

SAFETY DATA SHEET



OnePGT Box 2, Part Number 5190-9667

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

1.1 Product identifier

Product name	: OnePGT Box 2, Part Number 5190-9667
Part No. (Kit)	: 5190-9667
Part No.	: PCR grade water 5190-9681
	Enzyme 2 5190-9676
	Enzyme 1 & Enzyme 2 5190-9677
	buffer
	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 – 5190-9674
	Index 1 – 96
	Reverse PCR primer – 5190-9673
	NTC
	Custom Read 1 5190-9672
	Sequencing Primer

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

Identified uses	
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

1.3 Details of the supplier of the safety data sheet

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

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

1.4 Emergency telephone number

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

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

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SECTION 2: Hazards identification**2.1 Classification of the substance or mixture**

Product definition	:	PCR grade water	Mono-constituent 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

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

Not classified.

Ingredients of unknown toxicity	:	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%
Ingredients of unknown ecotoxicity	:	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%

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

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

2.2 Label elements

Signal word	:	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 – Index 1 – 96	No signal word.
		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.

SECTION 2: Hazards identification

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.

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 – Index 1 – 96	Not applicable.
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 – Index 1 – 96	Not applicable.
Reverse PCR primer – NTC	Not applicable.
Custom Read 1 Sequencing Primer	Not applicable.

Storage

: 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 – Index 1 – 96	Not applicable.
Reverse PCR primer – NTC	Not applicable.
Custom Read 1 Sequencing Primer	Not applicable.

SECTION 2: Hazards identification

Disposal	: 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	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
Hazardous ingredients	: Ligase buffer	Not applicable.
Supplemental label elements	: 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	Not applicable. Not applicable. Not applicable. Not applicable. Safety data sheet available on request. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	: 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	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
Special packaging requirements		
Tactile warning of danger	: PCR grade water Enzyme 2 Enzyme 1 & Enzyme 2 buffer Ligase Ligase buffer PCR Mix TE Adapter 1	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.

SECTION 2: Hazards identification

Adapter 2	Not applicable.
Forward PCR primer	Not applicable.
Reverse PCR Primer – Index 1 – 96	Not applicable.
Reverse PCR primer – NTC	Not applicable.
Custom Read 1 Sequencing Primer	Not applicable.

2.3 Other hazards

Other hazards which do not result in classification	:	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.

SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
PCR grade water Water	EC: 231-791-2 CAS: 7732-18-5	100	Not classified.	[A]
Enzyme 2 Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
Ligase Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
Ligase buffer 2-Amino-2-(hydroxymethyl) propane-1,3-diol hydrochloride	EC: 214-684-5 CAS: 1185-53-1	≤8.4	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	[1]
(R*,R*)-1,4-Dimercaptobutane-2, 3-diol	EC: 222-468-7 CAS: 3483-12-3	≤1.5	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Chronic 3, H412 See Section 16 for the full text of the H statements declared above.	[1]

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

Type

SECTION 3: Composition/information on ingredients

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	: 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. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Adapter 1	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	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.
Inhalation	: 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

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		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 – Index 1 – 96	Remove victim to fresh air and keep at rest in a 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.
Skin contact	: 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

SECTION 4: First aid measures

	Reverse PCR primer – NTC	symptoms occur. 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.
Ingestion	: 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 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

SECTION 4: First aid measures

Reverse PCR Primer – Index 1 – 96	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.
Reverse PCR primer – NTC	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.
Custom Read 1 Sequencing 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.

Protection of first-aiders :

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.

4.2 Most important symptoms and effects, both 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.

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	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.
Ingestion	: 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

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Eye contact	:	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	No specific data.
		Sequencing Primer	
	Inhalation	:	PCR grade water
		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	No specific data.
		Sequencing Primer	
Skin contact		:	PCR grade water
		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	No specific data.
		Sequencing Primer	
	Ingestion	:	PCR grade water
		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	No specific data.
		Sequencing Primer	

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Index 1 – 96	
Reverse PCR primer – NTC	No specific data.
Custom Read 1 Sequencing Primer	No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	: 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.	
	Specific treatments	: 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.	

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	: 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.

SECTION 5: Firefighting measures

	TE	Use an extinguishing agent suitable for the surrounding fire.
	Adapter 1	Use an extinguishing agent suitable for the surrounding fire.
	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.
Unsuitable extinguishing media	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.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	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.
Hazardous combustion products	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

SECTION 5: Firefighting measures

	nitrogen oxides metal oxide/oxides
Ligase	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.

5.3 Advice for firefighters

Special precautions for fire-fighters

: 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 without suitable training.
Adapter 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.
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.

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Special protective equipment for fire-fighters

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.
: 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
Ligase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
TE	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
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. Clothing for fire-fighters (including helmets, protective boots and gloves)

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Reverse PCR Primer – Index 1 – 96	conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
Reverse PCR primer – NTC	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: 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.

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Adapter 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.
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.
: 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 suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Forward PCR 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-

For emergency responders

SECTION 6: Accidental release measures

	Reverse PCR Primer – Index 1 – 96	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 – 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".
6.2 Environmental precautions	: 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).
	Forward PCR 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).
	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

SECTION 6: Accidental release measures

authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : 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. Dispose of via a licensed waste disposal contractor.
Adapter 1	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.

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

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures	: 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).
	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).
Advice on general occupational hygiene	: 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.

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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 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.
Forward PCR 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.
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.

7.2 Conditions for safe storage, including any incompatibilities

Storage	: PCR grade water	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
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SECTION 7: Handling and storage

Enzyme 2	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.
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.
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

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Adapter 2	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.
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 and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
Reverse PCR Primer – Index 1 – 96	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.
Reverse PCR primer – NTC	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.
Custom Read 1 Sequencing 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 and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations

: PCR grade water	Industrial applications, Professional applications.
Enzyme 2	Industrial applications, Professional applications.
Enzyme 1 & Enzyme 2 buffer	Industrial applications, Professional applications.
Ligase	Industrial applications.
Ligase buffer	Industrial applications, Professional applications.
PCR Mix	Industrial applications, Professional applications.
TE	Industrial applications, Professional applications.
Adapter 1	Industrial applications, Professional applications.
Adapter 2	Industrial applications, Professional applications.
Forward PCR primer	Industrial applications, Professional applications.
Reverse PCR Primer – Index 1 – 96	Industrial applications, Professional applications.
Reverse PCR primer – NTC	Industrial applications, Professional applications.

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	Custom Read 1 Sequencing Primer	Industrial applications, Professional applications.
Industrial sector specific solutions	: 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 – Index 1 – 96	Not applicable.
	Reverse PCR primer – NTC	Not applicable.
	Custom Read 1 Sequencing Primer	Not applicable.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Enzyme 2 Glycerol	EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 10 mg/m ³ 8 hours. Form: Mist
Ligase Glycerol	EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 10 mg/m ³ 8 hours. Form: Mist

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

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available

8.2 Exposure controls

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

Individual protection measures

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

SECTION 8: Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic 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

Odour	:	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	Not available.	
		Sequencing Primer		
	Odour threshold	:	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	Not available.	
		Sequencing Primer		
pH		:	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	8	
		Sequencing Primer		
	Melting point/freezing point	:	PCR grade water	0°C
			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	
		Reverse PCR Primer – Index 1 – 96	0°C	

SECTION 9: Physical and chemical properties

	Reverse PCR primer –	0°C
	NTC	
	Custom Read 1	0°C
	Sequencing Primer	
Initial boiling point and boiling range	: PCR grade water	100°C
	Enzyme 2	Not available.
	Enzyme 1 & Enzyme 2 buffer	Not available.
	Ligase	Not available.
	Ligase buffer	Not available.
	PCR Mix	100°C
	TE	Not available.
	Adapter 1	Not available.
	Adapter 2	Not available.
	Forward PCR primer	100°C
	Reverse PCR Primer –	100°C
	Index 1 – 96	
	Reverse PCR primer –	100°C
	NTC	
	Custom Read 1	100°C
	Sequencing Primer	
Flash point	: 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 –	Not available.
	NTC	
	Custom Read 1	Not available.
	Sequencing Primer	
Evaporation rate	: 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 –	Not available.
	NTC	
	Custom Read 1	Not available.
	Sequencing Primer	
Flammability (solid, gas)	: 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.

SECTION 9: Physical and chemical properties

	Adapter 1	Not applicable.
	Adapter 2	Not applicable.
	Forward PCR primer	Not applicable.
	Reverse PCR Primer – Index 1 – 96	Not applicable.
	Reverse PCR primer – NTC	Not applicable.
	Custom Read 1	Not applicable.
	Sequencing Primer	
Upper/lower flammability or explosive limits	: 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	Not available.
	Sequencing Primer	
Vapour pressure	: PCR grade water	3.2 kPa [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	Not available.
	Sequencing Primer	
Vapour density	: 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	Not available.
	Sequencing Primer	

SECTION 9: Physical and chemical properties

Relative density	: 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.	
	Solubility(ies)	: 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.	
Partition coefficient: n-octanol/water		: 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.	

SECTION 9: Physical and chemical properties

Auto-ignition temperature	: 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	Not available.	
	Sequencing Primer		
	Decomposition temperature	: PCR grade water	>1200°C
		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		Not available.	
Sequencing Primer			
Viscosity		: 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	Not available.	
	Sequencing Primer		
	Explosive properties	: 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.	

SECTION 9: Physical and chemical properties

Oxidising properties	Reverse PCR primer – NTC	Not available.
	Custom Read 1 Sequencing Primer	Not available.
	: 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.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	: 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.
10.2 Chemical stability	: 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.

SECTION 10: Stability and reactivity

Adapter 2	The product is stable.
Forward PCR primer	The product is stable.
Reverse PCR Primer – Index 1 – 96	The product is stable.
Reverse PCR primer – NTC	The product is stable.
Custom Read 1 Sequencing Primer	The product is stable.

10.3 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.

10.4 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.

10.5 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.

SECTION 10: Stability and reactivity

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.

10.6 Hazardous decomposition products

: 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

11.1 Information on toxicological effects

Acute toxicity

Not available.

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.

Information on likely routes of exposure

: 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.

SECTION 11: Toxicological information**Potential acute health effects**

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.	
	Ingestion	:	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.	
	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.	

SECTION 11: Toxicological information

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.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	:	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.
	Ingestion	:	PCR grade water
		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.
Skin contact		:	PCR grade water
		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 11: Toxicological information

Eye contact	:	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	No specific data.
		Sequencing Primer	

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Short term exposure**

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	:	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	No known significant effects or critical hazards.
		Sequencing Primer	
	Carcinogenicity	:	PCR grade water
		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.

SECTION 11: Toxicological information

	Custom Read 1 Sequencing Primer	No known significant effects or critical hazards.
Mutagenicity	: 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.
Teratogenicity	: 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.
Developmental effects	: 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.
Fertility effects	: 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.

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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 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Ligase buffer (R*,R*)-1, 4-Dimercaptobutane-2,3-diol	Acute LC50 27000 to 30000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours

12.2 Persistence and degradability

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

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

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
PCR grade water Water	-1.38	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

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

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 13: Disposal considerations

Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

Regulatory information

ADR/RID / IMDG / IATA : Not regulated.

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

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

SECTION 15: Regulatory information

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

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

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	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 – Index 1 – 96	Not applicable.
	Reverse PCR primer – NTC	Not applicable.
	Custom Read 1 Sequencing Primer	Not applicable.

Other EU regulations

Europe inventory : Not determined.

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

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

SECTION 15: Regulatory information

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**

Australia	: Not determined.
Canada	: Not determined.
China	: Not determined.
Japan	: Japan inventory (ENCS): Not determined. Japan inventory (ISHL): Not determined.
Malaysia	: Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: Not determined.
Turkey	: Not determined.
United States	: Not determined.

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

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

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

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

Classification	Justification
Not classified.	

Full text of abbreviated H statements

Ligase buffer H302 H315 H319 H335 H412	Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. Harmful to aquatic life with long lasting effects.
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Full text of classifications [CLP/GHS]

Ligase buffer Acute Tox. 4, H302 Aquatic Chronic 3, H412 Eye Irrit. 2, H319 Skin Irrit. 2, H315 STOT SE 3, H335	ACUTE TOXICITY (oral) - Category 4 LONG-TERM AQUATIC HAZARD - Category 3 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3
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Date of issue/ Date of revision : 13/10/2016

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

SECTION 16: Other information

Date of previous issue : No previous validation.

Version : 1

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