

# SAFETY DATA SHEET



ClearSeq Target Enrichment Kits - ION - 48 reactions

## Section 1. Identification

<b>Product identifier</b>	: ClearSeq Target Enrichment Kits - ION - 48 reactions
<b>Part No. (Chemical Kit)</b>	: 5190-9136, 5190-9138, 5190-9140, 5190-9142
<b>Part No.</b>	: RE Buffer 5190-5956
	SSC Buffer 5190-5960
	BSA Solution 5190-5963
	DNA Ligase 5190-7829
	Ligation Solution 5190-7832
	Wash Solution 5190-5953
	Capture Solution 5190-5954
	HaloPlex ION Primer 1 5190-6196
	HaloPlex ION Primer 2 5190-6197
	HaloPlex Barcoding Primer Cassettes 5190-6198
	1-16
	Hybridization Solution 5190-5951
	Enrichment Control DNA 5190-5957
	ClearSeq Probe ION 5190-9135 / 5190-9137 / 5190-9139 /
	5190-9141
	Enzyme Strip 1 5190-5961
	Enzyme Strip 2 5190-5962

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

Analytical reagent.

RE Buffer	2.4 ml (48 reactions)
SSC Buffer	8.15 ml (48 reactions)
BSA Solution	0.058 ml (48 reactions)
DNA Ligase	0.17 ml (48 reactions)
Ligation Solution	3.25 ml (48 reactions)
Wash Solution	7 ml (48 reactions)
Capture Solution	2.4 ml (48 reactions)
HaloPlex ION Primer 1	0.068 ml (48 reactions)
HaloPlex ION Primer 2	0.068 ml (48 reactions)
HaloPlex Barcoding Primer Cassettes 1-16	48 x 0.015 ml (48 reactions)
Hybridization Solution	3.5 ml (48 reactions)
Enrichment Control DNA	0.24 ml (48 reactions)
ClearSeq Probe ION	1.35 ml (48 reactions)
Enzyme Strip 1	8 x 0.038 ml (48 reactions)
Enzyme Strip 2	8 x 0.038 ml (48 reactions)

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

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

## Section 2. Hazard(s) identification

### Classification of the substance or mixture

#### Wash Solution

H360	REPRODUCTIVE TOXICITY (Unborn child) - Category 1B
H361	REPRODUCTIVE TOXICITY (Fertility) - Category 2
H373	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

#### Hybridization Solution

H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A
H360	REPRODUCTIVE TOXICITY (Unborn child) - Category 1B
H361	REPRODUCTIVE TOXICITY (Fertility) - Category 2
H373	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

BSA Solution	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
DNA Ligase	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%
Wash Solution	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
Capture Solution	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
Hybridization Solution	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30%
Enzyme Strip 1	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%
Enzyme Strip 2	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%

### GHS label elements

#### Hazard pictograms

Wash Solution	
Hybridization Solution	

#### Signal word

BE Buffer	No signal word.
SSC Buffer	No signal word.
BSA Solution	No signal word.
DNA Ligase	No signal word.
Ligation Solution	No signal word.
Wash Solution	DANGER
Capture Solution	No signal word.
HaloPlex ION Primer 1	No signal word.
HaloPlex ION Primer 2	No signal word.
HaloPlex Barcoding Primer Cassettes 1-16	No signal word.
Hybridization Solution	DANGER
Enrichment Control DNA	No signal word.
ClearSeq Probe ION	No signal word.
Enzyme Strip 1	No signal word.
Enzyme Strip 2	No signal word.

#### Hazard statements

BE Buffer	No known significant effects or critical hazards.
SSC Buffer	No known significant effects or critical hazards.
BSA Solution	No known significant effects or critical hazards.
DNA Ligase	No known significant effects or critical hazards.
Ligation Solution	No known significant effects or critical hazards.
Wash Solution	H360 - May damage the unborn child. H361 - Suspected of damaging fertility. H373 - May cause damage to organs through

## Section 2. Hazard(s) identification

Capture Solution	prolonged or repeated exposure.
HaloPlex ION Primer 1	No known significant effects or critical hazards.
HaloPlex ION Primer 2	No known significant effects or critical hazards.
HaloPlex Barcoding Primer Cassettes 1-16	No known significant effects or critical hazards.
Hybridization Solution	H319 - Causes serious eye irritation. H360 - May damage the unborn child. H361 - Suspected of damaging fertility. H373 - May cause damage to organs through prolonged or repeated exposure.
Enrichment Control DNA	No known significant effects or critical hazards.
ClearSeq Probe ION	No known significant effects or critical hazards.
Enzyme Strip 1	No known significant effects or critical hazards.
Enzyme Strip 2	No known significant effects or critical hazards.

### Precautionary statements

#### Prevention

<ul style="list-style-type: none"> <li>: RE Buffer</li> <li>SSC Buffer</li> <li>BSA Solution</li> <li>DNA Ligase</li> <li>Ligation Solution</li> <li>Wash Solution</li> </ul>	<p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P281 - Use personal protective equipment as required. P260 - Do not breathe vapour.</p>
<ul style="list-style-type: none"> <li>Capture Solution</li> <li>HaloPlex ION Primer 1</li> <li>HaloPlex ION Primer 2</li> <li>HaloPlex Barcoding Primer Cassettes 1-16</li> <li>Hybridization Solution</li> </ul>	<p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P281 - Use personal protective equipment as required. P280 - Wear eye or face protection. P260 - Do not breathe vapour. P264 - Wash hands thoroughly after handling.</p>

#### Response

<ul style="list-style-type: none"> <li>: RE Buffer</li> <li>SSC Buffer</li> <li>BSA Solution</li> <li>DNA Ligase</li> <li>Ligation Solution</li> <li>Wash Solution</li> </ul>	<p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>P314 - Get medical attention if you feel unwell. P308 + P313 - IF exposed or concerned: Get medical attention.</p>
<ul style="list-style-type: none"> <li>Capture Solution</li> <li>HaloPlex ION Primer 1</li> <li>HaloPlex ION Primer 2</li> <li>HaloPlex Barcoding Primer Cassettes 1-16</li> <li>Hybridization Solution</li> </ul>	<p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>P314 - Get medical attention if you feel unwell. P308 + P313 - IF exposed or concerned: Get medical attention. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact</p>

## Section 2. Hazard(s) identification

lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

P405 - Store locked up.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

P405 - Store locked up.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

### Storage

Enrichment Control DNA  
ClearSeq Probe ION  
Enzyme Strip 1  
Enzyme Strip 2  
: RE Buffer  
SSC Buffer  
BSA Solution  
DNA Ligase  
Ligation Solution  
Wash Solution  
Capture Solution  
HaloPlex ION Primer 1  
HaloPlex ION Primer 2  
HaloPlex Barcoding Primer  
Cassettes 1-16

Hybridization Solution  
Enrichment Control DNA  
ClearSeq Probe ION  
Enzyme Strip 1  
Enzyme Strip 2

### Disposal

: RE Buffer  
SSC Buffer  
BSA Solution  
DNA Ligase  
Ligation Solution  
Wash Solution  
  
Capture Solution  
HaloPlex ION Primer 1  
HaloPlex ION Primer 2  
HaloPlex Barcoding Primer  
Cassettes 1-16  
Hybridization Solution

Enrichment Control DNA  
ClearSeq Probe ION  
Enzyme Strip 1  
Enzyme Strip 2

### Supplemental label elements

: RE Buffer  
SSC Buffer  
BSA Solution  
DNA Ligase  
Ligation Solution  
Wash Solution  
Capture Solution  
HaloPlex ION Primer 1  
HaloPlex ION Primer 2  
HaloPlex Barcoding Primer  
Cassettes 1-16  
Hybridization Solution  
Enrichment Control DNA  
ClearSeq Probe ION  
Enzyme Strip 1  
Enzyme Strip 2

## Section 2. Hazard(s) identification

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

RE Buffer	None known.
SSC Buffer	None known.
BSA Solution	None known.
DNA Ligase	None known.
Ligation Solution	None known.
Wash Solution	None known.
Capture Solution	None known.
HaloPlex ION Primer 1	None known.
HaloPlex ION Primer 2	None known.
HaloPlex Barcoding Primer	None known.
Cassettes 1-16	
Hybridization Solution	None known.
Enrichment Control DNA	None known.
ClearSeq Probe ION	None known.
Enzyme Strip 1	None known.
Enzyme Strip 2	None known.

## Section 3. Composition and ingredient information

**Substance/mixture** :

RE Buffer	Mixture
SSC Buffer	Mixture
BSA Solution	Mixture
DNA Ligase	Mixture
Ligation Solution	Mixture
Wash Solution	Mixture
Capture Solution	Mixture
HaloPlex ION Primer 1	Mixture
HaloPlex ION Primer 2	Mixture
HaloPlex Barcoding Primer	Mixture
Cassettes 1-16	
Hybridization Solution	Mixture
Enrichment Control DNA	Mixture
ClearSeq Probe ION	Mixture
Enzyme Strip 1	Mixture
Enzyme Strip 2	Mixture

### CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
<b>BSA Solution</b> Glycerol	≤10	56-81-5
<b>DNA Ligase</b> Glycerol	≥30 - ≤60	56-81-5
<b>Wash Solution</b> Formamide	≥10 - ≤30	75-12-7
<b>Hybridization Solution</b> Formamide	≥30 - ≤60	75-12-7
Sodium chloride	≥10 - ≤30	7647-14-5
<b>Enzyme Strip 1</b> Glycerol	≥30 - ≤60	56-81-5
<b>Enzyme Strip 2</b> Glycerol	≥30 - ≤60	56-81-5

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

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

## Section 4. First aid measures

### Description of necessary first aid measures

<b>Eye contact</b>	: RE 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.
	SSC 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.
	BSA Solution	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.
	DNA Ligase	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Ligation Solution	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.
	Wash Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell.
	Capture Solution	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.
	HaloPlex ION Primer 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.
	HaloPlex ION Primer 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.
	HaloPlex Barcoding Primer Cassettes 1-16	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.
	Hybridization Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
	Enrichment Control DNA	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.
	ClearSeq Probe ION	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 Strip 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.
	Enzyme Strip 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.



## Section 4. First aid measures

<b>Inhalation</b>	: RE Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	SSC Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	BSA Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	DNA Ligase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Ligation Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Wash Solution	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 unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	Capture Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	HaloPlex ION Primer 1	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	HaloPlex ION Primer 2	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	HaloPlex Barcoding Primer Cassettes 1-16	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Hybridization Solution	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 unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	Enrichment Control DNA	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	ClearSeq Probe ION	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Enzyme Strip 1	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical

## Section 4. First aid measures

### Skin contact

Enzyme Strip 2

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.

: RE Buffer

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

SSC Buffer

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

BSA Solution

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

DNA Ligase

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ligation Solution

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Wash Solution

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Capture Solution

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

HaloPlex ION Primer 1

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

HaloPlex ION Primer 2

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

HaloPlex Barcoding Primer  
Cassettes 1-16

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Hybridization Solution

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Enrichment Control DNA

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

ClearSeq Probe ION

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Enzyme Strip 1

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Enzyme Strip 2

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.



## Section 4. First aid measures

<b>Ingestion</b>	: RE 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.
	SSC 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.
	BSA Solution	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.
	DNA Ligase	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	Ligation Solution	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.
	Wash Solution	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. 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.
	Capture Solution	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.
	HaloPlex ION Primer 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

## Section 4. First aid measures

HaloPlex ION Primer 2	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.
HaloPlex Barcoding Primer Cassettes 1-16	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.
Hybridization Solution	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. 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.
Enrichment Control DNA	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.
ClearSeq Probe ION	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 Strip 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.
Enzyme Strip 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.

[Most important symptoms/effects, acute and delayed](#)

[Potential acute health effects](#)

## Section 4. First aid measures

<b>Eye contact</b>	:	RE Buffer	No known significant effects or critical hazards.
		SSC Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		DNA Ligase	No known significant effects or critical hazards.
		Ligation Solution	No known significant effects or critical hazards.
		Wash Solution	No known significant effects or critical hazards.
		Capture Solution	No known significant effects or critical hazards.
		HaloPlex ION Primer 1	No known significant effects or critical hazards.
		HaloPlex ION Primer 2	No known significant effects or critical hazards.
		HaloPlex Barcoding Primer Cassettes 1-16	No known significant effects or critical hazards.
		Hybridization Solution	Causes serious eye irritation.
		Enrichment Control DNA	No known significant effects or critical hazards.
		ClearSeq Probe ION	No known significant effects or critical hazards.
		Enzyme Strip 1	No known significant effects or critical hazards.
Enzyme Strip 2	No known significant effects or critical hazards.		
<b>Inhalation</b>	:	RE Buffer	No known significant effects or critical hazards.
		SSC Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		DNA Ligase	No known significant effects or critical hazards.
		Ligation Solution	No known significant effects or critical hazards.
		Wash Solution	No known significant effects or critical hazards.
		Capture Solution	No known significant effects or critical hazards.
		HaloPlex ION Primer 1	No known significant effects or critical hazards.
		HaloPlex ION Primer 2	No known significant effects or critical hazards.
		HaloPlex Barcoding Primer Cassettes 1-16	No known significant effects or critical hazards.
		Hybridization Solution	No known significant effects or critical hazards.
		Enrichment Control DNA	No known significant effects or critical hazards.
		ClearSeq Probe ION	No known significant effects or critical hazards.
		Enzyme Strip 1	No known significant effects or critical hazards.
Enzyme Strip 2	No known significant effects or critical hazards.		
<b>Skin contact</b>	:	RE Buffer	No known significant effects or critical hazards.
		SSC Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		DNA Ligase	No known significant effects or critical hazards.
		Ligation Solution	No known significant effects or critical hazards.
		Wash Solution	No known significant effects or critical hazards.
		Capture Solution	No known significant effects or critical hazards.
		HaloPlex ION Primer 1	No known significant effects or critical hazards.
		HaloPlex ION Primer 2	No known significant effects or critical hazards.
		HaloPlex Barcoding Primer Cassettes 1-16	No known significant effects or critical hazards.
		Hybridization Solution	No known significant effects or critical hazards.
		Enrichment Control DNA	No known significant effects or critical hazards.
		ClearSeq Probe ION	No known significant effects or critical hazards.
		Enzyme Strip 1	No known significant effects or critical hazards.
Enzyme Strip 2	No known significant effects or critical hazards.		
<b>Ingestion</b>	:	RE Buffer	No known significant effects or critical hazards.
		SSC Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		DNA Ligase	No known significant effects or critical hazards.
		Ligation Solution	No known significant effects or critical hazards.
		Wash Solution	No known significant effects or critical hazards.
		Capture Solution	No known significant effects or critical hazards.
		HaloPlex ION Primer 1	No known significant effects or critical hazards.
		HaloPlex ION Primer 2	No known significant effects or critical hazards.
		HaloPlex Barcoding Primer Cassettes 1-16	No known significant effects or critical hazards.
		Hybridization Solution	No known significant effects or critical hazards.
		Enrichment Control DNA	No known significant effects or critical hazards.
		ClearSeq Probe ION	No known significant effects or critical hazards.

## Section 4. First aid measures

Enzyme Strip 1 No known significant effects or critical hazards.  
 Enzyme Strip 2 No known significant effects or critical hazards.

### Over-exposure signs/symptoms

#### Eye contact

: RE Buffer No specific data.  
 SSC Buffer No specific data.  
 BSA Solution No specific data.  
 DNA Ligase No specific data.  
 Ligation Solution No specific data.  
 Wash Solution No specific data.  
 Capture Solution No specific data.  
 HaloPlex ION Primer 1 No specific data.  
 HaloPlex ION Primer 2 No specific data.  
 HaloPlex Barcoding Primer No specific data.  
 Cassettes 1-16  
 Hybridization Solution Adverse symptoms may include the following:  
 pain or irritation  
 watering  
 redness

#### Inhalation

Enrichment Control DNA No specific data.  
 ClearSeq Probe ION No specific data.  
 Enzyme Strip 1 No specific data.  
 Enzyme Strip 2 No specific data.  
 : RE Buffer No specific data.  
 SSC Buffer No specific data.  
 BSA Solution No specific data.  
 DNA Ligase No specific data.  
 Ligation Solution No specific data.  
 Wash Solution Adverse symptoms may include the following:  
 reduced foetal weight  
 increase in foetal deaths  
 skeletal malformations  
 Capture Solution No specific data.  
 HaloPlex ION Primer 1 No specific data.  
 HaloPlex ION Primer 2 No specific data.  
 HaloPlex Barcoding Primer No specific data.  
 Cassettes 1-16  
 Hybridization Solution Adverse symptoms may include the following:  
 reduced foetal weight  
 increase in foetal deaths  
 skeletal malformations

#### Skin contact

Enrichment Control DNA No specific data.  
 ClearSeq Probe ION No specific data.  
 Enzyme Strip 1 No specific data.  
 Enzyme Strip 2 No specific data.  
 : RE Buffer No specific data.  
 SSC Buffer No specific data.  
 BSA Solution No specific data.  
 DNA Ligase No specific data.  
 Ligation Solution No specific data.  
 Wash Solution Adverse symptoms may include the following:  
 reduced foetal weight  
 increase in foetal deaths  
 skeletal malformations  
 Capture Solution No specific data.  
 HaloPlex ION Primer 1 No specific data.  
 HaloPlex ION Primer 2 No specific data.  
 HaloPlex Barcoding Primer No specific data.  
 Cassettes 1-16  
 Hybridization Solution Adverse symptoms may include the following:  
 reduced foetal weight  
 increase in foetal deaths  
 skeletal malformations

## Section 4. First aid measures

<b>Ingestion</b>	:	Enrichment Control DNA	No specific data.
		ClearSeq Probe ION	No specific data.
		Enzyme Strip 1	No specific data.
		Enzyme Strip 2	No specific data.
		RE Buffer	No specific data.
		SSC Buffer	No specific data.
		BSA Solution	No specific data.
		DNA Ligase	No specific data.
		Ligation Solution	No specific data.
		Wash Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
		Capture Solution	No specific data.
		HaloPlex ION Primer 1	No specific data.
		HaloPlex ION Primer 2	No specific data.
		HaloPlex Barcoding Primer Cassettes 1-16	No specific data.
	Hybridization Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations	
	Enrichment Control DNA	No specific data.	
	ClearSeq Probe ION	No specific data.	
	Enzyme Strip 1	No specific data.	
	Enzyme Strip 2	No specific data.	

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

<b>Notes to physician</b>	:	RE Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		SSC Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		BSA Solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		DNA Ligase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Ligation Solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Wash Solution	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.
		Capture Solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		HaloPlex ION Primer 1	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		HaloPlex ION Primer 2	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		HaloPlex Barcoding Primer Cassettes 1-16	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Hybridization Solution	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical

## Section 4. First aid measures

Enrichment Control DNA	surveillance for 48 hours. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
ClearSeq Probe ION	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Enzyme Strip 1	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Enzyme Strip 2	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments**

: RE Buffer	No specific treatment.
SSC Buffer	No specific treatment.
BSA Solution	No specific treatment.
DNA Ligase	No specific treatment.
Ligation Solution	No specific treatment.
Wash Solution	No specific treatment.
Capture Solution	No specific treatment.
HaloPlex ION Primer 1	No specific treatment.
HaloPlex ION Primer 2	No specific treatment.
HaloPlex Barcoding Primer Cassettes 1-16	No specific treatment.
Hybridization Solution	No specific treatment.
Enrichment Control DNA	No specific treatment.
ClearSeq Probe ION	No specific treatment.
Enzyme Strip 1	No specific treatment.
Enzyme Strip 2	No specific treatment.

**Protection of first-aiders**

: RE Buffer	No action shall be taken involving any personal risk or without suitable training.
SSC Buffer	No action shall be taken involving any personal risk or without suitable training.
BSA Solution	No action shall be taken involving any personal risk or without suitable training.
DNA Ligase	No action shall be taken involving any personal risk or without suitable training.
Ligation Solution	No action shall be taken involving any personal risk or without suitable training.
Wash Solution	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
Capture Solution	No action shall be taken involving any personal risk or without suitable training.
HaloPlex ION Primer 1	No action shall be taken involving any personal risk or without suitable training.
HaloPlex ION Primer 2	No action shall be taken involving any personal risk or without suitable training.
HaloPlex Barcoding Primer Cassettes 1-16	No action shall be taken involving any personal risk or without suitable training.
Hybridization Solution	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.



## Section 4. First aid measures

Enrichment Control DNA	No action shall be taken involving any personal risk or without suitable training.
ClearSeq Probe ION	No action shall be taken involving any personal risk or without suitable training.
Enzyme Strip 1	No action shall be taken involving any personal risk or without suitable training.
Enzyme Strip 2	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

## Section 5. Firefighting measures

### Extinguishing media

#### Suitable extinguishing media

: RE Buffer	Use an extinguishing agent suitable for the surrounding fire.
SSC Buffer	Use an extinguishing agent suitable for the surrounding fire.
BSA Solution	Use an extinguishing agent suitable for the surrounding fire.
DNA Ligase	Use an extinguishing agent suitable for the surrounding fire.
Ligation Solution	Use an extinguishing agent suitable for the surrounding fire.
Wash Solution	Use an extinguishing agent suitable for the surrounding fire.
Capture Solution	Use an extinguishing agent suitable for the surrounding fire.
HaloPlex ION Primer 1	Use an extinguishing agent suitable for the surrounding fire.
HaloPlex ION Primer 2	Use an extinguishing agent suitable for the surrounding fire.
HaloPlex Barcoding Primer Cassettes 1-16	Use an extinguishing agent suitable for the surrounding fire.
Hybridization Solution	Use an extinguishing agent suitable for the surrounding fire.
Enrichment Control DNA	Use an extinguishing agent suitable for the surrounding fire.
ClearSeq Probe ION	Use an extinguishing agent suitable for the surrounding fire.
Enzyme Strip 1	Use an extinguishing agent suitable for the surrounding fire.
Enzyme Strip 2	Use an extinguishing agent suitable for the surrounding fire.

#### Unsuitable extinguishing media

: RE Buffer	None known.
SSC Buffer	None known.
BSA Solution	None known.
DNA Ligase	None known.
Ligation Solution	None known.
Wash Solution	None known.
Capture Solution	None known.
HaloPlex ION Primer 1	None known.
HaloPlex ION Primer 2	None known.
HaloPlex Barcoding Primer Cassettes 1-16	None known.
Hybridization Solution	None known.
Enrichment Control DNA	None known.
ClearSeq Probe ION	None known.
Enzyme Strip 1	None known.
Enzyme Strip 2	None known.

## Section 5. Firefighting measures

<b>Specific hazards arising from the chemical</b>	:	RE Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
		SSC Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
		BSA Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
		DNA Ligase	In a fire or if heated, a pressure increase will occur and the container may burst.
		Ligation Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
		Wash Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
		Capture Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
		HaloPlex ION Primer 1	In a fire or if heated, a pressure increase will occur and the container may burst.
		HaloPlex ION Primer 2	In a fire or if heated, a pressure increase will occur and the container may burst.
		HaloPlex Barcoding Primer Cassettes 1-16	In a fire or if heated, a pressure increase will occur and the container may burst.
		Hybridization Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
		Enrichment Control DNA	In a fire or if heated, a pressure increase will occur and the container may burst.
		ClearSeq Probe ION	In a fire or if heated, a pressure increase will occur and the container may burst.
		Enzyme Strip 1	In a fire or if heated, a pressure increase will occur and the container may burst.
	Enzyme Strip 2	In a fire or if heated, a pressure increase will occur and the container may burst.	
<b>Hazardous thermal decomposition products</b>	:	RE Buffer	No specific data.
		SSC Buffer	No specific data.
		BSA Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide
		DNA Ligase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
		Ligation Solution	No specific data.
		Wash Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
		Capture Solution	Decomposition products may include the following materials: halogenated compounds metal oxide/oxides
		HaloPlex ION Primer 1	No specific data.
		HaloPlex ION Primer 2	No specific data.
		HaloPlex Barcoding Primer Cassettes 1-16	No specific data.
		Hybridization Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
		Enrichment Control DNA	No specific data.

## Section 5. Firefighting measures

ClearSeq Probe ION Enzyme Strip 1	No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide
Enzyme Strip 2	Decomposition products may include the following materials: carbon dioxide carbon monoxide

### Special protective actions for fire-fighters

: RE 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.
SSC 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.
BSA Solution	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.
DNA 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.
Ligation Solution	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.
Wash Solution	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.
Capture Solution	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.
HaloPlex ION Primer 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.
HaloPlex ION Primer 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.
HaloPlex Barcoding Primer Cassettes 1-16	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.
Hybridization Solution	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.
Enrichment Control DNA	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.
ClearSeq Probe ION	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 Strip 1	Promptly isolate the scene by removing all persons

## Section 5. Firefighting measures

### Special protective equipment for fire-fighters

Enzyme Strip 2	from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
: RE 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.
SSC Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
BSA Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
DNA Ligase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Ligation Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Wash Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Capture Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
HaloPlex ION Primer 1	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
HaloPlex ION Primer 2	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
HaloPlex Barcoding Primer Cassettes 1-16	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Hybridization Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Enrichment Control DNA	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
ClearSeq Probe ION	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Enzyme Strip 1	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 5. Firefighting measures

Enzyme Strip 2

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel**

: RE Buffer

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

SSC Buffer

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

BSA Solution

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

DNA Ligase

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

Ligation Solution

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

Wash Solution

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Capture Solution

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

HaloPlex ION Primer 1

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

HaloPlex ION Primer 2

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

## Section 6. Accidental release measures

HaloPlex Barcoding Primer Cassettes 1-16	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 spilt material. Put on appropriate personal protective equipment.
Hybridization Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
Enrichment Control DNA	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
ClearSeq Probe ION	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Enzyme Strip 1	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Enzyme Strip 2	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
<b>For emergency responders :</b> RE Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
SSC Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
BSA Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
DNA Ligase	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Ligation Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Wash Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".



## Section 6. Accidental release measures

Capture Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
HaloPlex ION Primer 1	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
HaloPlex ION Primer 2	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
HaloPlex Barcoding Primer Cassettes 1-16	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Hybridization Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Enrichment Control DNA	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
ClearSeq Probe ION	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Enzyme Strip 1	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Enzyme Strip 2	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

<b>Environmental precautions</b> : RE Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
SSC Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
BSA Solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
DNA Ligase	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Ligation Solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Wash Solution	Avoid dispersal of spilt material and runoff and

## Section 6. Accidental release measures

	contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Capture Solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
HaloPlex ION Primer 1	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
HaloPlex ION Primer 2	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
HaloPlex Barcoding Primer Cassettes 1-16	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Hybridization Solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Enrichment Control DNA	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
ClearSeq Probe ION	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Enzyme Strip 1	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Enzyme Strip 2	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and material for containment and cleaning up

**Methods for cleaning up** : RE 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.

SSC 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

BSA Solution	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.
DNA 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.
Ligation Solution	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.
Wash Solution	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.
Capture Solution	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.
HaloPlex ION Primer 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.
HaloPlex ION Primer 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.
HaloPlex Barcoding Primer Cassettes 1-16	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.
Hybridization Solution	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.
Enrichment Control DNA	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.
ClearSeq Probe ION	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

## Section 6. Accidental release measures

Enzyme Strip 1

inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

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

Enzyme Strip 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.

## Section 7. Handling and storage

### Precautions for safe handling

#### Protective measures

: RE Buffer	Put on appropriate personal protective equipment (see Section 8).
SSC Buffer	Put on appropriate personal protective equipment (see Section 8).
BSA Solution	Put on appropriate personal protective equipment (see Section 8).
DNA Ligase	Put on appropriate personal protective equipment (see Section 8).
Ligation Solution	Put on appropriate personal protective equipment (see Section 8).
Wash Solution	Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.
Capture Solution	Put on appropriate personal protective equipment (see Section 8).
HaloPlex ION Primer 1	Put on appropriate personal protective equipment (see Section 8).
HaloPlex ION Primer 2	Put on appropriate personal protective equipment (see Section 8).
HaloPlex Barcoding Primer Cassettes 1-16	Put on appropriate personal protective equipment (see Section 8).
Hybridization Solution	Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.

## Section 7. Handling and storage

Enrichment Control DNA	Put on appropriate personal protective equipment (see Section 8).
ClearSeq Probe ION	Put on appropriate personal protective equipment (see Section 8).
Enzyme Strip 1	Put on appropriate personal protective equipment (see Section 8).
Enzyme Strip 2	Put on appropriate personal protective equipment (see Section 8).
<b>Advice on general occupational hygiene</b> : RE 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.
SSC 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.
BSA Solution	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.
DNA 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.
Ligation Solution	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.
Wash Solution	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.
Capture Solution	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.
HaloPlex ION Primer 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



## Section 7. Handling and storage

HaloPlex ION Primer 2	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.
HaloPlex Barcoding Primer Cassettes 1-16	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.
Hybridization Solution	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.
Enrichment Control DNA	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.
ClearSeq Probe ION	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 Strip 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.
Enzyme Strip 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.

**Conditions for safe storage, including any incompatibilities** : RE Buffer

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

SSC Buffer



## Section 7. Handling and storage

### BSA Solution

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

Store between the following temperatures: -20°C (-4°F). Store in accordance with local regulations.

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

### DNA Ligase

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

### Ligation Solution

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

### Wash Solution

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. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### Capture Solution

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

## Section 7. Handling and storage

HaloPlex ION Primer 1

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

HaloPlex ION Primer 2

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

HaloPlex Barcoding Primer Cassettes 1-16

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

Hybridization Solution

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. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Enrichment Control DNA

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

ClearSeq Probe ION

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

## Section 7. Handling and storage

Enzyme Strip 1

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

Enzyme Strip 2

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

## Section 8. Exposure controls and personal protection

### [Control parameters](#)

### [Occupational exposure limits](#)

Ingredient name	Exposure limits
<b>BSA Solution</b> Glycerol	<b>Safe Work Australia (Australia, 1/2014).</b> TWA: 10 mg/m <sup>3</sup> 8 hours.
<b>DNA Ligase</b> Glycerol	<b>Safe Work Australia (Australia, 1/2014).</b> TWA: 10 mg/m <sup>3</sup> 8 hours.
<b>Wash Solution</b> Formamide	<b>Safe Work Australia (Australia, 1/2014).</b> <b>Absorbed through skin.</b> TWA: 18 mg/m <sup>3</sup> 8 hours. TWA: 10 ppm 8 hours.
<b>Hybridization Solution</b> Formamide	<b>Safe Work Australia (Australia, 1/2014).</b> <b>Absorbed through skin.</b> TWA: 18 mg/m <sup>3</sup> 8 hours. TWA: 10 ppm 8 hours.
<b>Enzyme Strip 1</b> Glycerol	<b>Safe Work Australia (Australia, 1/2014).</b> TWA: 10 mg/m <sup>3</sup> 8 hours.

## Section 8. Exposure controls and personal protection

Enzyme Strip 2  
Glycerol

**Safe Work Australia (Australia, 1/2014).**  
TWA: 10 mg/m<sup>3</sup> 8 hours.

- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- 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: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	:	RE Buffer	Liquid.
		SSC Buffer	Liquid.
		BSA Solution	Liquid. [Clear.]
		DNA Ligase	Liquid.
		Ligation Solution	Liquid.
		Wash Solution	Liquid.
		Capture Solution	Liquid.
		HaloPlex ION Primer 1	Liquid.
		HaloPlex ION Primer 2	Liquid.
		HaloPlex Barcoding Primer	Liquid.
		Cassettes 1-16	
		Hybridization Solution	Liquid.
		Enrichment Control DNA	Liquid.
		ClearSeq Probe ION	Liquid.

## Section 9. Physical and chemical properties

	Enzyme Strip 1	Liquid. [Clear.]
	Enzyme Strip 2	Liquid. [Clear.]
<b>Colour</b>	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Colourless.
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer	Not available.
	Cassettes 1-16	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	ClearSeq Probe ION	Not available.
	Enzyme Strip 1	Colourless.
	Enzyme Strip 2	Colourless.
<b>Odour</b>	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Odourless.
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer	Not available.
	Cassettes 1-16	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	ClearSeq Probe ION	Not available.
	Enzyme Strip 1	Odourless.
	Enzyme Strip 2	Odourless.
<b>Odour threshold</b>	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Not available.
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer	Not available.
	Cassettes 1-16	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	ClearSeq Probe ION	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
<b>pH</b>	: RE Buffer	7.9
	SSC Buffer	Not available.
	BSA Solution	Not available.
	DNA Ligase	7.4
	Ligation Solution	Not available.
	Wash Solution	7.5
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer	Not available.
	Cassettes 1-16	
	Hybridization Solution	7.5

## Section 9. Physical and chemical properties

	Enrichment Control DNA	Not available.
	ClearSeq Probe ION	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
<b>Melting point</b>	: RE Buffer	0°C (32°F)
	SSC Buffer	0°C (32°F)
	BSA Solution	20°C (68°F)
	DNA Ligase	Not available.
	Ligation Solution	0°C (32°F)
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	0°C (32°F)
	HaloPlex ION Primer 2	0°C (32°F)
	HaloPlex Barcoding Primer	0°C (32°F)
	Cassettes 1-16	
	Hybridization Solution	Not available.
	Enrichment Control DNA	0°C (32°F)
	ClearSeq Probe ION	0°C (32°F)
	Enzyme Strip 1	20°C (68°F)
	Enzyme Strip 2	20°C (68°F)
<b>Boiling point</b>	: RE Buffer	100°C (212°F)
	SSC Buffer	100°C (212°F)
	BSA Solution	182°C (359.6°F)
	DNA Ligase	Not available.
	Ligation Solution	100°C (212°F)
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	100°C (212°F)
	HaloPlex ION Primer 2	100°C (212°F)
	HaloPlex Barcoding Primer	100°C (212°F)
	Cassettes 1-16	
	Hybridization Solution	Not available.
	Enrichment Control DNA	100°C (212°F)
	ClearSeq Probe ION	100°C (212°F)
	Enzyme Strip 1	182°C (359.6°F)
	Enzyme Strip 2	182°C (359.6°F)
<b>Flash point</b>	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Closed cup: 160°C (320°F)
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer	Not available.
	Cassettes 1-16	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	ClearSeq Probe ION	Not available.
	Enzyme Strip 1	Closed cup: 160°C (320°F)
	Enzyme Strip 2	Closed cup: 160°C (320°F)
<b>Evaporation rate</b>	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Not available.
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer	Not available.



## Section 9. Physical and chemical properties

	Cassettes 1-16	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	ClearSeq Probe ION	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
<b>Flammability (solid, gas)</b>	: RE Buffer	Not applicable.
	SSC Buffer	Not applicable.
	BSA Solution	Not applicable.
	DNA Ligase	Not applicable.
	Ligation Solution	Not applicable.
	Wash Solution	Not applicable.
	Capture Solution	Not applicable.
	HaloPlex ION Primer 1	Not applicable.
	HaloPlex ION Primer 2	Not applicable.
	HaloPlex Barcoding Primer	Not applicable.
	Cassettes 1-16	
	Hybridization Solution	Not applicable.
	Enrichment Control DNA	Not applicable.
	ClearSeq Probe ION	Not applicable.
	Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.
<b>Lower and upper explosive (flammable) limits</b>	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Not available.
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer	Not available.
	Cassettes 1-16	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	ClearSeq Probe ION	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
<b>Vapour pressure</b>	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	<0.13 kPa (<1 mm Hg) [room temperature]
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer	Not available.
	Cassettes 1-16	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	ClearSeq Probe ION	Not available.
	Enzyme Strip 1	<0.13 kPa (<1 mm Hg) [room temperature]
	Enzyme Strip 2	<0.13 kPa (<1 mm Hg) [room temperature]
<b>Vapour density</b>	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	3.1 [Air = 1]
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.

## Section 9. Physical and chemical properties

	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer Cassettes 1-16	Not available.
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	ClearSeq Probe ION	Not available.
	Enzyme Strip 1	3.1 [Air = 1]
	Enzyme Strip 2	3.1 [Air = 1]
<b>Relative density</b>	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	1.262
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer Cassettes 1-16	Not available.
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	ClearSeq Probe ION	Not available.
	Enzyme Strip 1	1.262
	Enzyme Strip 2	1.262
<b>Solubility</b>	: RE Buffer	Easily soluble in the following materials: cold water and hot water.
	SSC Buffer	Easily soluble in the following materials: cold water and hot water.
	BSA Solution	Soluble in the following materials: cold water and hot water.
	DNA Ligase	Easily soluble in the following materials: cold water and hot water.
	Ligation Solution	Easily soluble in the following materials: cold water and hot water.
	Wash Solution	Soluble in the following materials: cold water and hot water.
	Capture Solution	Easily soluble in the following materials: cold water and hot water.
	HaloPlex ION Primer 1	Easily soluble in the following materials: cold water and hot water.
	HaloPlex ION Primer 2	Easily soluble in the following materials: cold water and hot water.
	HaloPlex Barcoding Primer Cassettes 1-16	Easily soluble in the following materials: cold water and hot water.
	Hybridization Solution	Soluble in the following materials: cold water and hot water.
	Enrichment Control DNA	Easily soluble in the following materials: cold water and hot water.
	ClearSeq Probe ION	Easily soluble in the following materials: cold water and hot water.
	Enzyme Strip 1	Soluble in the following materials: cold water and hot water.
	Enzyme Strip 2	Soluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Not available.
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.

## Section 9. Physical and chemical properties

	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer	Not available.
	Cassettes 1-16	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	ClearSeq Probe ION	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
<b>Auto-ignition temperature</b>	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	370°C (698°F)
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer	Not available.
	Cassettes 1-16	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	ClearSeq Probe ION	Not available.
	Enzyme Strip 1	370°C (698°F)
	Enzyme Strip 2	370°C (698°F)
<b>Decomposition temperature</b>	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Not available.
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer	Not available.
	Cassettes 1-16	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	ClearSeq Probe ION	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
<b>Viscosity</b>	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Not available.
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer	Not available.
	Cassettes 1-16	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	ClearSeq Probe ION	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.

## Section 10. Stability and reactivity

<b>Reactivity</b>	: RE Buffer	No specific test data related to reactivity available for this product or its ingredients.
	SSC Buffer	No specific test data related to reactivity available for this product or its ingredients.
	BSA Solution	No specific test data related to reactivity available for this product or its ingredients.
	DNA Ligase	No specific test data related to reactivity available for this product or its ingredients.
	Ligation Solution	No specific test data related to reactivity available for this product or its ingredients.
	Wash Solution	No specific test data related to reactivity available for this product or its ingredients.
	Capture Solution	No specific test data related to reactivity available for this product or its ingredients.
	HaloPlex ION Primer 1	No specific test data related to reactivity available for this product or its ingredients.
	HaloPlex ION Primer 2	No specific test data related to reactivity available for this product or its ingredients.
	HaloPlex Barcoding Primer Cassettes 1-16	No specific test data related to reactivity available for this product or its ingredients.
	Hybridization Solution	No specific test data related to reactivity available for this product or its ingredients.
	Enrichment Control DNA	No specific test data related to reactivity available for this product or its ingredients.
	ClearSeq Probe ION	No specific test data related to reactivity available for this product or its ingredients.
	Enzyme Strip 1	No specific test data related to reactivity available for this product or its ingredients.
	Enzyme Strip 2	No specific test data related to reactivity available for this product or its ingredients.

<b>Chemical stability</b>	: RE Buffer	The product is stable.
	SSC Buffer	The product is stable.
	BSA Solution	The product is stable.
	DNA Ligase	The product is stable.
	Ligation Solution	The product is stable.
	Wash Solution	The product is stable.
	Capture Solution	The product is stable.
	HaloPlex ION Primer 1	The product is stable.
	HaloPlex ION Primer 2	The product is stable.
	HaloPlex Barcoding Primer Cassettes 1-16	The product is stable.
	Hybridization Solution	The product is stable.
	Enrichment Control DNA	The product is stable.
	ClearSeq Probe ION	The product is stable.
	Enzyme Strip 1	The product is stable.
	Enzyme Strip 2	The product is stable.

<b>Possibility of hazardous reactions</b>	: RE Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	SSC Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	BSA Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
	DNA Ligase	Under normal conditions of storage and use, hazardous reactions will not occur.
	Ligation Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
	Wash Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
	Capture Solution	Under normal conditions of storage and use, hazardous reactions will not occur.

## Section 10. Stability and reactivity

HaloPlex ION Primer 1	Under normal conditions of storage and use, hazardous reactions will not occur.
HaloPlex ION Primer 2	Under normal conditions of storage and use, hazardous reactions will not occur.
HaloPlex Barcoding Primer Cassettes 1-16	Under normal conditions of storage and use, hazardous reactions will not occur.
Hybridization Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
Enrichment Control DNA	Under normal conditions of storage and use, hazardous reactions will not occur.
ClearSeq Probe ION	Under normal conditions of storage and use, hazardous reactions will not occur.
Enzyme Strip 1	Under normal conditions of storage and use, hazardous reactions will not occur.
Enzyme Strip 2	Under normal conditions of storage and use, hazardous reactions will not occur.

### Conditions to avoid

RE Buffer	No specific data.
SSC Buffer	No specific data.
BSA Solution	No specific data.
DNA Ligase	No specific data.
Ligation Solution	No specific data.
Wash Solution	No specific data.
Capture Solution	No specific data.
HaloPlex ION Primer 1	No specific data.
HaloPlex ION Primer 2	No specific data.
HaloPlex Barcoding Primer Cassettes 1-16	No specific data.
Hybridization Solution	No specific data.
Enrichment Control DNA	No specific data.
ClearSeq Probe ION	No specific data.
Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.

### Incompatible materials

RE Buffer	May react or be incompatible with oxidising materials.
SSC Buffer	May react or be incompatible with oxidising materials.
BSA Solution	May react or be incompatible with oxidising materials.
DNA Ligase	May react or be incompatible with oxidising materials.
Ligation Solution	May react or be incompatible with oxidising materials.
Wash Solution	May react or be incompatible with oxidising materials.
Capture Solution	May react or be incompatible with oxidising materials.
HaloPlex ION Primer 1	May react or be incompatible with oxidising materials.
HaloPlex ION Primer 2	May react or be incompatible with oxidising materials.
HaloPlex Barcoding Primer Cassettes 1-16	May react or be incompatible with oxidising materials.
Hybridization Solution	May react or be incompatible with oxidising materials.
Enrichment Control DNA	May react or be incompatible with oxidising materials.
ClearSeq Probe ION	May react or be incompatible with oxidising materials.
Enzyme Strip 1	May react or be incompatible with oxidising materials.
Enzyme Strip 2	May react or be incompatible with oxidising materials.

### Hazardous decomposition products

RE Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
SSC Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
BSA Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
DNA Ligase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 10. Stability and reactivity

Ligation Solution	produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Wash Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Capture Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
HaloPlex ION Primer 1	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
HaloPlex ION Primer 2	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
HaloPlex Barcoding Primer Cassettes 1-16	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hybridization Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Enrichment Control DNA	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
ClearSeq Probe ION	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Enzyme Strip 1	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Enzyme Strip 2	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
<b>BSA Solution</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-
<b>DNA Ligase</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-
<b>Wash Solution</b> Formamide	LC50 Inhalation Dusts and mists LD50 Dermal LD50 Oral	Rat Rabbit Rat	>21 mg/l 17 g/kg 4000 mg/kg	4 hours - -
<b>Hybridization Solution</b> Formamide	LC50 Inhalation Dusts and mists LD50 Dermal LD50 Oral	Rat Rabbit Rat	>21 mg/l 17 g/kg 4000 mg/kg	4 hours - -
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
<b>Enzyme Strip 1</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-
<b>Enzyme Strip 2</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-



## Section 11. Toxicological information

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>BSA Solution</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
<b>DNA Ligase</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
<b>Wash Solution</b> Formamide	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
<b>Hybridization Solution</b> Formamide	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Sodium chloride	Eyes - Moderate irritant	Rabbit	24 hours 100 milligrams	-
		Eyes - Moderate irritant Skin - Mild irritant	Rabbit Rabbit	10 milligrams 24 hours 500 milligrams	- -
<b>Enzyme Strip 1</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
<b>Enzyme Strip 2</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

### Sensitisation

Not available.

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

## Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
<b>Wash Solution</b> Formamide	Category 2	Not determined	Not determined
<b>Hybridization Solution</b> Formamide	Category 2	Not determined	Not determined

### Aspiration hazard

Not available.

<b>Information on likely routes of exposure</b>	RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-16 Hybridization Solution Enrichment Control DNA ClearSeq Probe ION Enzyme Strip 1 Enzyme Strip 2	Not available. Not available. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Routes of entry anticipated: Oral, Dermal, Inhalation.
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### Potential acute health effects

<b>Eye contact</b>	RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-16 Hybridization Solution Enrichment Control DNA ClearSeq Probe ION Enzyme Strip 1 Enzyme Strip 2	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. Causes serious eye irritation. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Inhalation</b>	RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-16 Hybridization Solution Enrichment Control DNA ClearSeq Probe ION Enzyme Strip 1 Enzyme Strip 2	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. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

## Section 11. Toxicological information

<b>Skin contact</b>	:	RE Buffer	No known significant effects or critical hazards.
		SSC Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		DNA Ligase	No known significant effects or critical hazards.
		Ligation Solution	No known significant effects or critical hazards.
		Wash Solution	No known significant effects or critical hazards.
		Capture Solution	No known significant effects or critical hazards.
		HaloPlex ION Primer 1	No known significant effects or critical hazards.
		HaloPlex ION Primer 2	No known significant effects or critical hazards.
		HaloPlex Barcoding Primer Cassettes 1-16	No known significant effects or critical hazards.
		Hybridization Solution	No known significant effects or critical hazards.
		Enrichment Control DNA	No known significant effects or critical hazards.
		ClearSeq Probe ION	No known significant effects or critical hazards.
		Enzyme Strip 1	No known significant effects or critical hazards.
		Enzyme Strip 2	No known significant effects or critical hazards.
		<b>Ingestion</b>	:
SSC Buffer	No known significant effects or critical hazards.		
BSA Solution	No known significant effects or critical hazards.		
DNA Ligase	No known significant effects or critical hazards.		
Ligation Solution	No known significant effects or critical hazards.		
Wash Solution	No known significant effects or critical hazards.		
Capture Solution	No known significant effects or critical hazards.		
HaloPlex ION Primer 1	No known significant effects or critical hazards.		
HaloPlex ION Primer 2	No known significant effects or critical hazards.		
HaloPlex Barcoding Primer Cassettes 1-16	No known significant effects or critical hazards.		
Hybridization Solution	No known significant effects or critical hazards.		
Enrichment Control DNA	No known significant effects or critical hazards.		
ClearSeq Probe ION	No known significant effects or critical hazards.		
Enzyme Strip 1	No known significant effects or critical hazards.		
Enzyme Strip 2	No known significant effects or critical hazards.		

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

<b>Eye contact</b>	:	RE Buffer	No specific data.
		SSC Buffer	No specific data.
		BSA Solution	No specific data.
		DNA Ligase	No specific data.
		Ligation Solution	No specific data.
		Wash Solution	No specific data.
		Capture Solution	No specific data.
		HaloPlex ION Primer 1	No specific data.
		HaloPlex ION Primer 2	No specific data.
		HaloPlex Barcoding Primer Cassettes 1-16	No specific data.
		Hybridization Solution	Adverse symptoms may include the following: pain or irritation watering redness
		Enrichment Control DNA	No specific data.
		ClearSeq Probe ION	No specific data.
		Enzyme Strip 1	No specific data.
		Enzyme Strip 2	No specific data.
		<b>Inhalation</b>	:
SSC Buffer	No specific data.		
BSA Solution	No specific data.		
DNA Ligase	No specific data.		
Ligation Solution	No specific data.		
Wash Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations		

## Section 11. Toxicological information

	Capture Solution	No specific data.
	HaloPlex ION Primer 1	No specific data.
	HaloPlex ION Primer 2	No specific data.
	HaloPlex Barcoding Primer	No specific data.
	Cassettes 1-16	
	Hybridization Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
	Enrichment Control DNA	No specific data.
	ClearSeq Probe ION	No specific data.
	Enzyme Strip 1	No specific data.
	Enzyme Strip 2	No specific data.
<b>Skin contact</b>	: RE Buffer	No specific data.
	SSC Buffer	No specific data.
	BSA Solution	No specific data.
	DNA Ligase	No specific data.
	Ligation Solution	No specific data.
	Wash Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
	Capture Solution	No specific data.
	HaloPlex ION Primer 1	No specific data.
	HaloPlex ION Primer 2	No specific data.
	HaloPlex Barcoding Primer	No specific data.
	Cassettes 1-16	
	Hybridization Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
	Enrichment Control DNA	No specific data.
	ClearSeq Probe ION	No specific data.
	Enzyme Strip 1	No specific data.
	Enzyme Strip 2	No specific data.
<b>Ingestion</b>	: RE Buffer	No specific data.
	SSC Buffer	No specific data.
	BSA Solution	No specific data.
	DNA Ligase	No specific data.
	Ligation Solution	No specific data.
	Wash Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
	Capture Solution	No specific data.
	HaloPlex ION Primer 1	No specific data.
	HaloPlex ION Primer 2	No specific data.
	HaloPlex Barcoding Primer	No specific data.
	Cassettes 1-16	
	Hybridization Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
	Enrichment Control DNA	No specific data.
	ClearSeq Probe ION	No specific data.
	Enzyme Strip 1	No specific data.
	Enzyme Strip 2	No specific data.

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

#### Short term exposure

**Potential immediate effects** : Not available.

## Section 11. Toxicological information

**Potential delayed effects** : Not available.

### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

Not available.

<b>General</b>	: RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution  Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-16 Hybridization Solution  Enrichment Control DNA ClearSeq Probe ION Enzyme Strip 1 Enzyme Strip 2	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. May cause damage to organs through prolonged or repeated exposure. 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. May cause damage to organs through prolonged or repeated exposure. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-16 Hybridization Solution Enrichment Control DNA ClearSeq Probe ION Enzyme Strip 1 Enzyme Strip 2	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. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Mutagenicity</b>	: RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-16 Hybridization Solution Enrichment Control DNA ClearSeq Probe ION Enzyme Strip 1 Enzyme Strip 2	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. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

## Section 11. Toxicological information

<b>Teratogenicity</b>	: <input checked="" type="checkbox"/> RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-16 Hybridization Solution Enrichment Control DNA ClearSeq Probe ION Enzyme Strip 1 Enzyme Strip 2	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. May damage the unborn child. 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. May damage the unborn child. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Developmental effects</b>	: <input checked="" type="checkbox"/> RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-16 Hybridization Solution Enrichment Control DNA ClearSeq Probe ION Enzyme Strip 1 Enzyme Strip 2	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. No known significant effects or critical hazards.
<b>Fertility effects</b>	: <input checked="" type="checkbox"/> RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-16 Hybridization Solution Enrichment Control DNA ClearSeq Probe ION Enzyme Strip 1 Enzyme Strip 2	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. Suspected of damaging fertility. 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. Suspected of damaging fertility. 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.

### Numerical measures of toxicity

#### Acute toxicity estimates

Not available.



## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
<b>BSA Solution</b> Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
<b>DNA Ligase</b> Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
<b>Hybridization Solution</b> Sodium chloride	Acute EC50 4.74 g/L Fresh water	Algae - Chlamydomonas reinhardtii	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1.56 g/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water Chronic NOEC 0.314 g/L Fresh water Chronic NOEC 100 mg/l Fresh water	Aquatic plants - Lemna minor Daphnia - Daphnia pulex Fish - Gambusia holbrooki - Adult	96 hours 21 days 8 weeks
<b>Enzyme Strip 1</b> Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
<b>Enzyme Strip 2</b> Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

### Persistence and degradability

Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>BSA Solution</b> Glycerol	-1.76	-	low
<b>DNA Ligase</b> Glycerol	-1.76	-	low
<b>Wash Solution</b> Formamide	-0.82	-	low
<b>Hybridization Solution</b> Formamide	-0.82	-	low
<b>Enzyme Strip 1</b> Glycerol	-1.76	-	low
<b>Enzyme Strip 2</b> Glycerol	-1.76	-	low

### Mobility in soil

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

## Section 12. Ecological information

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

## Section 13. Disposal considerations

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

## Section 14. Transport information

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

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

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

## Section 15. Regulatory information

### Standard Uniform Schedule of Medicine and Poisons

Not regulated.

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

No listed substance

### International regulations

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

Not listed.

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

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

- Australia** : All components are listed or exempted.
- Canada** : All components are listed or exempted.
- China** : Not determined.
- Europe** : All components are listed or exempted.
- Japan** : **Japan inventory (ENCS):** All components are listed or exempted.  
**Japan inventory (ISHL):** All components are listed or exempted.
- Malaysia** : All components are listed or exempted.

## Section 15. Regulatory information

<b>New Zealand</b>	: All components are listed or exempted.
<b>Philippines</b>	: Not determined.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: All components are listed or exempted.
<b>Viet Nam</b>	: Not determined.

## Section 16. Any other relevant information

### History

<b>Date of issue/Date of revision</b>	: 22/06/2017
<b>Date of previous issue</b>	: 29/04/2015.
<b>Version</b>	: 2

### Key to abbreviations

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

### Procedure used to derive the classification

Classification	Justification
<b>Wash Solution</b> Repr. 1B, H360 (Unborn child) Repr. 2, H361 (Fertility) STOT RE 2, H373	Calculation method Calculation method Calculation method
<b>Hybridization Solution</b> Eye Irrit. 2A, H319 Repr. 1B, H360 (Unborn child) Repr. 2, H361 (Fertility) STOT RE 2, H373	Calculation method Calculation method Calculation method Calculation method

**References** : Not available.

Indicates information that has changed from previously issued version.

### Notice to reader

**Disclaimer:** The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.