

SAFETY DATA SHEET



OnePGT Box 2, Part Number 5190-9667

Section 1. Identification

1.1 Product identifier

Product name : OnePGT Box 2, Part Number 5190-9667

Part No. (Chemical Kit) : 5190-9667

Part No. :

PCR grade water	5190-9681
Enzyme 2	5190-9676
Enzyme 1 & Enzyme 2 buffer	5190-9677
Ligase	5190-9678
Ligase buffer	5190-9679
PCR Mix	5190-9680
TE	5190-9682
Adapter 1	5190-9669
Adapter 2	5190-9670
Forward PCR primer	5190-9671
Reverse PCR Primer – Index 1 – 96	5190-9674
Reverse PCR primer – NTC	5190-9673
Custom Read 1 Sequencing Primer	5190-9672

Validation date : 10/13/2016

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

Material 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

Supplier/Manufacturer : Agilent Technologies, Inc.
 5301 Stevens Creek Blvd
 Santa Clara, CA 95051, USA
 800-227-9770

1.4 Emergency telephone number

In case of emergency : CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

2.1 Classification of the substance or mixture

OSHA/HCS status	: PCR grade water	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
	Enzyme 2	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
	Enzyme 1 & Enzyme 2 buffer	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
	Ligase	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
	Ligase buffer	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
	PCR Mix	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
	TE	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
	Adapter 1	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
	Adapter 2	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
	Forward PCR primer	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
	Reverse PCR Primer – Index 1 – 96	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Section 2. Hazards identification

Reverse PCR primer – NTC	other users of this product. While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
Custom Read 1 Sequencing Primer	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture

Enzyme 2

H320 EYE IRRITATION - Category 2B

Ligase

H320 EYE IRRITATION - Category 2B

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%

2.2 GHS label elements

Signal word

:	PCR grade water	No signal word.
	Enzyme 2	Warning
	Enzyme 1 & Enzyme 2 buffer	No signal word.
	Ligase	Warning
	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	H320 - Causes eye irritation.
	Enzyme 1 & Enzyme 2 buffer	No known significant effects or critical hazards.
	Ligase	H320 - Causes eye irritation.
	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.

Precautionary statements

Section 2. Hazards identification

Prevention	:	PCR grade water	Not applicable.
		Enzyme 2	P264 - Wash hands thoroughly after handling.
		Enzyme 1 & Enzyme 2 buffer	Not applicable.
		Ligase	P264 - Wash hands thoroughly after handling.
		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	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
			P337 + P313 - If eye irritation persists: Get medical attention.
		Enzyme 1 & Enzyme 2 buffer	Not applicable.
		Ligase	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
			P337 + P313 - If eye irritation persists: Get medical attention.
		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.
Disposal	:		

Section 2. Hazards identification

	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.
Supplemental label elements	: 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.

2.3 Other hazards

Hazards not otherwise classified

: 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

Substance/mixture	: PCR grade water	Substance
	Enzyme 2	Mixture
	Enzyme 1 & Enzyme 2 buffer	Mixture
	Ligase	Mixture
	Ligase buffer	Mixture
	PCR Mix	Mixture
	TE	Mixture
	Adapter 1	Mixture
	Adapter 2	Mixture

Section 3. Composition/information on ingredients

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

Ingredient name	%	CAS number
PCR grade water Water	100	7732-18-5
Enzyme 2 Glycerol	≥50 - ≤75	56-81-5
Enzyme 1 & Enzyme 2 buffer potassium acetate	≤5	127-08-2
Ligase Glycerol	≥50 - ≤75	56-81-5
Ligase buffer 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride (R*,R*)-1,4-Dimercaptobutane-2,3-diol	≤8.4 ≤1.5	1185-53-1 3483-12-3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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

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

Section 4. First aid measures

4.1 Description of necessary 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. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
	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. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
	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,

Section 4. First aid measures

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. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Enzyme 1 & Enzyme 2 buffer

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

Ligase

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain

Section 4. First aid measures

an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

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.

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

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Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

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. Wash clothing before reuse. Clean shoes thoroughly before reuse.

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. Wash clothing before reuse. Clean shoes thoroughly before reuse.

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.

Section 4. First aid measures

	Adapter 2	Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Forward PCR primer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Reverse PCR Primer – Index 1 – 96	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Reverse PCR primer – NTC	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Custom Read 1 Sequencing Primer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
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 dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	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 dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person.

Section 4. First aid measures

	If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Ligase buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
PCR Mix	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
TE	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Adapter 1	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Adapter 2	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Forward PCR primer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Reverse PCR Primer – Index 1 – 96	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Reverse PCR primer – NTC	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for 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

Section 4. First aid measures

Custom Read 1 Sequencing
Primer

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.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact

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

Inhalation

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

Skin contact

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

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

Eye contact	: PCR grade water Enzyme 2 Enzyme 1 & Enzyme 2 buffer Ligase Ligase buffer PCR Mix TE Adapter 1 Adapter 2 Forward PCR primer Reverse PCR Primer – Index 1 – 96 Reverse PCR primer – NTC Custom Read 1 Sequencing Primer	No specific data. Adverse symptoms may include the following: irritation watering redness No specific data. Adverse symptoms may include the following: irritation watering redness No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
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Inhalation	: PCR grade water Enzyme 2 Enzyme 1 & Enzyme 2 buffer Ligase Ligase buffer PCR Mix TE Adapter 1 Adapter 2 Forward PCR primer Reverse PCR Primer – Index 1 – 96 Reverse PCR primer – NTC Custom Read 1 Sequencing Primer	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
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Skin 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 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.

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

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.

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	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.
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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	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	No action shall be taken involving any personal risk

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or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting 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.
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

Specific hazards arising from the chemical

: 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

Section 5. Fire-fighting measures

	Ligase buffer	and the container may burst. 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 thermal decomposition 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 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.

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Primer

No specific data.

5.3 Advice for firefighters

Special protective actions 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.
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.

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters	: PCR grade water	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Enzyme 2	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Enzyme 1 & Enzyme 2 buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Ligase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Ligase buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	PCR Mix	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	TE	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Adapter 1	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Adapter 2	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Forward PCR primer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Reverse PCR Primer – Index 1 – 96	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	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.
	Custom Read 1 Sequencing Primer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

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 spilled 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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 spilled 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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 spilled 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 spilled 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 spilled 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 spilled material. Put on appropriate personal protective equipment.

Adapter 2

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and

Section 6. Accidental release measures

Forward PCR primer	unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
Reverse 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 spilled 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 spilled 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 spilled material. Put on appropriate personal protective equipment.
For emergency responders : PCR grade water	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Enzyme 2	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Enzyme 1 & Enzyme 2 buffer	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Ligase	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Ligase buffer	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
PCR Mix	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
TE	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Adapter 1	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Section 6. Accidental release measures

Adapter 2	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Forward PCR primer	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Reverse PCR Primer – Index 1 – 96	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Reverse PCR primer – NTC	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Custom Read 1 Sequencing Primer	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

: PCR grade water	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Enzyme 2	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Enzyme 1 & Enzyme 2 buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Ligase	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Ligase buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
PCR Mix	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
TE	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Adapter 1	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has

Section 6. Accidental release measures

Adapter 2	caused environmental pollution (sewers, waterways, soil or air). Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Forward PCR primer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Reverse PCR Primer – Index 1 – 96	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Reverse PCR primer – NTC	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Custom Read 1 Sequencing Primer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : PCR grade water

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.

Section 6. Accidental release measures

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

Section 7. Handling and storage

[7.1 Precautions for safe handling](#)

Section 7. Handling and storage

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). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	Enzyme 1 & Enzyme 2 buffer	Put on appropriate personal protective equipment (see Section 8).
	Ligase	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	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.

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Ligase	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Ligase buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
PCR Mix	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
TE	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Adapter 1	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Adapter 2	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face 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

Section 7. Handling and storage

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

Custom Read 1 Sequencing
Primer

7.2 Conditions for safe storage, including any incompatibilities

: 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 not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Enzyme 2

Storage temperature: -20°C (-4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled 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 unlabeled 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 unlabeled 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,

Section 7. Handling and storage

PCR Mix	<p>cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.</p> <p>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 unlabeled containers. Use appropriate containment to avoid environmental contamination.</p>
TE	<p>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 unlabeled containers. Use appropriate containment to avoid environmental contamination.</p>
Adapter 1	<p>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 unlabeled containers. Use appropriate containment to avoid environmental contamination.</p>
Adapter 2	<p>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 unlabeled containers. Use appropriate containment to avoid environmental contamination.</p>
Forward PCR primer	<p>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</p>

Section 7. Handling and storage

Reverse PCR Primer – Index 1 – 96

opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled 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 unlabeled 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 unlabeled 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 unlabeled 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.
Custom Read 1 Sequencing Primer	Industrial applications, Professional applications.

Section 7. Handling and storage

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

Ingredient name	Exposure limits
PCR grade water Water	None.
Enzyme 2 Glycerol	OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 10 mg/m ³ 8 hours. Form: Total dust OSHA PEL (United States, 2/2013). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 15 mg/m ³ 8 hours. Form: Total dust
Enzyme 1 & Enzyme 2 buffer potassium acetate	None.
Ligase Glycerol	OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 10 mg/m ³ 8 hours. Form: Total dust OSHA PEL (United States, 2/2013). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 15 mg/m ³ 8 hours. Form: Total dust
Ligase buffer 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride (R*,R*)-1,4-Dimercaptobutane-2,3-diol	None. None.

8.2 Exposure controls

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

Section 8. Exposure controls/personal protection

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

Individual protection measures

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

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

Skin protection

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

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

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

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

Section 9. Physical and chemical properties

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.

Section 9. Physical and chemical properties

Color	:	PCR grade water	Colorless.
		Enzyme 2	Not available.
		Enzyme 1 & Enzyme 2 buffer	Not available.
		Ligase	Colorless.
		Ligase buffer	Colorless.
		PCR Mix	Colorless.
		TE	Not available.
		Adapter 1	Colorless.
		Adapter 2	Colorless.
		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.
	Odor	:	PCR grade water
		Enzyme 2	Not available.
		Enzyme 1 & Enzyme 2 buffer	Not available.
		Ligase	Mild.
		Ligase buffer	Mild.
		PCR Mix	Mild.
		TE	Not available.
		Adapter 1	Mild.
		Adapter 2	Mild.
		Forward PCR primer	Not available.
		Reverse PCR Primer – Index 1 – 96	Not available.
		Reverse PCR primer – NTC	Not available.
		Custom Read 1 Sequencing Primer	Not available.
Odor threshold		:	PCR grade water
		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.
	pH	:	PCR grade water
		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

Section 9. Physical and chemical properties

	Custom Read 1 Sequencing Primer	8
Melting point	: PCR grade water	0°C (32°F)
	Enzyme 2	Not available.
	Enzyme 1 & Enzyme 2 buffer	Not available.
	Ligase	Not available.
	Ligase buffer	Not available.
	PCR Mix	Not available.
	TE	Not available.
	Adapter 1	Not available.
	Adapter 2	Not available.
	Forward PCR primer	0°C (32°F)
	Reverse PCR Primer – Index 1 – 96	0°C (32°F)
	Reverse PCR primer – NTC	0°C (32°F)
	Custom Read 1 Sequencing Primer	0°C (32°F)
Boiling point	: PCR grade water	100°C (212°F)
	Enzyme 2	Not available.
	Enzyme 1 & Enzyme 2 buffer	Not available.
	Ligase	Not available.
	Ligase buffer	Not available.
	PCR Mix	100°C (212°F)
	TE	Not available.
	Adapter 1	Not available.
	Adapter 2	Not available.
	Forward PCR primer	100°C (212°F)
	Reverse PCR Primer – Index 1 – 96	100°C (212°F)
	Reverse PCR primer – NTC	100°C (212°F)
	Custom Read 1 Sequencing Primer	100°C (212°F)
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 – Index 1 – 96	Not available.
	Reverse PCR primer – NTC	Not available.
	Custom Read 1 Sequencing Primer	Not available.
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.

Section 9. Physical and chemical properties

	Reverse PCR Primer – Index 1 – 96	Not available.
	Reverse PCR primer – NTC	Not available.
	Custom Read 1 Sequencing Primer	Not available.
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.
	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.
Lower and upper explosive (flammable) 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 Sequencing Primer	Not available.
Vapor pressure	: PCR grade water	3.2 kPa (23.8 mm Hg) [room temperature]
	Enzyme 2	Not available.
	Enzyme 1 & Enzyme 2 buffer	Not available.
	Ligase	Not available.
	Ligase buffer	Not available.
	PCR Mix	Not available.
	TE	Not available.
	Adapter 1	Not available.
	Adapter 2	Not available.
	Forward PCR primer	Not available.
	Reverse PCR Primer – Index 1 – 96	Not available.
	Reverse PCR primer – NTC	Not available.
	Custom Read 1 Sequencing Primer	Not available.
Vapor 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.

Section 9. Physical and chemical properties

	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.
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	: 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.

Section 9. Physical and chemical properties

	Reverse PCR Primer – Index 1 – 96	Not available.
	Reverse PCR primer – NTC	Not available.
	Custom Read 1 Sequencing Primer	Not available.
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 Sequencing Primer	Not available.
Decomposition temperature	: PCR grade water	>1200°C (>2192°F)
	Enzyme 2	Not available.
	Enzyme 1 & Enzyme 2 buffer	Not available.
	Ligase	Not available.
	Ligase buffer	Not available.
	PCR Mix	Not available.
	TE	Not available.
	Adapter 1	Not available.
	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.
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 Sequencing Primer	Not available.

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.
	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.

Section 10. Stability and reactivity

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

Section 10. Stability and reactivity

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

Product/ingredient name	Result	Species	Dose	Exposure
Enzyme 2 Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Enzyme 1 & Enzyme 2 buffer potassium acetate	LD50 Oral	Rat	3250 mg/kg	-
Ligase Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

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

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Ligase buffer 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Category 3	Not applicable.	Respiratory tract irritation
(R*,R*)-1,4-Dimercaptobutane-2,3-diol	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the 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 –	Not available.

Section 11. Toxicological information

	96	
	Reverse PCR primer – NTC	Not available.
	Custom Read 1 Sequencing	Not available.
	Primer	
Potential acute health effects		
Eye contact	: PCR grade water	No known significant effects or critical hazards.
	Enzyme 2	Causes eye irritation.
	Enzyme 1 & Enzyme 2 buffer	No known significant effects or critical hazards.
	Ligase	Causes eye irritation.
	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 –	No known significant effects or critical hazards.
	96	
	Reverse PCR primer – NTC	No known significant effects or critical hazards.
	Custom Read 1 Sequencing	No known significant effects or critical hazards.
	Primer	
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 –	No known significant effects or critical hazards.
	96	
	Reverse PCR primer – NTC	No known significant effects or critical hazards.
	Custom Read 1 Sequencing	No known significant effects or critical hazards.
	Primer	
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 –	No known significant effects or critical hazards.
	96	
	Reverse PCR primer – NTC	No known significant effects or critical hazards.
	Custom Read 1 Sequencing	No known significant effects or critical hazards.
	Primer	
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.

Section 11. Toxicological information

Adapter 1	No known significant effects or critical hazards.
Adapter 2	No known significant effects or critical hazards.
Forward PCR primer	No known significant effects or critical hazards.
Reverse PCR Primer – Index 1 – 96	No known significant effects or critical hazards.
Reverse PCR primer – NTC	No known significant effects or critical hazards.
Custom Read 1 Sequencing Primer	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: PCR grade water	No specific data.
	Enzyme 2	Adverse symptoms may include the following: irritation watering redness
	Enzyme 1 & Enzyme 2 buffer	No specific data.
	Ligase	Adverse symptoms may include the following: irritation watering redness
	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.
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.
Skin 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.

Section 11. Toxicological information

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

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	: 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.
Carcinogenicity	: 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.
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.

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Adapter 2	No known significant effects or critical hazards.
Forward PCR primer	No known significant effects or critical hazards.
Reverse PCR Primer – Index 1 – 96	No known significant effects or critical hazards.
Reverse PCR primer – NTC	No known significant effects or critical hazards.
Custom Read 1 Sequencing Primer	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Enzyme 1 & Enzyme 2 buffer Oral	66326.5 mg/kg
Ligase buffer Oral	33333.3 mg/kg

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Enzyme 2 Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Enzyme 1 & Enzyme 2 buffer potassium acetate	Acute EC50 1.05 g/L Fresh water	Daphnia - Daphnia similis - Neonate	48 hours
	Acute LC50 313 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia	48 hours
	Acute LC50 298 mg/l Fresh water	Fish - Pimephales promelas	96 hours
Ligase Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
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

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Product/ingredient name	LogP _{ow}	BCF	Potential
PCR grade water Water	-1.38	-	low
Enzyme 2 Glycerol	-1.76	-	low
Enzyme 1 & Enzyme 2 buffer potassium acetate	-3.72	3.162	low
Ligase Glycerol	-1.76	-	low

12.4 Mobility in soil

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

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

Section 13. Disposal considerations

13.1 Waste treatment methods

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

Regulatory information

DOT / IMDG / IATA : Not regulated.

Section 15. Regulatory information

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

U.S. Federal regulations : **United States inventory (TSCA 8b)**: Not determined.
Clean Water Act (CWA) 311: Edetic acid

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Enzyme 2 Glycerol	≥50 - ≤75	No.	No.	No.	Yes.	No.
Enzyme 1 & Enzyme 2 buffer potassium acetate	≤5	Yes.	No.	No.	Yes.	No.
Ligase Glycerol	≥50 - ≤75	No.	No.	No.	Yes.	No.
Ligase buffer 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	≤8.4	No.	No.	No.	Yes.	No.
(R*,R*)-1,4-Dimercaptobutane-2,3-diol	≤1.5	No.	No.	No.	Yes.	No.

State regulations

Massachusetts : The following components are listed: GLYCERINE MIST

New York : None of the components are listed.

New Jersey : The following components are listed: GLYCERIN; 1,2,3-PROPANETRIOL

Pennsylvania : The following components are listed: 1,2,3-PROPANETRIOL

California Prop. 65

No products were found.

International regulations

Section 15. Regulatory information

[Chemical Weapon Convention List Schedules I, II & III Chemicals](#)

Not listed.

[Montreal Protocol \(Annexes A, B, C, E\)](#)

Not listed.

[Stockholm Convention on Persistent Organic Pollutants](#)

Not listed.

[Rotterdam Convention on Prior Informed Consent \(PIC\)](#)

Not listed.

[UNECE Aarhus Protocol on POPs and Heavy Metals](#)

Not listed.

[Inventory list](#)

Australia	: Not determined.
Canada inventory	: Not determined.
China	: Not determined.
Europe	: 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.

Section 16. Other information

[History](#)

Date of issue	: 10/13/2016
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Version	: 1

✔ Indicates information that has changed from previously issued version.

[Notice to reader](#)

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