

# SAFETY DATA SHEET



ClearSeq Target Enrichment Kits - ION - 16 reactions

## Section 1. Identification

### 1.1 Product identifier

<b>Product name</b>	: ClearSeq Target Enrichment Kits - ION - 16 reactions	
<b>Part No. (Chemical Kit)</b>	: G9904A, G9909A, G9914A	
<b>Part No.</b>	:	RE Buffer 5190-4980
		SSC Buffer 5190-5342
		BSA Solution 5190-5347
		DNA Ligase 5190-7828
		Ligation Solution 5190-7831
		Wash Solution 5190-4977
		Capture Solution 5190-4978
		HaloPlex ION Primer 1 5190-5480
		HaloPlex ION Primer 2 5190-5483
		HaloPlex ION Barcode Primer Cassette 1-16* Various*
		Hybridization Solution 5190-5345
		Enrichment Control DNA 5190-5339
		HaloPlex Magnetic Beads 5190-5351
		ClearSeq Probe 5190-7736 / 5190-6239 / 5190-6526
		Enzyme Strip 1 5190-5343
		Enzyme Strip 2 5190-5344
<b>Validation date</b>	:	5/31/2017

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

<b>Material uses</b>	:	Analytical reagent.
		RE Buffer 0.8 ml (16 reactions)
		SSC Buffer 2 x 1.1 ml (16 reactions)
		BSA Solution 0.03 ml (16 reactions)
		DNA Ligase 0.05 ml (16 reactions)
		Ligation Solution 0.96 ml (16 reactions)
		Wash Solution 2 x 1.1 ml (16 reactions)
		Capture Solution 0.8 ml (16 reactions)
		HaloPlex ION Primer 1 0.024 ml (16 reactions)
		HaloPlex ION Primer 2 0.024 ml (16 reactions)
		HaloPlex ION Barcode Primer Cassette 1-16* 0.015 ml (16 reactions)
		Hybridization Solution 1.1 ml (16 reactions)
		Enrichment Control DNA 0.12 ml (16 reactions)
		HaloPlex Magnetic Beads 0.8 ml (16 reactions)
		ClearSeq Probe 0.4 ml (16 reactions)
		Enzyme Strip 1 0.128 ml (16 reactions)
		Enzyme Strip 2 0.128 ml (16 reactions)

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

<b>Supplier/Manufacturer</b>	:	Agilent Technologies, Inc. 5301 Stevens Creek Blvd Santa Clara, CA 95051, USA 800-227-9770
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### 1.4 Emergency telephone number

<b>In case of emergency</b>	:	CHEMTREC®: 1-800-424-9300
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## Section 1. Identification

**Note \*** : \* HaloPlex ION Barcode Primer Cassette 1-16: 5190-5457, 5190-5461, 5190-5466, 5190-5467, 5190-5468, 5190-5469, 5190-5470, 5190-5471, 5190-5472, 5190-5473, 5190-5474, 5190-5475, 5190-5476, 5190-5477, 5190-5478, 5190-5479

## Section 2. Hazards identification

### 2.1 Classification of the substance or mixture

<b>OSHA/HCS status</b>	: RE Buffer	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
	SSC Buffer	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
	BSA Solution	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
	DNA Ligase	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
	Ligation Solution	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
	Wash Solution	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
	Capture Solution	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
	HaloPlex ION Primer 1	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
	HaloPlex ION Primer 2	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
	HaloPlex ION Barcode Primer Cassette 1-16*	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

## Section 2. Hazards identification

Hybridization Solution	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Enrichment Control DNA	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
HaloPlex Magnetic Beads	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
ClearSeq Probe	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
Enzyme Strip 1	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Enzyme Strip 2	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Classification of the substance or mixture

#### DNA Ligase

H320 EYE IRRITATION - Category 2B

#### Wash Solution

H319 EYE IRRITATION - Category 2A  
 H360 TOXIC TO REPRODUCTION (Unborn child) - Category 1B

#### Hybridization Solution

H319 EYE IRRITATION - Category 2A  
 H360 TOXIC TO REPRODUCTION (Unborn child) - Category 1B

#### Enzyme Strip 1

H320 EYE IRRITATION - Category 2B

#### Enzyme Strip 2

H320 EYE IRRITATION - Category 2B

#### Ingredients of unknown toxicity

RE Buffer	Percentage of the mixture consisting of ingredient (s) of unknown dermal toxicity: 1 - 10% Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 1 - 10%
BSA Solution	Percentage of the mixture consisting of ingredient (s) of unknown dermal toxicity: 1 - 10% Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 1 - 10% Percentage of the mixture consisting of ingredient (s) of unknown oral 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

## Section 2. Hazards identification

Enzyme Strip 1

(s) of unknown inhalation toxicity: 10 - 30%  
Percentage of the mixture consisting of ingredient

Enzyme Strip 2

(s) of unknown inhalation toxicity: 30 - 60%  
Percentage of the mixture consisting of ingredient  
(s) of unknown inhalation toxicity: 30 - 60%

### 2.2 GHS label elements

#### Hazard pictograms

: Wash Solution



Hybridization Solution



#### Signal word

: RE Buffer  
SSC Buffer  
BSA Solution  
DNA Ligase  
Ligation Solution  
Wash Solution  
Capture Solution  
HaloPlex ION Primer 1  
HaloPlex ION Primer 2  
HaloPlex ION Barcode Primer  
Cassette 1-16\*  
Hybridization Solution  
Enrichment Control DNA  
HaloPlex Magnetic Beads  
ClearSeq Probe  
Enzyme Strip 1  
Enzyme Strip 2

No signal word.  
No signal word.  
No signal word.  
Warning  
No signal word.  
Danger  
No signal word.  
No signal word.  
No signal word.  
No signal word.  
No signal word.  
No signal word.  
No signal word.  
No signal word.  
No signal word.  
No signal word.  
Warning  
Warning

#### Hazard statements

: RE Buffer  
SSC Buffer  
BSA Solution  
DNA Ligase  
Ligation Solution  
Wash Solution  
  
Capture Solution  
HaloPlex ION Primer 1  
HaloPlex ION Primer 2  
HaloPlex ION Barcode Primer  
Cassette 1-16\*  
Hybridization Solution  
  
Enrichment Control DNA  
HaloPlex Magnetic Beads  
ClearSeq Probe  
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.  
H320 - Causes eye irritation.  
No known significant effects or critical hazards.  
H319 - Causes serious eye irritation.  
H360 - 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.  
  
H319 - Causes serious eye irritation.  
H360 - 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.  
H320 - Causes eye irritation.  
H320 - Causes eye irritation.

#### Precautionary statements

## Section 2. Hazards identification

### 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>	<ul style="list-style-type: none"> <li>Not applicable.</li> <li>Not applicable.</li> <li>Not applicable.</li> <li>P264 - Wash hands thoroughly after handling.</li> <li>Not applicable.</li> <li>P201 - Obtain special instructions before use.</li> <li>P202 - Do not handle until all safety precautions have been read and understood.</li> <li>P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.</li> <li>P264 - Wash hands thoroughly after handling.</li> </ul>
<ul style="list-style-type: none"> <li>Capture Solution</li> <li>HaloPlex ION Primer 1</li> <li>HaloPlex ION Primer 2</li> <li>HaloPlex ION Barcode Primer</li> <li>Cassette 1-16*</li> <li>Hybridization Solution</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable.</li> <li>Not applicable.</li> <li>Not applicable.</li> <li>Not applicable.</li> <li>P201 - Obtain special instructions before use.</li> <li>P202 - Do not handle until all safety precautions have been read and understood.</li> <li>P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.</li> <li>P264 - Wash hands thoroughly after handling.</li> </ul>
<ul style="list-style-type: none"> <li>Enrichment Control DNA</li> <li>HaloPlex Magnetic Beads</li> <li>ClearSeq Probe</li> <li>Enzyme Strip 1</li> <li>Enzyme Strip 2</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable.</li> <li>Not applicable.</li> <li>Not applicable.</li> <li>P264 - Wash hands thoroughly after handling.</li> <li>P264 - Wash hands thoroughly after handling.</li> </ul>

### Response

<ul style="list-style-type: none"> <li>: RE Buffer</li> <li>SSC Buffer</li> <li>BSA Solution</li> <li>DNA Ligase</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable.</li> <li>Not applicable.</li> <li>Not applicable.</li> <li>P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</li> <li>P337 + P313 - If eye irritation persists: Get medical attention.</li> </ul>
<ul style="list-style-type: none"> <li>Ligation Solution</li> <li>Wash Solution</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable.</li> <li>P308 + P313 - IF exposed or concerned: Get medical attention.</li> <li>P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</li> <li>P337 + P313 - If eye irritation persists: Get medical attention.</li> </ul>
<ul style="list-style-type: none"> <li>Capture Solution</li> <li>HaloPlex ION Primer 1</li> <li>HaloPlex ION Primer 2</li> <li>HaloPlex ION Barcode Primer</li> <li>Cassette 1-16*</li> <li>Hybridization Solution</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable.</li> <li>Not applicable.</li> <li>Not applicable.</li> <li>Not applicable.</li> <li>P308 + P313 - IF exposed or concerned: Get medical attention.</li> <li>P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</li> <li>P337 + P313 - If eye irritation persists: Get medical attention.</li> </ul>
<ul style="list-style-type: none"> <li>Enrichment Control DNA</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable.</li> </ul>

## Section 2. Hazards identification

	HaloPlex Magnetic Beads	Not applicable.
	ClearSeq Probe	Not applicable.
	Enzyme Strip 1	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
	Enzyme Strip 2	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
<b>Storage</b>	: RE Buffer	Not applicable.
	SSC Buffer	Not applicable.
	BSA Solution	Not applicable.
	DNA Ligase	Not applicable.
	Ligation Solution	Not applicable.
	Wash Solution	P405 - Store locked up.
	Capture Solution	Not applicable.
	HaloPlex ION Primer 1	Not applicable.
	HaloPlex ION Primer 2	Not applicable.
	HaloPlex ION Barcode Primer	Not applicable.
	Cassette 1-16*	
	Hybridization Solution	P405 - Store locked up.
	Enrichment Control DNA	Not applicable.
	HaloPlex Magnetic Beads	Not applicable.
	ClearSeq Probe	Not applicable.
	Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.
<b>Disposal</b>	: RE Buffer	Not applicable.
	SSC Buffer	Not applicable.
	BSA Solution	Not applicable.
	DNA Ligase	Not applicable.
	Ligation Solution	Not applicable.
	Wash Solution	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	Capture Solution	Not applicable.
	HaloPlex ION Primer 1	Not applicable.
	HaloPlex ION Primer 2	Not applicable.
	HaloPlex ION Barcode Primer	Not applicable.
	Cassette 1-16*	
	Hybridization Solution	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	Enrichment Control DNA	Not applicable.
	HaloPlex Magnetic Beads	Not applicable.
	ClearSeq Probe	Not applicable.
	Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.

## Section 2. Hazards identification

<b>Supplemental label elements</b>	:	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 ION Barcode Primer	None known.
		Cassette 1-16*	
		Hybridization Solution	None known.
		Enrichment Control DNA	None known.
		HaloPlex Magnetic Beads	None known.
		ClearSeq Probe	None known.
		Enzyme Strip 1	None known.
	Enzyme Strip 2	None known.	

### 2.3 Other hazards

<b>Hazards not otherwise classified</b>	:	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 ION Barcode Primer	None known.
		Cassette 1-16*	
		Hybridization Solution	None known.
		Enrichment Control DNA	None known.
		HaloPlex Magnetic Beads	None known.
		ClearSeq Probe	None known.
		Enzyme Strip 1	None known.
	Enzyme Strip 2	None known.	

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	:	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 ION Barcode Primer	Mixture
		Cassette 1-16*	
		Hybridization Solution	Mixture
		Enrichment Control DNA	Mixture
		HaloPlex Magnetic Beads	Mixture
		ClearSeq Probe	Mixture
		Enzyme Strip 1	Mixture
	Enzyme Strip 2	Mixture	



## Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
<b>RE Buffer</b> potassium acetate	≤3	127-08-2
<b>BSA Solution</b> Glycerol	<10	56-81-5
<b>DNA Ligase</b> Glycerol	≥50 - ≤75	56-81-5
<b>Wash Solution</b> Formamide Sodium chloride	≥10 - ≤25 ≤10	75-12-7 7647-14-5
<b>Capture Solution</b> Sodium chloride	<10	7647-14-5
<b>Hybridization Solution</b> Formamide Sodium chloride	≥25 - ≤50 ≥10 - ≤25	75-12-7 7647-14-5
<b>Enzyme Strip 1</b> Glycerol	≥50 - ≤75	56-81-5
<b>Enzyme Strip 2</b> Glycerol	≥50 - ≤75	56-81-5

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

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

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

## Section 4. First aid measures

### 4.1 Description of necessary first aid measures

<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. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
	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,



## Section 4. First aid measures

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.

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 ION Barcode Primer Cassette 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.

HaloPlex Magnetic Beads

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

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

Enzyme Strip 2

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.

### Inhalation

: 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. If not breathing, if breathing is irregular or if respiratory

## Section 4. First aid measures

	<p>arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.</p>
Ligation Solution	<p>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</p>
Wash Solution	<p>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.</p>
Capture Solution	<p>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</p>
HaloPlex ION Primer 1	<p>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</p>
HaloPlex ION Primer 2	<p>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</p>
HaloPlex ION Barcode Primer Cassette 1-16*	<p>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</p>
Hybridization Solution	<p>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.</p>
Enrichment Control DNA	<p>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</p>
HaloPlex Magnetic Beads	<p>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical</p>

## Section 4. First aid measures

	ClearSeq Probe	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.
	Enzyme Strip 1	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	Enzyme Strip 2	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
<b>Skin contact</b>	: 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. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	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.

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	HaloPlex ION Barcode Primer Cassette 1-16*	Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Flush contaminated skin with plenty of water.
	Hybridization Solution	Remove contaminated clothing and shoes. Get medical attention if symptoms occur. 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.
	HaloPlex Magnetic Beads	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	ClearSeq Probe	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. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Enzyme Strip 2	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
<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 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

## Section 4. First aid measures

	directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
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 attention if symptoms occur.
HaloPlex ION Primer 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.
HaloPlex ION Barcode Primer Cassette 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.

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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.
HaloPlex Magnetic Beads	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	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 dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Enzyme Strip 2	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless







## Section 4. First aid measures

	Enrichment Control DNA	No known significant effects or critical hazards.
	HaloPlex Magnetic Beads	No known significant effects or critical hazards.
	ClearSeq Probe	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 ION Barcode Primer	No known significant effects or critical hazards.
	Cassette 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.
	HaloPlex Magnetic Beads	No known significant effects or critical hazards.
	ClearSeq Probe	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.

### Over-exposure signs/symptoms

<b>Eye contact</b>	: RE Buffer	No specific data.
	SSC Buffer	No specific data.
	BSA Solution	No specific data.
	DNA Ligase	Adverse symptoms may include the following: irritation watering redness
	Ligation Solution	No specific data.
	Wash Solution	Adverse symptoms may include the following: pain or irritation watering redness
	Capture Solution	No specific data.
	HaloPlex ION Primer 1	No specific data.
	HaloPlex ION Primer 2	No specific data.
	HaloPlex ION Barcode Primer	No specific data.
	Cassette 1-16*	No specific data.
	Hybridization Solution	Adverse symptoms may include the following: pain or irritation watering redness
	Enrichment Control DNA	No specific data.
	HaloPlex Magnetic Beads	No specific data.
	ClearSeq Probe	No specific data.
	Enzyme Strip 1	Adverse symptoms may include the following: irritation watering redness
	Enzyme Strip 2	Adverse symptoms may include the following: irritation watering redness

## Section 4. First aid measures

### Inhalation

: 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 fetal weight increase in fetal deaths skeletal malformations
Capture Solution	No specific data.
HaloPlex ION Primer 1	No specific data.
HaloPlex ION Primer 2	No specific data.
HaloPlex ION Barcode Primer	No specific data.
Cassette 1-16*	
Hybridization Solution	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
Enrichment Control DNA	No specific data.
HaloPlex Magnetic Beads	No specific data.
ClearSeq Probe	No specific data.
Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.

### Skin 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	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
Capture Solution	No specific data.
HaloPlex ION Primer 1	No specific data.
HaloPlex ION Primer 2	No specific data.
HaloPlex ION Barcode Primer	No specific data.
Cassette 1-16*	
Hybridization Solution	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
Enrichment Control DNA	No specific data.
HaloPlex Magnetic Beads	No specific data.
ClearSeq Probe	No specific data.
Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.

### Ingestion

: 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 fetal weight increase in fetal deaths skeletal malformations
Capture Solution	No specific data.
HaloPlex ION Primer 1	No specific data.
HaloPlex ION Primer 2	No specific data.
HaloPlex ION Barcode Primer	No specific data.

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Cassette 1-16*	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations	
Hybridization Solution		
Enrichment Control DNA		No specific data.
HaloPlex Magnetic Beads		No specific data.
ClearSeq Probe		No specific data.
Enzyme Strip 1	No specific data.	
Enzyme Strip 2	No specific data.	

### 4.3 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 ION Barcode Primer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Cassette 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 surveillance for 48 hours.
		Enrichment Control DNA	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		HaloPlex Magnetic Beads	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		ClearSeq Probe	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

## Section 4. First aid measures

	Enzyme Strip 2	ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	: 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 ION Barcode Primer	No specific treatment.
	Cassette 1-16*	
	Hybridization Solution	No specific treatment.
	Enrichment Control DNA	No specific treatment.
	HaloPlex Magnetic Beads	No specific treatment.
	ClearSeq Probe	No specific treatment.
	Enzyme Strip 1	No specific treatment.
	Enzyme Strip 2	No specific treatment.
<b>Protection of first-aiders</b>	: 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	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 ION Barcode Primer	No action shall be taken involving any personal risk or without suitable training.
	Cassette 1-16*	
	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.
	Enrichment Control DNA	No action shall be taken involving any personal risk or without suitable training.

## Section 4. First aid measures

HaloPlex Magnetic Beads	No action shall be taken involving any personal risk or without suitable training.
ClearSeq Probe	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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
Enzyme Strip 2	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 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 ION Barcode Primer Cassette 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.
HaloPlex Magnetic Beads	Use an extinguishing agent suitable for the surrounding fire.
ClearSeq Probe	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.

## Section 5. Fire-fighting measures

HaloPlex ION Primer 2	None known.
HaloPlex ION Barcode Primer	None known.
Cassette 1-16*	
Hybridization Solution	None known.
Enrichment Control DNA	None known.
HaloPlex Magnetic Beads	None known.
ClearSeq Probe	None known.
Enzyme Strip 1	None known.
Enzyme Strip 2	None known.

### 5.2 Special hazards arising from the substance or mixture

#### Specific hazards arising from the chemical

: 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 ION Barcode Primer	In a fire or if heated, a pressure increase will occur and the container may burst.
Cassette 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.
HaloPlex Magnetic Beads	In a fire or if heated, a pressure increase will occur and the container may burst.
ClearSeq Probe	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.

#### Hazardous thermal decomposition products

: RE Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide metal oxide/oxides
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.

## Section 5. Fire-fighting measures

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 HaloPlex ION Primer 2 HaloPlex ION Barcode Primer Cassette 1-16*	No specific data. No specific data. 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 HaloPlex Magnetic Beads ClearSeq Probe Enzyme Strip 1	No specific data. No specific data. 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

### 5.3 Advice for firefighters

#### 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.



## Section 5. Fire-fighting measures

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 ION Barcode Primer Cassette 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.
HaloPlex Magnetic Beads	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	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 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 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.
<b>Special protective equipment for fire-fighters</b> : RE Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
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

## Section 5. Fire-fighting measures

Wash Solution	pressure mode. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
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 ION Barcode Primer Cassette 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.
HaloPlex Magnetic Beads	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	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.
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

### 6.1 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 spilled 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

## Section 6. Accidental release measures

BSA Solution	touch or walk through spilled material. Put on appropriate personal protective equipment. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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 spilled 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 spilled material. Avoid breathing vapor 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 spilled 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 spilled 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 spilled material. Put on appropriate personal protective equipment.
HaloPlex ION Barcode Primer Cassette 1-16*	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
Hybridization Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and

## Section 6. Accidental release measures

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

## Section 6. Accidental release measures

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

### 6.2 Environmental precautions

: RE Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
SSC Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
BSA Solution	Avoid dispersal of spilled 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).
DNA Ligase	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Ligation Solution	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Wash Solution	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Capture Solution	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
HaloPlex ION Primer 1	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
HaloPlex ION Primer 2	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
HaloPlex ION Barcode Primer Cassette 1-16*	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Hybridization Solution	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Enrichment Control DNA	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
HaloPlex Magnetic Beads	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
ClearSeq Probe	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).



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Enzyme Strip 1	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Enzyme Strip 2	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and materials 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.
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.



## Section 6. Accidental release measures

HaloPlex ION Primer 2	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.
HaloPlex ION Barcode Primer Cassette 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.
HaloPlex Magnetic Beads	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	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 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.
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

### 7.1 Precautions for safe handling

<b>Protective measures</b>	: 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). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	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 ingest. Avoid breathing vapor or mist. 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 ION Barcode Primer Cassette 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 ingest. Avoid breathing vapor or mist. 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.
	Enrichment Control DNA	Put on appropriate personal protective equipment (see Section 8).
	HaloPlex Magnetic Beads	Put on appropriate personal protective equipment (see Section 8).
	ClearSeq Probe	Put on appropriate personal protective equipment

## Section 7. Handling and storage

(see Section 8).

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

Enzyme Strip 1

Enzyme Strip 2

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

### Advice on general occupational hygiene

: 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.

## Section 7. Handling and storage

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 additional information on hygiene measures.
HaloPlex ION Primer 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.
HaloPlex ION Barcode Primer Cassette 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.
HaloPlex Magnetic Beads	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	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

## Section 7. Handling and storage

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

Enzyme Strip 2

### 7.2 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

SSC 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

BSA Solution

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 unlabeled 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 unlabeled 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

## Section 7. Handling and storage

Wash Solution	<p>original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p> <p>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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
Capture Solution	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
HaloPlex ION Primer 1	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
HaloPlex ION Primer 2	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
HaloPlex ION Barcode Primer Cassette 1-16*	<p>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</p>



## Section 7. Handling and storage

Hybridization Solution	<p>and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p> <p>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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
Enrichment Control DNA	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
HaloPlex Magnetic Beads	<p>Store between the following temperatures: 4 to 25°C (39.2 to 77°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
ClearSeq Probe	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
Enzyme Strip 1	<p>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)</p>





## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
<b>RE Buffer</b> potassium acetate	None.
<b>BSA Solution</b> Glycerol	<b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Total dust <b>OSHA PEL (United States, 6/2016).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction TWA: 15 mg/m <sup>3</sup> 8 hours. Form: Total dust
<b>DNA Ligase</b> Glycerol	<b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Total dust <b>OSHA PEL (United States, 6/2016).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction TWA: 15 mg/m <sup>3</sup> 8 hours. Form: Total dust
<b>Wash Solution</b> Formamide	<b>ACGIH TLV (United States, 3/2016).</b> <b>Absorbed through skin.</b> TWA: 10 ppm 8 hours. TWA: 18 mg/m <sup>3</sup> 8 hours. <b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 20 ppm 8 hours. TWA: 30 mg/m <sup>3</sup> 8 hours. STEL: 30 ppm 15 minutes. STEL: 45 mg/m <sup>3</sup> 15 minutes. <b>NIOSH REL (United States, 10/2013).</b> <b>Absorbed through skin.</b> TWA: 10 ppm 10 hours. TWA: 15 mg/m <sup>3</sup> 10 hours.
Sodium chloride	None.
<b>Capture Solution</b> Sodium chloride	None.
<b>Hybridization Solution</b> Formamide	<b>ACGIH TLV (United States, 3/2016).</b> <b>Absorbed through skin.</b> TWA: 10 ppm 8 hours. TWA: 18 mg/m <sup>3</sup> 8 hours. <b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 20 ppm 8 hours. TWA: 30 mg/m <sup>3</sup> 8 hours. STEL: 30 ppm 15 minutes. STEL: 45 mg/m <sup>3</sup> 15 minutes. <b>NIOSH REL (United States, 10/2013).</b>



## Section 8. Exposure controls/personal protection

- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

<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 ION Barcode Primer	Liquid.	
		Cassette 1-16*		
		Hybridization Solution	Liquid.	
		Enrichment Control DNA	Liquid.	
		HaloPlex Magnetic Beads	Liquid. [aqueous suspensions]	
		ClearSeq Probe	Liquid.	
		Enzyme Strip 1	Liquid.	
		Enzyme Strip 2	Liquid.	
	<b>Color</b>	:	RE Buffer	Not available.
			SSC Buffer	Not available.
		BSA Solution	Colorless.	
		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 ION Barcode Primer	Not available.	
		Cassette 1-16*		
		Hybridization Solution	Not available.	
		Enrichment Control DNA	Not available.	
		HaloPlex Magnetic Beads	Brown.	
		ClearSeq Probe	Not available.	
		Enzyme Strip 1	Not available.	
		Enzyme Strip 2	Not available.	
<b>Odor</b>		:	RE Buffer	Not available.
			SSC Buffer	Not available.
		BSA Solution	Odorless.	
		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 ION Barcode Primer	Not available.	
		Cassette 1-16*		
		Hybridization Solution	Not available.	

## Section 9. Physical and chemical properties

	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	Not available.
	ClearSeq Probe	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
<b>Odor 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 ION Barcode Primer	Not available.
	Cassette 1-16*	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	Not available.
	ClearSeq Probe	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 ION Barcode Primer	Not available.
	Cassette 1-16*	
	Hybridization Solution	7.5
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	Not available.
	ClearSeq Probe	Not available.
	Enzyme Strip 1	7.4
	Enzyme Strip 2	7.4
<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 ION Barcode Primer	0°C (32°F)
	Cassette 1-16*	
	Hybridization Solution	Not available.
	Enrichment Control DNA	0°C (32°F)
	HaloPlex Magnetic Beads	~0°C (32°F)
	ClearSeq Probe	0°C (32°F)
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.

## Section 9. Physical and chemical properties

<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 ION Barcode Primer	100°C (212°F)
	Cassette 1-16*	
	Hybridization Solution	Not available.
	Enrichment Control DNA	100°C (212°F)
	HaloPlex Magnetic Beads	100°C (212°F)
	ClearSeq Probe	100°C (212°F)
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
<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 ION Barcode Primer	Not available.
	Cassette 1-16*	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	Not available.
	ClearSeq Probe	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
<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 ION Barcode Primer	Not available.
	Cassette 1-16*	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	Not available.
	ClearSeq Probe	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.



## Section 9. Physical and chemical properties

	HaloPlex ION Primer 1	Not applicable.
	HaloPlex ION Primer 2	Not applicable.
	HaloPlex ION Barcode Primer	Not applicable.
	Cassette 1-16*	
	Hybridization Solution	Not applicable.
	Enrichment Control DNA	Not applicable.
	HaloPlex Magnetic Beads	Not applicable.
	ClearSeq Probe	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 ION Barcode Primer	Not available.
	Cassette 1-16*	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	Not available.
	ClearSeq Probe	Not available.
	Enzyme Strip 1	Lower: 0.9%
	Enzyme Strip 2	Not available.
<b>Vapor 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 ION Barcode Primer	Not available.
	Cassette 1-16*	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	2.3 kPa (17.5 mm Hg) [room temperature]
	ClearSeq Probe	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	<0.13 kPa (<1 mm Hg) [room temperature]
<b>Vapor 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.
	HaloPlex ION Primer 2	Not available.
	HaloPlex ION Barcode Primer	Not available.
	Cassette 1-16*	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	0.624 [Air = 1]

## Section 9. Physical and chemical properties

	ClearSeq Probe	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
<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 ION Barcode Primer	Not available.
	Cassette 1-16*	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	1.4 to 1.5
	ClearSeq Probe	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
<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 ION Barcode Primer	Easily soluble in the following materials: cold water and hot water.
	Cassette 1-16*	
	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.
	HaloPlex Magnetic Beads	Not available.
	ClearSeq Probe	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 ION Barcode Primer	Not available.
	Cassette 1-16*	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	Not available.
	ClearSeq Probe	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
<b>Auto-ignition temperature</b>	<input checked="" type="checkbox"/> 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 ION Barcode Primer	Not available.
	Cassette 1-16*	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	Not available.
	ClearSeq Probe	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
<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 ION Barcode Primer	Not available.
	Cassette 1-16*	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	Not available.
	ClearSeq Probe	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 ION Barcode Primer	Not available.
	Cassette 1-16*	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	Not available.
	ClearSeq Probe	Not available.
	Enzyme Strip 1	Not available.

## Section 9. Physical and chemical properties

Enzyme Strip 2

Not available.

## Section 10. Stability and reactivity

<b>10.1 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 ION Barcode Primer Cassette 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.
	HaloPlex Magnetic Beads	No specific test data related to reactivity available for this product or its ingredients.
	ClearSeq Probe	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>10.2 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 ION Barcode Primer Cassette 1-16*	The product is stable.
	Hybridization Solution	The product is stable.
	Enrichment Control DNA	The product is stable.
	HaloPlex Magnetic Beads	The product is stable.
	ClearSeq Probe	The product is stable.
	Enzyme Strip 1	The product is stable.
	Enzyme Strip 2	The product is stable.

## Section 10. Stability and reactivity

<b>10.3 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.
	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 ION Barcode Primer Cassette 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.
	HaloPlex Magnetic Beads	Under normal conditions of storage and use, hazardous reactions will not occur.
	ClearSeq Probe	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.	
<b>10.4 Conditions to avoid</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 ION Barcode Primer Cassette 1-16*	No specific data.
	Hybridization Solution	No specific data.
	Enrichment Control DNA	No specific data.
	HaloPlex Magnetic Beads	No specific data.
	ClearSeq Probe	No specific data.
	Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.	
<b>10.5 Incompatible materials</b>	: RE Buffer	May react or be incompatible with oxidizing materials.
	SSC Buffer	May react or be incompatible with oxidizing materials.
	BSA Solution	May react or be incompatible with oxidizing materials.
	DNA Ligase	May react or be incompatible with oxidizing materials.

## Section 10. Stability and reactivity

Ligation Solution	May react or be incompatible with oxidizing materials.
Wash Solution	May react or be incompatible with oxidizing materials.
Capture Solution	May react or be incompatible with oxidizing materials.
HaloPlex ION Primer 1	May react or be incompatible with oxidizing materials.
HaloPlex ION Primer 2	May react or be incompatible with oxidizing materials.
HaloPlex ION Barcode Primer Cassette 1-16*	May react or be incompatible with oxidizing materials.
Hybridization Solution	May react or be incompatible with oxidizing materials.
Enrichment Control DNA	May react or be incompatible with oxidizing materials.
HaloPlex Magnetic Beads	May react or be incompatible with oxidizing materials.
ClearSeq Probe	May react or be incompatible with oxidizing materials.
Enzyme Strip 1	May react or be incompatible with oxidizing materials.
Enzyme Strip 2	May react or be incompatible with oxidizing materials.

### 10.6 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.
Ligation Solution	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 ION Barcode Primer Cassette 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,



## Section 10. Stability and reactivity

HaloPlex Magnetic Beads	hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.
ClearSeq Probe	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

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
<b>RE Buffer</b> potassium acetate	LD50 Oral	Rat	3250 mg/kg	-
<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	Rat Rabbit	>21 mg/l 17 g/kg	4 hours -
Sodium chloride	LD50 Oral LD50 Oral	Rat Rat	4000 mg/kg 3000 mg/kg	- -
<b>Capture Solution</b> Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
<b>Hybridization Solution</b> Formamide	LC50 Inhalation Dusts and mists LD50 Dermal	Rat Rabbit	>21 mg/l 17 g/kg	4 hours -
Sodium chloride	LD50 Oral LD50 Oral	Rat Rat	4000 mg/kg 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	-

#### Irritation/Corrosion

## Section 11. Toxicological information

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	-	
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>Capture Solution</b> Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-	
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-	
	Skin - Mild irritant	Rabbit	-	24 hours 500 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	-	

### Sensitization

Not available.

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

## Section 11. Toxicological information

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

### Information on the likely routes of exposure

RE Buffer	Not available.
SSC Buffer	Not available.
BSA Solution	Not available.
DNA Ligase	Routes of entry anticipated: Oral, Dermal, Inhalation.
Ligation Solution	Not available.
Wash Solution	Routes of entry anticipated: Oral, Dermal, Inhalation.
Capture Solution	Not available.
HaloPlex ION Primer 1	Not available.
HaloPlex ION Primer 2	Not available.
HaloPlex ION Barcode Primer Cassette 1-16*	Not available.
Hybridization Solution	Routes of entry anticipated: Oral, Dermal, Inhalation.
Enrichment Control DNA	Not available.
HaloPlex Magnetic Beads	Not available.
ClearSeq Probe	Not available.
Enzyme Strip 1	Routes of entry anticipated: Oral, Dermal, Inhalation.
Enzyme Strip 2	Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential acute health effects

#### Eye contact

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	Causes eye irritation.
Ligation Solution	No known significant effects or critical hazards.
Wash Solution	Causes serious eye irritation.
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 ION Barcode Primer Cassette 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.
HaloPlex Magnetic Beads	No known significant effects or critical hazards.
ClearSeq Probe	No known significant effects or critical hazards.
Enzyme Strip 1	Causes eye irritation.
Enzyme Strip 2	Causes eye irritation.



## Section 11. Toxicological information

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

## Section 11. Toxicological information

<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 fetal weight increase in fetal deaths skeletal malformations
		Capture Solution	No specific data.
		HaloPlex ION Primer 1	No specific data.
		HaloPlex ION Primer 2	No specific data.
		HaloPlex ION Barcode Primer	No specific data.
		Cassette 1-16*	
		Hybridization Solution	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
		Enrichment Control DNA	No specific data.
		HaloPlex Magnetic Beads	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 fetal weight increase in fetal deaths skeletal malformations
		Capture Solution	No specific data.
		HaloPlex ION Primer 1	No specific data.
		HaloPlex ION Primer 2	No specific data.
		HaloPlex ION Barcode Primer	No specific data.
		Cassette 1-16*	
		Hybridization Solution	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
		Enrichment Control DNA	No specific data.
		HaloPlex Magnetic Beads	No specific data.
	ClearSeq Probe	No specific data.	
	Enzyme Strip 1	No specific data.	
	Enzyme Strip 2	No specific data.	

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

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.



## Section 11. Toxicological information

### Potential chronic health effects

#### General

: 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 ION Barcode Primer	No known significant effects or critical hazards.
Cassette 1-16*	
Hybridization Solution	No known significant effects or critical hazards.
Enrichment Control DNA	No known significant effects or critical hazards.
HaloPlex Magnetic Beads	No known significant effects or critical hazards.
ClearSeq Probe	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.

#### Carcinogenicity

: 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 ION Barcode Primer	No known significant effects or critical hazards.
Cassette 1-16*	
Hybridization Solution	No known significant effects or critical hazards.
Enrichment Control DNA	No known significant effects or critical hazards.
HaloPlex Magnetic Beads	No known significant effects or critical hazards.
ClearSeq Probe	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.

#### Mutagenicity

: 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 ION Barcode Primer	No known significant effects or critical hazards.
Cassette 1-16*	
Hybridization Solution	No known significant effects or critical hazards.
Enrichment Control DNA	No known significant effects or critical hazards.
HaloPlex Magnetic Beads	No known significant effects or critical hazards.
ClearSeq Probe	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.

## Section 11. Toxicological information

<b>Teratogenicity</b>	: RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex ION Barcode Primer Cassette 1-16* Hybridization Solution Enrichment Control DNA HaloPlex Magnetic Beads ClearSeq Probe 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. 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.
<b>Developmental effects</b>	: RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex ION Barcode Primer Cassette 1-16* Hybridization Solution Enrichment Control DNA HaloPlex Magnetic Beads ClearSeq Probe 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.
<b>Fertility effects</b>	: RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex ION Barcode Primer Cassette 1-16* Hybridization Solution Enrichment Control DNA HaloPlex Magnetic Beads ClearSeq Probe 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.

### Numerical measures of toxicity

#### Acute toxicity estimates

## Section 11. Toxicological information

Route	ATE value
<b>RE Buffer</b> Oral	264227.6 mg/kg
<b>Wash Solution</b> Oral	14423.1 mg/kg
<b>Capture Solution</b> Oral	51724.1 mg/kg
<b>Hybridization Solution</b> Oral	8086.3 mg/kg

## Section 12. Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<b>RE Buffer</b> potassium acetate	Acute EC50 1.05 g/L Fresh water	Daphnia - Daphnia similis - Neonate	48 hours
	Acute LC50 313 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia	48 hours
	Acute LC50 298 mg/l Fresh water	Fish - Pimephales promelas	96 hours
<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>Wash 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	Aquatic plants - Lemna minor	96 hours
<b>Capture Solution</b> Sodium chloride	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks
	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	Aquatic plants - Lemna minor	96 hours

## Section 12. Ecological information

<b>Hybridization Solution</b> Sodium chloride	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks
<b>Enzyme Strip 1</b> Glycerol	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
<b>Enzyme Strip 2</b> Glycerol	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks
<b>Enzyme Strip 1</b> Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

### 12.2 Persistence and degradability

Not available.

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>RE Buffer</b> potassium acetate	-3.72	3.162	low
<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

### 12.4 Mobility in soil

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

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

## Section 13. Disposal considerations

### 13.1 Waste treatment methods

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

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

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

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

## Section 14. Transport information

**DOT / TDG / Mexico / IMDG / IATA** : Not regulated.

**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

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

**U.S. Federal regulations** : **TSCA 8(a) PAIR:** Formamide; Polyoxyethylene octyl phenyl ether  
**TSCA 8(a) CDR Exempt/Partial exemption:** Not determined  
**Clean Water Act (CWA) 311:** Edetic acid

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

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

## Section 15. Regulatory information

**DEA List II Chemicals (Essential Chemicals)** : Not listed

**SARA 302/304**

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
<b>HaloPlex Magnetic Beads</b> Sodium azide	≤0.1	Yes.	500	-	1000	-

**SARA 304 RQ** : 32000000 lbs / 14528000 kg

**SARA 311/312**

<b>Classification</b>	:	RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution  Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex ION Barcode Primer Cassette 1-16* Hybridization Solution  Enrichment Control DNA HaloPlex Magnetic Beads ClearSeq Probe Enzyme Strip 1 Enzyme Strip 2	Not applicable. Not applicable. Not applicable. Immediate (acute) health hazard Not applicable. Immediate (acute) health hazard Delayed (chronic) health hazard Not applicable. Not applicable. Not applicable. Not applicable. Immediate (acute) health hazard Delayed (chronic) health hazard Not applicable. Not applicable. Not applicable. Immediate (acute) health hazard Immediate (acute) health hazard
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Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
<b>RE Buffer</b> potassium acetate	≤3	Yes.	No.	No.	Yes.	No.
<b>BSA Solution</b> Glycerol	<10	No.	No.	No.	Yes.	No.
<b>DNA Ligase</b> Glycerol	≥50 - ≤75	No.	No.	No.	Yes.	No.
<b>Wash Solution</b> Formamide Sodium chloride	≥10 - ≤25 ≤10	No. No.	No. No.	No. No.	Yes. Yes.	Yes. No.
<b>Capture Solution</b> Sodium chloride	<10	No.	No.	No.	Yes.	No.
<b>Hybridization Solution</b> Formamide Sodium chloride	≥25 - ≤50 ≥10 - ≤25	No. No.	No. No.	No. No.	Yes. Yes.	Yes. No.



## Section 15. Regulatory information

<b>Enzyme Strip 1</b> Glycerol	≥50 - ≤75	No.	No.	No.	Yes.	No.
<b>Enzyme Strip 2</b> Glycerol	≥50 - ≤75	No.	No.	No.	Yes.	No.

### State regulations

- Massachusetts** : The following components are listed: GLYCERINE MIST; FORMAMIDE
- New York** : None of the components are listed.
- New Jersey** : The following components are listed: GLYCERIN; 1,2,3-PROPANETRIOL; FORMAMIDE
- Pennsylvania** : The following components are listed: 1,2,3-PROPANETRIOL; FORMAMIDE
- California Prop. 65**

Not available.

### 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** : Not determined.
- Canada** : Not determined.
- China** : Not determined.
- Europe** : Not determined.
- Japan** : **Japan inventory (ENCS)**: Not determined.  
**Japan inventory (ISHL)**: Not determined.
- Malaysia** : Not determined.
- New Zealand** : Not determined.
- Philippines** : Not determined.
- Republic of Korea** : Not determined.
- Taiwan** : Not determined.
- Thailand** :  Not determined.
- Turkey** : Not determined.
- United States** : Not determined.
- Viet Nam** :  Not determined.

## Section 16. Other information

### History

**Date of issue** : 05/31/2017

**Date of previous issue** : 04/29/2016.

**Version** : 4

✔ Indicates information that has changed from previously issued version.

**Note \*** : \* HaloPlex ION Barcode Primer Cassette 1-16: 5190-5457, 5190-5461, 5190-5466, 5190-5467, 5190-5468, 5190-5469, 5190-5470, 5190-5471, 5190-5472, 5190-5473, 5190-5474, 5190-5475, 5190-5476, 5190-5477, 5190-5478, 5190-5479

### Notice to reader

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