse PCR Primer –	None known.
		Index 1 – 96	
		Reverse PCR primer – NTC	None known.
		Custom Read 1 Sequencing	None known.
		Primer	

## Section 3. Composition and ingredient information

<b>Substance/mixture</b>	:	PCR grade water	Substance
		Enzyme 2	Mixture
		Enzyme 1 & Enzyme 2 buffer	Mixture
		Ligase	Mixture
		Ligase buffer	Mixture
		PCR Mix	Mixture
		TE	Mixture
		Adapter 1	Mixture
		Adapter 2	Mixture
		Forward PCR primer	Mixture
		Reverse PCR Primer – Index 1 – 96	Mixture
		Reverse PCR primer – NTC	Mixture
		Custom Read 1 Sequencing Primer	Mixture

### CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
<b>PCR grade water</b> Water	100	7732-18-5
<b>Enzyme 2</b> Glycerol	≥30 - ≤60	56-81-5
<b>Ligase</b> Glycerol	≥30 - ≤60	56-81-5

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.

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

## Section 4. First aid measures

### Description of necessary first aid measures

<b>Eye contact</b>	:	PCR grade water	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		Enzyme 2	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.
		Enzyme 1 & Enzyme 2 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.
		Ligase	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.
		Ligase 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.
		PCR 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.
		TE	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids.

## Section 4. First aid measures

Adapter 1	Check for and remove any contact lenses. Get medical attention if irritation occurs. 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.
Adapter 2	Check for and remove any contact lenses. Get medical attention if irritation occurs. 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.
Forward PCR primer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Reverse PCR Primer – Index 1 – 96	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 PCR primer – NTC	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.
Custom Read 1 Sequencing Primer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
<b>Inhalation</b>	
: PCR grade water	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Enzyme 2	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Enzyme 1 & Enzyme 2 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.
Ligase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Ligase 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.
PCR Mix	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
TE	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Adapter 1	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Adapter 2	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Forward PCR primer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Reverse PCR Primer –	Remove victim to fresh air and keep at rest in a

## Section 4. First aid measures

	Index 1 – 96	position comfortable for breathing. Get medical attention if symptoms occur.
	Reverse PCR primer – NTC	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Custom Read 1 Sequencing Primer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
<b>Skin contact</b>	: PCR grade water	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Enzyme 2	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Enzyme 1 & Enzyme 2 buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Ligase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Ligase buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	PCR Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	TE	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Adapter 1	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Adapter 2	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Forward PCR primer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Reverse PCR Primer – Index 1 – 96	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Reverse PCR primer – NTC	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Custom Read 1 Sequencing Primer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
<b>Ingestion</b>	: PCR grade water	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.
	Enzyme 2	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.
	Enzyme 1 & Enzyme 2 buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for

## Section 4. First aid measures

	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.
Ligase	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.
Ligase buffer	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.
PCR 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 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.
TE	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.
Adapter 1	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.
Adapter 2	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.
Forward PCR primer	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.
Reverse PCR Primer – Index 1 – 96	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.
Reverse PCR primer – NTC	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for

## Section 4. First aid measures

Custom Read 1 Sequencing  
Primer

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.

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.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

##### **Eye contact**

: PCR grade water	No known significant effects or critical hazards.
Enzyme 2	No known significant effects or critical hazards.
Enzyme 1 & Enzyme 2 buffer	No known significant effects or critical hazards.
Ligase	No known significant effects or critical hazards.
Ligase buffer	No known significant effects or critical hazards.
PCR Mix	No known significant effects or critical hazards.
TE	No known significant effects or critical hazards.
Adapter 1	No known significant effects or critical hazards.
Adapter 2	No known significant effects or critical hazards.
Forward PCR primer	No known significant effects or critical hazards.
Reverse PCR Primer – Index 1 – 96	No known significant effects or critical hazards.
Reverse PCR primer – NTC	No known significant effects or critical hazards.
Custom Read 1 Sequencing Primer	No known significant effects or critical hazards.

##### **Inhalation**

: PCR grade water	No known significant effects or critical hazards.
Enzyme 2	No known significant effects or critical hazards.
Enzyme 1 & Enzyme 2 buffer	No known significant effects or critical hazards.
Ligase	No known significant effects or critical hazards.
Ligase buffer	No known significant effects or critical hazards.
PCR Mix	No known significant effects or critical hazards.
TE	No known significant effects or critical hazards.
Adapter 1	No known significant effects or critical hazards.
Adapter 2	No known significant effects or critical hazards.
Forward PCR primer	No known significant effects or critical hazards.
Reverse PCR Primer – Index 1 – 96	No known significant effects or critical hazards.
Reverse PCR primer – NTC	No known significant effects or critical hazards.
Custom Read 1 Sequencing Primer	No known significant effects or critical hazards.

##### **Skin contact**

: PCR grade water	No known significant effects or critical hazards.
Enzyme 2	No known significant effects or critical hazards.
Enzyme 1 & Enzyme 2 buffer	No known significant effects or critical hazards.
Ligase	No known significant effects or critical hazards.
Ligase buffer	No known significant effects or critical hazards.
PCR Mix	No known significant effects or critical hazards.
TE	No known significant effects or critical hazards.
Adapter 1	No known significant effects or critical hazards.
Adapter 2	No known significant effects or critical hazards.
Forward PCR primer	No known significant effects or critical hazards.
Reverse PCR Primer – Index 1 – 96	No known significant effects or critical hazards.
Reverse PCR primer – NTC	No known significant effects or critical hazards.
Custom Read 1 Sequencing Primer	No known significant effects or critical hazards.



## Section 4. First aid measures

<b>Ingestion</b>	:	PCR grade water	No known significant effects or critical hazards.
		Enzyme 2	No known significant effects or critical hazards.
		Enzyme 1 & Enzyme 2 buffer	No known significant effects or critical hazards.
		Ligase	No known significant effects or critical hazards.
		Ligase buffer	No known significant effects or critical hazards.
		PCR Mix	No known significant effects or critical hazards.
		TE	No known significant effects or critical hazards.
		Adapter 1	No known significant effects or critical hazards.
		Adapter 2	No known significant effects or critical hazards.
		Forward PCR primer	No known significant effects or critical hazards.
		Reverse PCR Primer – Index 1 – 96	No known significant effects or critical hazards.
		Reverse PCR primer – NTC	No known significant effects or critical hazards.
		Custom Read 1 Sequencing Primer	No known significant effects or critical hazards.

### Over-exposure signs/symptoms

<b>Eye contact</b>	:	PCR grade water	No specific data.
		Enzyme 2	No specific data.
		Enzyme 1 & Enzyme 2 buffer	No specific data.
		Ligase	No specific data.
		Ligase buffer	No specific data.
		PCR Mix	No specific data.
		TE	No specific data.
		Adapter 1	No specific data.
		Adapter 2	No specific data.
		Forward PCR primer	No specific data.
		Reverse PCR Primer – Index 1 – 96	No specific data.
		Reverse PCR primer – NTC	No specific data.
		Custom Read 1 Sequencing Primer	No specific data.

<b>Inhalation</b>	:	PCR grade water	No specific data.
		Enzyme 2	No specific data.
		Enzyme 1 & Enzyme 2 buffer	No specific data.
		Ligase	No specific data.
		Ligase buffer	No specific data.
		PCR Mix	No specific data.
		TE	No specific data.
		Adapter 1	No specific data.
		Adapter 2	No specific data.
		Forward PCR primer	No specific data.
		Reverse PCR Primer – Index 1 – 96	No specific data.
		Reverse PCR primer – NTC	No specific data.
		Custom Read 1 Sequencing Primer	No specific data.

<b>Skin contact</b>	:	PCR grade water	No specific data.
		Enzyme 2	No specific data.
		Enzyme 1 & Enzyme 2 buffer	No specific data.
		Ligase	No specific data.
		Ligase buffer	No specific data.
		PCR Mix	No specific data.
		TE	No specific data.
		Adapter 1	No specific data.
		Adapter 2	No specific data.
		Forward PCR primer	No specific data.
		Reverse PCR Primer – Index 1 – 96	No specific data.
		Reverse PCR primer – NTC	No specific data.
		Custom Read 1 Sequencing Primer	No specific data.

## Section 4. First aid measures

<b>Ingestion</b>	:	PCR grade water	No specific data.
		Enzyme 2	No specific data.
		Enzyme 1 & Enzyme 2 buffer	No specific data.
		Ligase	No specific data.
		Ligase buffer	No specific data.
		PCR Mix	No specific data.
		TE	No specific data.
		Adapter 1	No specific data.
		Adapter 2	No specific data.
		Forward PCR primer	No specific data.
		Reverse PCR Primer – Index 1 – 96	No specific data.
		Reverse PCR primer – NTC	No specific data.
		Custom Read 1 Sequencing Primer	No specific data.

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

<b>Notes to physician</b>	:	PCR grade water	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Enzyme 2	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Enzyme 1 & Enzyme 2 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.
		Ligase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Ligase 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.
		PCR Mix	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		TE	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Adapter 1	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Adapter 2	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Forward PCR primer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Reverse PCR Primer – Index 1 – 96	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Reverse PCR primer – NTC	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Custom Read 1 Sequencing Primer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

## Section 4. First aid measures

<b>Specific treatments</b>	:	PCR grade water	No specific treatment.	
		Enzyme 2	No specific treatment.	
		Enzyme 1 & Enzyme 2 buffer	No specific treatment.	
		Ligase	No specific treatment.	
		Ligase buffer	No specific treatment.	
		PCR Mix	No specific treatment.	
		TE	No specific treatment.	
		Adapter 1	No specific treatment.	
		Adapter 2	No specific treatment.	
		Forward PCR primer	No specific treatment.	
		Reverse PCR Primer – Index 1 – 96	No specific treatment.	
		Reverse PCR primer – NTC	No specific treatment.	
		Custom Read 1 Sequencing Primer	No specific treatment.	
	<b>Protection of first-aiders</b>	:	PCR grade water	No action shall be taken involving any personal risk or without suitable training.
			Enzyme 2	No action shall be taken involving any personal risk or without suitable training.
		Enzyme 1 & Enzyme 2 buffer	No action shall be taken involving any personal risk or without suitable training.	
		Ligase	No action shall be taken involving any personal risk or without suitable training.	
		Ligase buffer	No action shall be taken involving any personal risk or without suitable training.	
		PCR Mix	No action shall be taken involving any personal risk or without suitable training.	
		TE	No action shall be taken involving any personal risk or without suitable training.	
		Adapter 1	No action shall be taken involving any personal risk or without suitable training.	
		Adapter 2	No action shall be taken involving any personal risk or without suitable training.	
		Forward PCR primer	No action shall be taken involving any personal risk or without suitable training.	
		Reverse PCR Primer – Index 1 – 96	No action shall be taken involving any personal risk or without suitable training.	
		Reverse PCR primer – NTC	No action shall be taken involving any personal risk or without suitable training.	
		Custom Read 1 Sequencing Primer	No action shall be taken involving any personal risk or without suitable training.	

See toxicological information (Section 11)

## Section 5. Firefighting measures

### Extinguishing media

<b>Suitable extinguishing media</b>	:	PCR grade water	Use an extinguishing agent suitable for the surrounding fire.
		Enzyme 2	Use an extinguishing agent suitable for the surrounding fire.
		Enzyme 1 & Enzyme 2 buffer	Use an extinguishing agent suitable for the surrounding fire.
		Ligase	Use an extinguishing agent suitable for the surrounding fire.
		Ligase buffer	Use an extinguishing agent suitable for the surrounding fire.
		PCR Mix	Use an extinguishing agent suitable for the surrounding fire.
		TE	Use an extinguishing agent suitable for the surrounding fire.
		Adapter 1	Use an extinguishing agent suitable for the surrounding fire.

## Section 5. Firefighting measures

	Adapter 2	Use an extinguishing agent suitable for the surrounding fire.
	Forward PCR primer	Use an extinguishing agent suitable for the surrounding fire.
	Reverse PCR Primer – Index 1 – 96	Use an extinguishing agent suitable for the surrounding fire.
	Reverse PCR primer – NTC	Use an extinguishing agent suitable for the surrounding fire.
	Custom Read 1 Sequencing Primer	Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	: PCR grade water	None known.
	Enzyme 2	None known.
	Enzyme 1 & Enzyme 2 buffer	None known.
	Ligase	None known.
	Ligase buffer	None known.
	PCR Mix	None known.
	TE	None known.
	Adapter 1	None known.
	Adapter 2	None known.
	Forward PCR primer	None known.
	Reverse PCR Primer – Index 1 – 96	None known.
	Reverse PCR primer – NTC	None known.
	Custom Read 1 Sequencing Primer	None known.
<b>Specific hazards arising from the chemical</b>	: PCR grade water	In a fire or if heated, a pressure increase will occur and the container may burst.
	Enzyme 2	In a fire or if heated, a pressure increase will occur and the container may burst.
	Enzyme 1 & Enzyme 2 buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	Ligase	In a fire or if heated, a pressure increase will occur and the container may burst.
	Ligase buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	PCR Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
	TE	In a fire or if heated, a pressure increase will occur and the container may burst.
	Adapter 1	In a fire or if heated, a pressure increase will occur and the container may burst.
	Adapter 2	In a fire or if heated, a pressure increase will occur and the container may burst.
	Forward PCR primer	In a fire or if heated, a pressure increase will occur and the container may burst.
	Reverse PCR Primer – Index 1 – 96	In a fire or if heated, a pressure increase will occur and the container may burst.
	Reverse PCR primer – NTC	In a fire or if heated, a pressure increase will occur and the container may burst.
	Custom Read 1 Sequencing Primer	In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous thermal decomposition products</b>	: PCR grade water	No specific data.
	Enzyme 2	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	Enzyme 1 & Enzyme 2 buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides

## Section 5. Firefighting measures

Ligase	metal oxide/oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide
Ligase buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds
PCR Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide
TE	No specific data.
Adapter 1	Decomposition products may include the following materials: carbon dioxide carbon monoxide
Adapter 2	Decomposition products may include the following materials: carbon dioxide carbon monoxide
Forward PCR primer	No specific data.
Reverse PCR Primer – Index 1 – 96	No specific data.
Reverse PCR primer – NTC	No specific data.
Custom Read 1 Sequencing Primer	No specific data.
<b>Special protective actions for fire-fighters</b>	
: PCR grade water	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Enzyme 2	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.
Enzyme 1 & Enzyme 2 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.
Ligase	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.
Ligase 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.
PCR Mix	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
TE	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.
Adapter 1	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

## Section 5. Firefighting measures

	Adapter 2	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.
	Forward PCR primer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Reverse PCR Primer – Index 1 – 96	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 PCR primer – NTC	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.
	Custom Read 1 Sequencing Primer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
<b>Special protective equipment for fire-fighters</b>	: PCR grade water	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Enzyme 2	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Enzyme 1 & Enzyme 2 buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Ligase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Ligase buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	PCR Mix	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	TE	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Adapter 1	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Adapter 2	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Forward PCR primer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Reverse PCR Primer – Index 1 – 96	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus

## Section 5. Firefighting measures

Reverse PCR primer – NTC	(SCBA) with a full face-piece operated in positive pressure mode. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Custom Read 1 Sequencing Primer	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

### Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	: PCR grade water	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	Enzyme 2	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.
	Enzyme 1 & Enzyme 2 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.
	Ligase	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.
	Ligase 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.
	PCR 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.
	TE	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.
	Adapter 1	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.
	Adapter 2	No action shall be taken involving any personal risk

## Section 6. Accidental release measures

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.

Forward PCR primer

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 PCR Primer –  
Index 1 – 96

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 PCR primer – NTC

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.

Custom Read 1 Sequencing  
Primer

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.

**For emergency responders** : PCR grade water

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".

Enzyme 2

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".

Enzyme 1 & Enzyme 2 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".

Ligase

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".

Ligase 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".

PCR 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".

TE

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".

Adapter 1

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".

Adapter 2

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on



## Section 6. Accidental release measures

Forward PCR primer	suitable and unsuitable materials. See also the information in "For non-emergency personnel". 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 PCR Primer – Index 1 – 96	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 PCR primer – NTC	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".
Custom Read 1 Sequencing Primer	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".

<b>Environmental precautions</b> : PCR grade water	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).
Enzyme 2	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).
Enzyme 1 & Enzyme 2 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).
Ligase	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).
Ligase 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).
PCR 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).
TE	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).
Adapter 1	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).
Adapter 2	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).

## Section 6. Accidental release measures

Forward PCR primer	soil or air). 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 PCR Primer – Index 1 – 96	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 PCR primer – NTC	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).
Custom Read 1 Sequencing Primer	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).

### Methods and material for containment and cleaning up

**Methods for cleaning up** : PCR grade water

	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Enzyme 2	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.
Enzyme 1 & Enzyme 2 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.
Ligase	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.
Ligase 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.
PCR 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.
TE	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.

## Section 6. Accidental release measures

Adapter 1	disposal container. Dispose 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.
Adapter 2	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.
Forward PCR primer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Reverse PCR Primer – Index 1 – 96	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 PCR primer – NTC	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.
Custom Read 1 Sequencing Primer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

### Precautions for safe handling

<b>Protective measures</b>	: PCR grade water	Put on appropriate personal protective equipment (see Section 8).
Enzyme 2		Put on appropriate personal protective equipment (see Section 8).
Enzyme 1 & Enzyme 2 buffer		Put on appropriate personal protective equipment (see Section 8).
Ligase		Put on appropriate personal protective equipment (see Section 8).
Ligase buffer		Put on appropriate personal protective equipment (see Section 8).
PCR Mix		Put on appropriate personal protective equipment (see Section 8).
TE		Put on appropriate personal protective equipment (see Section 8).
Adapter 1		Put on appropriate personal protective equipment (see Section 8).
Adapter 2		Put on appropriate personal protective equipment (see Section 8).
Forward PCR primer		Put on appropriate personal protective equipment (see Section 8).
Reverse PCR Primer – Index 1 – 96		Put on appropriate personal protective equipment (see Section 8).

## Section 7. Handling and storage

### Advice on general occupational hygiene

Reverse PCR primer – NTC	Put on appropriate personal protective equipment (see Section 8).
Custom Read 1 Sequencing Primer	Put on appropriate personal protective equipment (see Section 8).
: PCR grade water	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Enzyme 2	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.
Enzyme 1 & Enzyme 2 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.
Ligase	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.
Ligase 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.
PCR 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.
TE	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.
Adapter 1	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.
Adapter 2	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face

## Section 7. Handling and storage

Forward PCR primer	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. 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 PCR Primer – Index 1 – 96	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 PCR primer – NTC	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.
Custom Read 1 Sequencing Primer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : PCR grade water

Enzyme 2	Storage temperature: -20°C (-4°F). 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.
Enzyme 1 & Enzyme 2 buffer	Storage temperature: -20°C (-4°F). 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.

## Section 7. Handling and storage

Ligase	Storage temperature: -20°C (-4°F). 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.
Ligase buffer	Storage temperature: -20°C (-4°F). 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.
PCR Mix	Storage temperature: -20°C (-4°F). 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.
TE	Storage temperature: -20°C (-4°F). 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.
Adapter 1	Storage temperature: -20°C (-4°F). 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.
Adapter 2	Storage temperature: -20°C (-4°F). 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.
Forward PCR primer	Storage temperature: -20°C (-4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool

## Section 7. Handling and storage

Reverse PCR Primer –  
Index 1 – 96

Reverse PCR primer – NTC

Custom Read 1 Sequencing  
Primer

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. Storage temperature: -20°C (-4°F). 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. Storage temperature: -20°C (-4°F). 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. Storage temperature: -20°C (-4°F). 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.

## Section 8. Exposure controls and personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
<b>Enzyme 2</b> Glycerol	<b>Safe Work Australia (Australia, 1/2014).</b> TWA: 10 mg/m <sup>3</sup> 8 hours.
<b>Ligase</b> Glycerol	<b>Safe Work Australia (Australia, 1/2014).</b> TWA: 10 mg/m <sup>3</sup> 8 hours.

### Appropriate engineering controls

: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

### Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

## Section 8. Exposure controls and personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

### Appearance

- Physical state**
- |                                   |         |
|-----------------------------------|---------|
| PCR grade water                   | Liquid. |
| Enzyme 2                          | Liquid. |
| Enzyme 1 & Enzyme 2 buffer        | Liquid. |
| Ligase                            | Liquid. |
| Ligase buffer                     | Liquid. |
| PCR Mix                           | Liquid. |
| TE                                | Liquid. |
| Adapter 1                         | Liquid. |
| Adapter 2                         | Liquid. |
| Forward PCR primer                | Liquid. |
| Reverse PCR Primer – Index 1 – 96 | Liquid. |
| Reverse PCR primer – NTC          | Liquid. |
| Custom Read 1 Sequencing Primer   | Liquid. |
- Colour**
- |                                   |                |
|-----------------------------------|----------------|
| PCR grade water                   | Colourless.    |
| Enzyme 2                          | Not available. |
| Enzyme 1 & Enzyme 2 buffer        | Not available. |
| Ligase                            | Colourless.    |
| Ligase buffer                     | Colourless.    |
| PCR Mix                           | Colourless.    |
| TE                                | Not available. |
| Adapter 1                         | Colourless.    |
| Adapter 2                         | Colourless.    |
| Forward PCR primer                | Not available. |
| Reverse PCR Primer – Index 1 – 96 | Not available. |
| Reverse PCR primer – NTC          | Not available. |
| Custom Read 1 Sequencing Primer   | Not available. |



## Section 9. Physical and chemical properties

<b>Odour</b>	:	PCR grade water	Odourless.	
		Enzyme 2	Not available.	
		Enzyme 1 & Enzyme 2 buffer	Not available.	
		Ligase	Mild.	
		Ligase buffer	Mild.	
		PCR Mix	Mild.	
		TE	Not available.	
		Adapter 1	Mild.	
		Adapter 2	Mild.	
		Forward PCR primer	Not available.	
		Reverse PCR Primer – Index 1 – 96	Not available.	
		Reverse PCR primer – NTC	Not available.	
		Custom Read 1 Sequencing Primer	Not available.	
	<b>Odour threshold</b>	:	PCR grade water	Not available.
			Enzyme 2	Not available.
		Enzyme 1 & Enzyme 2 buffer	Not available.	
		Ligase	Not available.	
		Ligase buffer	Not available.	
		PCR Mix	Not available.	
		TE	Not available.	
		Adapter 1	Not available.	
		Adapter 2	Not available.	
		Forward PCR primer	Not available.	
		Reverse PCR Primer – Index 1 – 96	Not available.	
		Reverse PCR primer – NTC	Not available.	
		Custom Read 1 Sequencing Primer	Not available.	
<b>pH</b>		:	PCR grade water	7
			Enzyme 2	7.4
		Enzyme 1 & Enzyme 2 buffer	7.9	
		Ligase	7.4	
		Ligase buffer	7.5	
		PCR Mix	Not available.	
		TE	8	
		Adapter 1	Not available.	
		Adapter 2	Not available.	
		Forward PCR primer	8	
		Reverse PCR Primer – Index 1 – 96	8	
		Reverse PCR primer – NTC	8	
		Custom Read 1 Sequencing Primer	8	
	<b>Melting point</b>	:	PCR grade water	0°C (32°F)
			Enzyme 2	Not available.
		Enzyme 1 & Enzyme 2 buffer	Not available.	
		Ligase	Not available.	
		Ligase buffer	Not available.	
		PCR Mix	Not available.	
		TE	Not available.	
		Adapter 1	Not available.	
		Adapter 2	Not available.	
		Forward PCR primer	0°C (32°F)	
		Reverse PCR Primer – Index 1 – 96	0°C (32°F)	
		Reverse PCR primer – NTC	0°C (32°F)	
		Custom Read 1 Sequencing Primer	0°C (32°F)	

## Section 9. Physical and chemical properties

<b>Boiling point</b>	:	PCR grade water	100°C (212°F)
		Enzyme 2	Not available.
		Enzyme 1 & Enzyme 2 buffer	Not available.
		Ligase	Not available.
		Ligase buffer	Not available.
		PCR Mix	100°C (212°F)
		TE	Not available.
		Adapter 1	Not available.
		Adapter 2	Not available.
		Forward PCR primer	100°C (212°F)
		Reverse PCR Primer –	100°C (212°F)
		Index 1 – 96	
		Reverse PCR primer – NTC	100°C (212°F)
		Custom Read 1 Sequencing	100°C (212°F)
		Primer	
<b>Flash point</b>	:	PCR grade water	Not applicable.
		Enzyme 2	Not available.
		Enzyme 1 & Enzyme 2 buffer	Not available.
		Ligase	Not available.
		Ligase buffer	Not available.
		PCR Mix	Not available.
		TE	Not available.
		Adapter 1	Not available.
		Adapter 2	Not available.
		Forward PCR primer	Not available.
		Reverse PCR Primer –	Not available.
		Index 1 – 96	
		Reverse PCR primer – NTC	Not available.
		Custom Read 1 Sequencing	Not available.
		Primer	
<b>Evaporation rate</b>	:	PCR grade water	Not available.
		Enzyme 2	Not available.
		Enzyme 1 & Enzyme 2 buffer	Not available.
		Ligase	Not available.
		Ligase buffer	Not available.
		PCR Mix	Not available.
		TE	Not available.
		Adapter 1	Not available.
		Adapter 2	Not available.
		Forward PCR primer	Not available.
		Reverse PCR Primer –	Not available.
		Index 1 – 96	
		Reverse PCR primer – NTC	Not available.
		Custom Read 1 Sequencing	Not available.
		Primer	
<b>Flammability (solid, gas)</b>	:	PCR grade water	Not applicable.
		Enzyme 2	Not applicable.
		Enzyme 1 & Enzyme 2 buffer	Not applicable.
		Ligase	Not applicable.
		Ligase buffer	Not applicable.
		PCR Mix	Not applicable.
		TE	Not applicable.
		Adapter 1	Not applicable.
		Adapter 2	Not applicable.
		Forward PCR primer	Not applicable.
		Reverse PCR Primer –	Not applicable.
		Index 1 – 96	
		Reverse PCR primer – NTC	Not applicable.
		Custom Read 1 Sequencing	Not applicable.
		Primer	

## Section 9. Physical and chemical properties

<b>Lower and upper explosive (flammable) limits</b>	:	PCR grade water	Not available.	
		Enzyme 2	Not available.	
		Enzyme 1 & Enzyme 2 buffer	Not available.	
		Ligase	Not available.	
		Ligase buffer	Not available.	
		PCR Mix	Not available.	
		TE	Not available.	
		Adapter 1	Not available.	
		Adapter 2	Not available.	
		Forward PCR primer	Not available.	
		Reverse PCR Primer – Index 1 – 96	Not available.	
		Reverse PCR primer – NTC	Not available.	
		Custom Read 1 Sequencing Primer	Not available.	
	<b>Vapour pressure</b>	:	PCR grade water	3.2 kPa (23.8 mm Hg) [room temperature]
			Enzyme 2	Not available.
		Enzyme 1 & Enzyme 2 buffer	Not available.	
		Ligase	Not available.	
		Ligase buffer	Not available.	
		PCR Mix	Not available.	
		TE	Not available.	
		Adapter 1	Not available.	
		Adapter 2	Not available.	
		Forward PCR primer	Not available.	
		Reverse PCR Primer – Index 1 – 96	Not available.	
		Reverse PCR primer – NTC	Not available.	
		Custom Read 1 Sequencing Primer	Not available.	
<b>Vapour density</b>		:	PCR grade water	0.62 [Air = 1]
			Enzyme 2	Not available.
		Enzyme 1 & Enzyme 2 buffer	Not available.	
		Ligase	Not available.	
		Ligase buffer	Not available.	
		PCR Mix	Not available.	
		TE	Not available.	
		Adapter 1	Not available.	
		Adapter 2	Not available.	
		Forward PCR primer	Not available.	
		Reverse PCR Primer – Index 1 – 96	Not available.	
		Reverse PCR primer – NTC	Not available.	
		Custom Read 1 Sequencing Primer	Not available.	
	<b>Relative density</b>	:	PCR grade water	1
			Enzyme 2	Not available.
		Enzyme 1 & Enzyme 2 buffer	Not available.	
		Ligase	Not available.	
		Ligase buffer	Not available.	
		PCR Mix	Not available.	
		TE	Not available.	
		Adapter 1	Not available.	
		Adapter 2	Not available.	
		Forward PCR primer	Not available.	
		Reverse PCR Primer – Index 1 – 96	Not available.	
		Reverse PCR primer – NTC	Not available.	
		Custom Read 1 Sequencing Primer	Not available.	

## Section 9. Physical and chemical properties

<b>Solubility</b>	: PCR grade water	Easily soluble in the following materials: cold water and hot water.	
	Enzyme 2	Easily soluble in the following materials: cold water and hot water.	
	Enzyme 1 & Enzyme 2 buffer	Easily soluble in the following materials: cold water and hot water.	
	Ligase	Easily soluble in the following materials: cold water and hot water.	
	Ligase buffer	Easily soluble in the following materials: cold water and hot water.	
	PCR Mix	Not available.	
	TE	Easily soluble in the following materials: cold water and hot water.	
	Adapter 1	Soluble in the following materials: cold water and hot water.	
	Adapter 2	Soluble in the following materials: cold water and hot water.	
	Forward PCR primer	Easily soluble in the following materials: cold water and hot water.	
	Reverse PCR Primer – Index 1 – 96	Easily soluble in the following materials: cold water and hot water.	
	Reverse PCR primer – NTC	Easily soluble in the following materials: cold water and hot water.	
	Custom Read 1 Sequencing Primer	Easily soluble in the following materials: cold water and hot water.	
	<b>Partition coefficient: n-octanol/water</b>	: PCR grade water	-1.38
		Enzyme 2	Not available.
		Enzyme 1 & Enzyme 2 buffer	Not available.
Ligase		Not available.	
Ligase buffer		Not available.	
PCR Mix		Not available.	
TE		Not available.	
Adapter 1		Not available.	
Adapter 2		Not available.	
Forward PCR primer		Not available.	
Reverse PCR Primer – Index 1 – 96		Not available.	
Reverse PCR primer – NTC		Not available.	
Custom Read 1 Sequencing Primer		Not available.	
<b>Auto-ignition temperature</b>		: PCR grade water	Not applicable.
		Enzyme 2	Not available.
		Enzyme 1 & Enzyme 2 buffer	Not available.
	Ligase	Not available.	
	Ligase buffer	Not available.	
	PCR Mix	Not available.	
	TE	Not available.	
	Adapter 1	Not available.	
	Adapter 2	Not available.	
	Forward PCR primer	Not available.	
	Reverse PCR Primer – Index 1 – 96	Not available.	
	Reverse PCR primer – NTC	Not available.	
	Custom Read 1 Sequencing Primer	Not available.	
	<b>Decomposition temperature</b>	: PCR grade water	>1200°C (>2192°F)
		Enzyme 2	Not available.
		Enzyme 1 & Enzyme 2 buffer	Not available.
Ligase		Not available.	
Ligase buffer		Not available.	
PCR Mix		Not available.	
TE		Not available.	
Adapter 1		Not available.	

## Section 9. Physical and chemical properties

	Adapter 2	Not available.
	Forward PCR primer	Not available.
	Reverse PCR Primer – Index 1 – 96	Not available.
	Reverse PCR primer – NTC	Not available.
	Custom Read 1 Sequencing Primer	Not available.
<b>Viscosity</b>	: PCR grade water	Not available.
	Enzyme 2	Not available.
	Enzyme 1 & Enzyme 2 buffer	Not available.
	Ligase	Not available.
	Ligase buffer	Not available.
	PCR Mix	Not available.
	TE	Not available.
	Adapter 1	Not available.
	Adapter 2	Not available.
	Forward PCR primer	Not available.
	Reverse PCR Primer – Index 1 – 96	Not available.
	Reverse PCR primer – NTC	Not available.
	Custom Read 1 Sequencing Primer	Not available.

## Section 10. Stability and reactivity

<b>Reactivity</b>	: PCR grade water	No specific test data related to reactivity available for this product or its ingredients.
	Enzyme 2	No specific test data related to reactivity available for this product or its ingredients.
	Enzyme 1 & Enzyme 2 buffer	No specific test data related to reactivity available for this product or its ingredients.
	Ligase	No specific test data related to reactivity available for this product or its ingredients.
	Ligase buffer	No specific test data related to reactivity available for this product or its ingredients.
	PCR Mix	No specific test data related to reactivity available for this product or its ingredients.
	TE	No specific test data related to reactivity available for this product or its ingredients.
	Adapter 1	No specific test data related to reactivity available for this product or its ingredients.
	Adapter 2	No specific test data related to reactivity available for this product or its ingredients.
	Forward PCR primer	No specific test data related to reactivity available for this product or its ingredients.
	Reverse PCR Primer – Index 1 – 96	No specific test data related to reactivity available for this product or its ingredients.
	Reverse PCR primer – NTC	No specific test data related to reactivity available for this product or its ingredients.
	Custom Read 1 Sequencing Primer	No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: PCR grade water	The product is stable.
	Enzyme 2	The product is stable.
	Enzyme 1 & Enzyme 2 buffer	The product is stable.
	Ligase	The product is stable.
	Ligase buffer	The product is stable.
	PCR Mix	The product is stable.
	TE	The product is stable.
	Adapter 1	The product is stable.
	Adapter 2	The product is stable.
	Forward PCR primer	The product is stable.
	Reverse PCR Primer –	The product is stable.

## Section 10. Stability and reactivity

Index 1 – 96  
 Reverse PCR primer – NTC The product is stable.  
 Custom Read 1 Sequencing Primer The product is stable.

### Possibility of hazardous reactions

: PCR grade water Under normal conditions of storage and use, hazardous reactions will not occur.  
 Enzyme 2 Under normal conditions of storage and use, hazardous reactions will not occur.  
 Enzyme 1 & Enzyme 2 buffer Under normal conditions of storage and use, hazardous reactions will not occur.  
 Ligase Under normal conditions of storage and use, hazardous reactions will not occur.  
 Ligase buffer Under normal conditions of storage and use, hazardous reactions will not occur.  
 PCR Mix Under normal conditions of storage and use, hazardous reactions will not occur.  
 TE Under normal conditions of storage and use, hazardous reactions will not occur.  
 Adapter 1 Under normal conditions of storage and use, hazardous reactions will not occur.  
 Adapter 2 Under normal conditions of storage and use, hazardous reactions will not occur.  
 Forward PCR primer Under normal conditions of storage and use, hazardous reactions will not occur.  
 Reverse PCR Primer – Index 1 – 96 Under normal conditions of storage and use, hazardous reactions will not occur.  
 Reverse PCR primer – NTC Under normal conditions of storage and use, hazardous reactions will not occur.  
 Custom Read 1 Sequencing Primer Under normal conditions of storage and use, hazardous reactions will not occur.

### Conditions to avoid

: PCR grade water No specific data.  
 Enzyme 2 No specific data.  
 Enzyme 1 & Enzyme 2 buffer No specific data.  
 Ligase No specific data.  
 Ligase buffer No specific data.  
 PCR Mix No specific data.  
 TE No specific data.  
 Adapter 1 No specific data.  
 Adapter 2 No specific data.  
 Forward PCR primer No specific data.  
 Reverse PCR Primer – Index 1 – 96 No specific data.  
 Reverse PCR primer – NTC No specific data.  
 Custom Read 1 Sequencing Primer No specific data.

### Incompatible materials

: PCR grade water May react or be incompatible with oxidising materials.  
 Enzyme 2 May react or be incompatible with oxidising materials.  
 Enzyme 1 & Enzyme 2 buffer May react or be incompatible with oxidising materials.  
 Ligase May react or be incompatible with oxidising materials.  
 Ligase buffer May react or be incompatible with oxidising materials.  
 PCR Mix May react or be incompatible with oxidising materials.  
 TE May react or be incompatible with oxidising materials.  
 Adapter 1 May react or be incompatible with oxidising materials.  
 Adapter 2 May react or be incompatible with oxidising materials.  
 Forward PCR primer May react or be incompatible with oxidising materials.  
 Reverse PCR Primer – Index 1 – 96 May react or be incompatible with oxidising materials.  
 Reverse PCR primer – NTC May react or be incompatible with oxidising materials.  
 Custom Read 1 Sequencing Primer May react or be incompatible with oxidising materials.

## Section 10. Stability and reactivity

Primer

<b>Hazardous decomposition products</b>	: PCR grade water	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Enzyme 2	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Enzyme 1 & Enzyme 2 buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Ligase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Ligase buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	PCR Mix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	TE	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Adapter 1	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Adapter 2	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Forward PCR primer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Reverse PCR Primer – Index 1 – 96	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Reverse PCR primer – NTC	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Custom Read 1 Sequencing Primer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
<b>Enzyme 2</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-
<b>Ligase</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-

#### Irritation/Corrosion

## Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>Enzyme 2</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
<b>Ligase</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

**Sensitisation**

Not available.

**Mutagenicity**

Not available.

**Carcinogenicity**

Not available.

**Reproductive toxicity**

Not available.

**Teratogenicity**

Not available.

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

Not available.

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

Not available.

**Aspiration hazard**

Not available.

<b>Information on likely routes of exposure</b>	: PCR grade water	Not available.
	Enzyme 2	Routes of entry anticipated: Oral, Dermal, Inhalation.
	Enzyme 1 & Enzyme 2 buffer	Not available.
	Ligase	Routes of entry anticipated: Oral, Dermal, Inhalation.
	Ligase buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
	PCR Mix	Not available.
	TE	Not available.
	Adapter 1	Not available.
	Adapter 2	Not available.
	Forward PCR primer	Not available.
	Reverse PCR Primer – Index 1 – 96	Not available.
	Reverse PCR primer – NTC	Not available.
	Custom Read 1 Sequencing Primer	Not available.

**Potential acute health effects**

<b>Eye contact</b>	: PCR grade water	No known significant effects or critical hazards.
	Enzyme 2	No known significant effects or critical hazards.
	Enzyme 1 & Enzyme 2 buffer	No known significant effects or critical hazards.
	Ligase	No known significant effects or critical hazards.
	Ligase buffer	No known significant effects or critical hazards.
	PCR Mix	No known significant effects or critical hazards.
	TE	No known significant effects or critical hazards.
	Adapter 1	No known significant effects or critical hazards.



## Section 11. Toxicological information

	Adapter 2	No known significant effects or critical hazards.
	Forward PCR primer	No known significant effects or critical hazards.
	Reverse PCR Primer – Index 1 – 96	No known significant effects or critical hazards.
	Reverse PCR primer – NTC	No known significant effects or critical hazards.
	Custom Read 1 Sequencing Primer	No known significant effects or critical hazards.
<b>Inhalation</b>	: PCR grade water	No known significant effects or critical hazards.
	Enzyme 2	No known significant effects or critical hazards.
	Enzyme 1 & Enzyme 2 buffer	No known significant effects or critical hazards.
	Ligase	No known significant effects or critical hazards.
	Ligase buffer	No known significant effects or critical hazards.
	PCR Mix	No known significant effects or critical hazards.
	TE	No known significant effects or critical hazards.
	Adapter 1	No known significant effects or critical hazards.
	Adapter 2	No known significant effects or critical hazards.
	Forward PCR primer	No known significant effects or critical hazards.
	Reverse PCR Primer – Index 1 – 96	No known significant effects or critical hazards.
	Reverse PCR primer – NTC	No known significant effects or critical hazards.
	Custom Read 1 Sequencing Primer	No known significant effects or critical hazards.
<b>Skin contact</b>	: PCR grade water	No known significant effects or critical hazards.
	Enzyme 2	No known significant effects or critical hazards.
	Enzyme 1 & Enzyme 2 buffer	No known significant effects or critical hazards.
	Ligase	No known significant effects or critical hazards.
	Ligase buffer	No known significant effects or critical hazards.
	PCR Mix	No known significant effects or critical hazards.
	TE	No known significant effects or critical hazards.
	Adapter 1	No known significant effects or critical hazards.
	Adapter 2	No known significant effects or critical hazards.
	Forward PCR primer	No known significant effects or critical hazards.
	Reverse PCR Primer – Index 1 – 96	No known significant effects or critical hazards.
	Reverse PCR primer – NTC	No known significant effects or critical hazards.
	Custom Read 1 Sequencing Primer	No known significant effects or critical hazards.
<b>Ingestion</b>	: PCR grade water	No known significant effects or critical hazards.
	Enzyme 2	No known significant effects or critical hazards.
	Enzyme 1 & Enzyme 2 buffer	No known significant effects or critical hazards.
	Ligase	No known significant effects or critical hazards.
	Ligase buffer	No known significant effects or critical hazards.
	PCR Mix	No known significant effects or critical hazards.
	TE	No known significant effects or critical hazards.
	Adapter 1	No known significant effects or critical hazards.
	Adapter 2	No known significant effects or critical hazards.
	Forward PCR primer	No known significant effects or critical hazards.
	Reverse PCR Primer – Index 1 – 96	No known significant effects or critical hazards.
	Reverse PCR primer – NTC	No known significant effects or critical hazards.
	Custom Read 1 Sequencing Primer	No known significant effects or critical hazards.

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

<b>Eye contact</b>	: PCR grade water	No specific data.
	Enzyme 2	No specific data.
	Enzyme 1 & Enzyme 2 buffer	No specific data.
	Ligase	No specific data.
	Ligase buffer	No specific data.
	PCR Mix	No specific data.
	TE	No specific data.
	Adapter 1	No specific data.

## Section 11. Toxicological information

	Adapter 2	No specific data.
	Forward PCR primer	No specific data.
	Reverse PCR Primer – Index 1 – 96	No specific data.
	Reverse PCR primer – NTC	No specific data.
	Custom Read 1 Sequencing Primer	No specific data.
<b>Inhalation</b>	: PCR grade water	No specific data.
	Enzyme 2	No specific data.
	Enzyme 1 & Enzyme 2 buffer	No specific data.
	Ligase	No specific data.
	Ligase buffer	No specific data.
	PCR Mix	No specific data.
	TE	No specific data.
	Adapter 1	No specific data.
	Adapter 2	No specific data.
	Forward PCR primer	No specific data.
	Reverse PCR Primer – Index 1 – 96	No specific data.
	Reverse PCR primer – NTC	No specific data.
	Custom Read 1 Sequencing Primer	No specific data.
<b>Skin contact</b>	: PCR grade water	No specific data.
	Enzyme 2	No specific data.
	Enzyme 1 & Enzyme 2 buffer	No specific data.
	Ligase	No specific data.
	Ligase buffer	No specific data.
	PCR Mix	No specific data.
	TE	No specific data.
	Adapter 1	No specific data.
	Adapter 2	No specific data.
	Forward PCR primer	No specific data.
	Reverse PCR Primer – Index 1 – 96	No specific data.
	Reverse PCR primer – NTC	No specific data.
	Custom Read 1 Sequencing Primer	No specific data.
<b>Ingestion</b>	: PCR grade water	No specific data.
	Enzyme 2	No specific data.
	Enzyme 1 & Enzyme 2 buffer	No specific data.
	Ligase	No specific data.
	Ligase buffer	No specific data.
	PCR Mix	No specific data.
	TE	No specific data.
	Adapter 1	No specific data.
	Adapter 2	No specific data.
	Forward PCR primer	No specific data.
	Reverse PCR Primer – Index 1 – 96	No specific data.
	Reverse PCR primer – NTC	No specific data.
	Custom Read 1 Sequencing Primer	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.

## Section 11. Toxicological information

**Potential delayed effects** : Not available.

### Potential chronic health effects

Not available.

<b>General</b>	: PCR grade water Enzyme 2 Enzyme 1 & Enzyme 2 buffer Ligase Ligase buffer PCR Mix TE Adapter 1 Adapter 2 Forward PCR primer Reverse PCR Primer – Index 1 – 96 Reverse PCR primer – NTC Custom Read 1 Sequencing Primer	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. 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. 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.
<b>Carcinogenicity</b>	: PCR grade water Enzyme 2 Enzyme 1 & Enzyme 2 buffer Ligase Ligase buffer PCR Mix TE Adapter 1 Adapter 2 Forward PCR primer Reverse PCR Primer – Index 1 – 96 Reverse PCR primer – NTC Custom Read 1 Sequencing Primer	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. 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. 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.
<b>Mutagenicity</b>	: PCR grade water Enzyme 2 Enzyme 1 & Enzyme 2 buffer Ligase Ligase buffer PCR Mix TE Adapter 1 Adapter 2 Forward PCR primer Reverse PCR Primer – Index 1 – 96 Reverse PCR primer – NTC Custom Read 1 Sequencing Primer	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. 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. 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.
<b>Teratogenicity</b>	: PCR grade water Enzyme 2 Enzyme 1 & Enzyme 2 buffer Ligase Ligase buffer PCR Mix TE Adapter 1 Adapter 2 Forward PCR primer Reverse PCR Primer – Index 1 – 96 Reverse PCR primer – NTC	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. 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. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

## Section 11. Toxicological information

	Custom Read 1 Sequencing Primer	No known significant effects or critical hazards.
<b>Developmental effects</b>	: PCR grade water	No known significant effects or critical hazards.
	Enzyme 2	No known significant effects or critical hazards.
	Enzyme 1 & Enzyme 2 buffer	No known significant effects or critical hazards.
	Ligase	No known significant effects or critical hazards.
	Ligase buffer	No known significant effects or critical hazards.
	PCR Mix	No known significant effects or critical hazards.
	TE	No known significant effects or critical hazards.
	Adapter 1	No known significant effects or critical hazards.
	Adapter 2	No known significant effects or critical hazards.
	Forward PCR primer	No known significant effects or critical hazards.
<b>Fertility effects</b>	Reverse PCR Primer – Index 1 – 96	No known significant effects or critical hazards.
	Reverse PCR primer – NTC	No known significant effects or critical hazards.
	Custom Read 1 Sequencing Primer	No known significant effects or critical hazards.
	: PCR grade water	No known significant effects or critical hazards.
	Enzyme 2	No known significant effects or critical hazards.
	Enzyme 1 & Enzyme 2 buffer	No known significant effects or critical hazards.
	Ligase	No known significant effects or critical hazards.
	Ligase buffer	No known significant effects or critical hazards.
	PCR Mix	No known significant effects or critical hazards.
	TE	No known significant effects or critical hazards.
Adapter 1	No known significant effects or critical hazards.	
Adapter 2	No known significant effects or critical hazards.	
Forward PCR primer	No known significant effects or critical hazards.	
Reverse PCR Primer – Index 1 – 96	No known significant effects or critical hazards.	
Reverse PCR primer – NTC	No known significant effects or critical hazards.	
Custom Read 1 Sequencing Primer	No known significant effects or critical hazards.	

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
Ligase buffer Oral	33333.3 mg/kg

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
<b>Enzyme 2</b> Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
<b>Ligase</b> Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

### Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
<b>PCR grade water</b> Water	-	100 % - 28 days	-	-

## Section 12. Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
PCR grade water Water	-	-	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
PCR grade water Water	-1.38	-	low
Enzyme 2 Glycerol	-1.76	-	low
Ligase Glycerol	-1.76	-	low

### Mobility in soil

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

Other adverse effects : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

### Regulatory information

ADG / IMDG / IATA : Not regulated as Dangerous Goods according to the ADG Code .

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

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

## Section 15. Regulatory information

### Standard Uniform Schedule of Medicine and Poisons

Not regulated.

### Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

Australia inventory (AICS) : Not determined.

### International regulations

## Section 15. Regulatory information

### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

### Montreal Protocol (Annexes A, B, C, E)

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.

### International lists

#### National inventory

<b>Canada</b>	: Not determined.
<b>China</b>	: Not determined.
<b>Europe</b>	: Not determined.
<b>Japan</b>	: <b>Japan inventory (ENCS)</b> : Not determined. <b>Japan inventory (ISHL)</b> : Not determined.
<b>Malaysia</b>	: Not determined.
<b>New Zealand</b>	: Not determined.
<b>Philippines</b>	: Not determined.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: Not determined.

## Section 16. Any other relevant information

### History

**Date of issue/Date of revision** : 13/10/2016

**Date of previous issue** : No previous validation.

**Version** : 1

**Key to abbreviations** :

- ADG = Australian Dangerous Goods
- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- NOHSC = National Occupational Health and Safety Commission
- SUSMP = Standard Uniform Schedule of Medicine and Poisons
- UN = United Nations

### Procedure used to derive the classification

Classification	Justification
Not classified.	

**References** : Not available.

✔ Indicates information that has changed from previously issued version.

## Section 16. Any other relevant information

### [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.