

SAFETY DATA SHEET

HaloPlex Target Enrichment Kits - ION - 96 reactions

Section 1. Identification

1.1 Product identifier

Product name	: HaloPlex Target Enrichment Kits - ION - 96 reactions	
Part no. (chemical kit)	: G9902B, G9912B	
Part no.	: RE Buffer	5190-4997
	SSC Buffer	5190-5356
	BSA Solution	5190-5409
	DNA Ligase	5190-7830
	Ligation Solution	5190-7833
	Wash Solution	5190-4994
	Capture Solution	5190-4995
	HaloPlex ION Primer 1	5190-5481
	HaloPlex ION Primer 2	5190-5482
	HaloPlex Barcoding Primers Plate	5190-6198
	Hybridization Solution	5190-5352
	Enrichment Control DNA	5190-5353
	HaloPlex Magnetic Beads	5190-5365
	HaloPlex Probe	5190-5934 / 5190-5542 / 5190-5909 / 5190-5910
	Enzyme Strip 1	5190-5357
	Enzyme Strip 2	5190-5358
Validation date	: 2/14/2018	

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

Material uses	: Analytical reagent.
	RE Buffer 4.8 ml (96 reactions)
	SSC Buffer 2 x 8.15 ml (96 reactions)
	BSA Solution 0.115 ml (96 reactions)
	DNA Ligase 0.34 ml (96 reactions)
	Ligation Solution 6.5 ml (96 reactions)
	Wash Solution 14 ml (96 reactions)
	Capture Solution 4.8 ml (96 reactions)
	HaloPlex ION Primer 1 0.13 ml (96 reactions)
	HaloPlex ION Primer 2 0.13 ml (96 reactions)
	HaloPlex Barcoding Primers Plate 2 x 0.015 ml (48 reactions)
	Hybridization Solution 7 ml (96 reactions)
	Enrichment Control DNA 0.48 ml (96 reactions)
	HaloPlex Magnetic Beads 4.6 ml (96 reactions)
	HaloPlex Probe 2 x 1.35 ml (96 reactions)
	Enzyme Strip 1 0.6 ml (96 reactions)
	Enzyme Strip 2 0.6 ml (96 reactions)

1.3 Details of the supplier of the safety data sheet

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

1.4 Emergency telephone number

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

Section 2. Hazards identification

2.1 Classification of the substance or mixture

OSHA/HCS status	: 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 Barcoding Primer Cassettes 1-48	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.
	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

Section 2. Hazards identification

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

2.2 GHS label elements

Section 2. Hazards identification

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 Barcoding Primer
 Cassettes 1-48
 Hybridization Solution
 Enrichment Control DNA
 HaloPlex Magnetic Beads
 HaloPlex 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.

Danger
 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 Barcoding Primer
 Cassettes 1-48
 Hybridization Solution

 Enrichment Control DNA
 HaloPlex Magnetic Beads
 HaloPlex 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

Prevention

: RE Buffer
 SSC Buffer
 BSA Solution
 DNA Ligase
 Ligation Solution
 Wash Solution

Not applicable.
 Not applicable.
 Not applicable.
 P264 - Wash hands thoroughly after handling.
 Not applicable.
 P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions have been read and understood.
 P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
 P264 - Wash hands thoroughly after handling.

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	Capture Solution	Not applicable.
	HaloPlex ION Primer 1	Not applicable.
	HaloPlex ION Primer 2	Not applicable.
	HaloPlex Barcoding Primer	Not applicable.
	Cassettes 1-48	
	Hybridization Solution	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing. P264 - Wash hands thoroughly after handling.
	Enrichment Control DNA	Not applicable.
	HaloPlex Magnetic Beads	Not applicable.
	HaloPlex Probe	Not applicable.
	Enzyme Strip 1	P264 - Wash hands thoroughly after handling.
	Enzyme Strip 2	P264 - Wash hands thoroughly after handling.
Response	: RE Buffer	Not applicable.
	SSC Buffer	Not applicable.
	BSA Solution	Not applicable.
	DNA Ligase	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
	Ligation Solution	Not applicable.
	Wash Solution	P308 + P313 - IF exposed or concerned: Get medical attention. 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.
	Capture Solution	Not applicable.
	HaloPlex ION Primer 1	Not applicable.
	HaloPlex ION Primer 2	Not applicable.
	HaloPlex Barcoding Primer	Not applicable.
	Cassettes 1-48	
	Hybridization Solution	P308 + P313 - IF exposed or concerned: Get medical attention. 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.
	Enrichment Control DNA	Not applicable.
	HaloPlex Magnetic Beads	Not applicable.
	HaloPlex 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

Section 2. Hazards identification

Storage

<ul style="list-style-type: none"> : RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-48 Hybridization Solution Enrichment Control DNA HaloPlex Magnetic Beads HaloPlex Probe Enzyme Strip 1 Enzyme Strip 2 	<ul style="list-style-type: none"> rinsing. P337 + P313 - If eye irritation persists: Get medical attention. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. P405 - Store locked up. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. P405 - Store locked up. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
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Disposal

<ul style="list-style-type: none"> : RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution 	<ul style="list-style-type: none"> Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
<ul style="list-style-type: none"> Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-48 Hybridization Solution 	<ul style="list-style-type: none"> Not applicable. Not applicable. Not applicable. Not applicable. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
<ul style="list-style-type: none"> Enrichment Control DNA HaloPlex Magnetic Beads HaloPlex Probe Enzyme Strip 1 Enzyme Strip 2 	<ul style="list-style-type: none"> Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.

Supplemental label elements

<ul style="list-style-type: none"> : RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-48 Hybridization Solution Enrichment Control DNA HaloPlex Magnetic Beads HaloPlex Probe Enzyme Strip 1 Enzyme Strip 2 	<ul style="list-style-type: none"> None known. None known. None known. None known. None known. None known. None known. None known. None known. None known. None known. None known. None known. None known. None known. None known. None known.
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Section 2. Hazards identification

2.3 Other hazards

Hazards not otherwise classified

: RE Buffer	None known.
SSC Buffer	None known.
BSA Solution	None known.
DNA Ligase	None known.
Ligation Solution	None known.
Wash Solution	None known.
Capture Solution	None known.
HaloPlex ION Primer 1	None known.
HaloPlex ION Primer 2	None known.
HaloPlex Barcoding Primer	None known.
Cassettes 1-48	
Hybridization Solution	None known.
Enrichment Control DNA	None known.
HaloPlex Magnetic Beads	None known.
HaloPlex Probe	None known.
Enzyme Strip 1	None known.
Enzyme Strip 2	None known.

Section 3. Composition/information on ingredients

Substance/mixture

: RE Buffer	Mixture
SSC Buffer	Mixture
BSA Solution	Mixture
DNA Ligase	Mixture
Ligation Solution	Mixture
Wash Solution	Mixture
Capture Solution	Mixture
HaloPlex ION Primer 1	Mixture
HaloPlex ION Primer 2	Mixture
HaloPlex Barcoding Primer	Mixture
Cassettes 1-48	
Hybridization Solution	Mixture
Enrichment Control DNA	Mixture
HaloPlex Magnetic Beads	Mixture
HaloPlex Probe	Mixture
Enzyme Strip 1	Mixture
Enzyme Strip 2	Mixture

Ingredient name	%	CAS number
BSA Solution Glycerol	<10	56-81-5
DNA Ligase Glycerol	≥50 - ≤75	56-81-5
Wash Solution Formamide Sodium chloride	≥10 - ≤25 ≤10	75-12-7 7647-14-5
Capture Solution Sodium chloride	<10	7647-14-5
Hybridization Solution Formamide Sodium chloride	≥25 - ≤50 ≥10 - ≤25	75-12-7 7647-14-5

Section 3. Composition/information on ingredients

Enzyme Strip 1 Glycerol	≥50 - ≤75	56-81-5
Enzyme Strip 2 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

Eye contact	: 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, 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 Barcoding Primer Cassettes 1-48	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.

Section 4. First aid measures

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.

HaloPlex 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 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.

Ligation Solution

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

Wash Solution

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

Section 4. First aid measures

	such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Capture Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
HaloPlex ION Primer 1	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
HaloPlex ION Primer 2	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
HaloPlex Barcoding Primer Cassettes 1-48	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Hybridization Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Enrichment Control DNA	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
HaloPlex Magnetic Beads	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
HaloPlex Probe	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

Section 4. First aid measures

Skin contact

: RE Buffer

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.

SSC Buffer

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

BSA Solution

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

DNA Ligase

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

Ligation Solution

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Wash Solution

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

Capture Solution

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

HaloPlex ION Primer 1

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

HaloPlex ION Primer 2

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

HaloPlex Barcoding Primer
Cassettes 1-48

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

Hybridization Solution

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

Enrichment Control DNA

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

HaloPlex Magnetic Beads

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

HaloPlex 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.

Section 4. First aid measures

Ingestion

Enzyme Strip 2	<p>Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.</p> <p>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.</p>
: RE Buffer	<p>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.</p>
SSC Buffer	<p>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.</p>
BSA Solution	<p>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.</p>
DNA Ligase	<p>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.</p>
Ligation Solution	<p>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.</p>
Wash Solution	<p>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</p>

Section 4. First aid measures

	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 Barcoding Primer Cassettes 1-48	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Hybridization Solution	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Enrichment Control DNA	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

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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.
HaloPlex 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 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.

4.2 Most important symptoms/effects, acute and delayed

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.

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	HaloPlex Barcoding Primer Cassettes 1-48	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.
	HaloPlex Probe	No known significant effects or critical hazards.
	Enzyme Strip 1	Causes eye irritation.
	Enzyme Strip 2	Causes eye irritation.
Inhalation	: RE Buffer	No known significant effects or critical hazards.
	SSC Buffer	No known significant effects or critical hazards.
	BSA Solution	No known significant effects or critical hazards.
	DNA Ligase	No known significant effects or critical hazards.
	Ligation Solution	No known significant effects or critical hazards.
	Wash Solution	No known significant effects or critical hazards.
	Capture Solution	No known significant effects or critical hazards.
	HaloPlex ION Primer 1	No known significant effects or critical hazards.
	HaloPlex ION Primer 2	No known significant effects or critical hazards.
	HaloPlex Barcoding Primer Cassettes 1-48	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.
	HaloPlex 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.
Skin 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	No known significant effects or critical hazards.
	Ligation Solution	No known significant effects or critical hazards.
	Wash Solution	No known significant effects or critical hazards.
	Capture Solution	No known significant effects or critical hazards.
	HaloPlex ION Primer 1	No known significant effects or critical hazards.
	HaloPlex ION Primer 2	No known significant effects or critical hazards.
	HaloPlex Barcoding Primer Cassettes 1-48	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.
	HaloPlex 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.
Ingestion	: RE Buffer	No known significant effects or critical hazards.
	SSC Buffer	No known significant effects or critical hazards.
	BSA Solution	No known significant effects or critical hazards.
	DNA Ligase	No known significant effects or critical hazards.
	Ligation Solution	No known significant effects or critical hazards.
	Wash Solution	No known significant effects or critical hazards.
	Capture Solution	No known significant effects or critical hazards.
	HaloPlex ION Primer 1	No known significant effects or critical hazards.
	HaloPlex ION Primer 2	No known significant effects or critical hazards.
	HaloPlex Barcoding Primer Cassettes 1-48	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.
	HaloPlex Probe	No known significant effects or critical hazards.
	Enzyme Strip 1	No known significant effects or critical hazards.

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	Enzyme Strip 2	No known significant effects or critical hazards.
Over-exposure signs/symptoms		
Eye contact	: <input checked="" type="checkbox"/> E 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 Barcoding Primer Cassettes 1-48	No specific data.
Hybridization Solution	Adverse symptoms may include the following: pain or irritation watering redness	
Inhalation	Enrichment Control DNA	No specific data.
	HaloPlex Magnetic Beads	No specific data.
	HaloPlex 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
	: <input checked="" type="checkbox"/> E 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 Barcoding Primer Cassettes 1-48	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.	
HaloPlex Probe	No specific data.	
Enzyme Strip 1	No specific data.	
Enzyme Strip 2	No specific data.	

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Skin contact

<ul style="list-style-type: none"> ☑ RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution 	<ul style="list-style-type: none"> No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. Adverse symptoms may include the following: <ul style="list-style-type: none"> reduced fetal weight increase in fetal deaths skeletal malformations
<ul style="list-style-type: none"> Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-48 Hybridization Solution 	<ul style="list-style-type: none"> No specific data. No specific data. No specific data. No specific data. Adverse symptoms may include the following: <ul style="list-style-type: none"> reduced fetal weight increase in fetal deaths skeletal malformations
<ul style="list-style-type: none"> Enrichment Control DNA HaloPlex Magnetic Beads HaloPlex Probe Enzyme Strip 1 Enzyme Strip 2 	<ul style="list-style-type: none"> No specific data. No specific data. No specific data. No specific data. No specific data.

Ingestion

<ul style="list-style-type: none"> ☑ RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution 	<ul style="list-style-type: none"> No specific data. No specific data. No specific data. No specific data. No specific data. Adverse symptoms may include the following: <ul style="list-style-type: none"> reduced fetal weight increase in fetal deaths skeletal malformations
<ul style="list-style-type: none"> Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-48 Hybridization Solution 	<ul style="list-style-type: none"> No specific data. No specific data. No specific data. No specific data. Adverse symptoms may include the following: <ul style="list-style-type: none"> reduced fetal weight increase in fetal deaths skeletal malformations
<ul style="list-style-type: none"> Enrichment Control DNA HaloPlex Magnetic Beads HaloPlex Probe Enzyme Strip 1 Enzyme Strip 2 	<ul style="list-style-type: none"> No specific data. No specific data. No specific data. No specific data. No specific data.

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


Notes to physician

<ul style="list-style-type: none"> ☑ RE Buffer 	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<ul style="list-style-type: none"> SSC Buffer 	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<ul style="list-style-type: none"> BSA Solution 	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<ul style="list-style-type: none"> DNA Ligase 	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

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Ligation Solution	specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Wash Solution	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Capture Solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
HaloPlex ION Primer 1	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
HaloPlex ION Primer 2	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
HaloPlex Barcoding Primer Cassettes 1-48	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.
HaloPlex 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 ingested or inhaled.
Enzyme Strip 2	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	
: RE Buffer	No specific treatment.
SSC Buffer	No specific treatment.
BSA Solution	No specific treatment.
DNA Ligase	No specific treatment.
Ligation Solution	No specific treatment.
Wash Solution	No specific treatment.
Capture Solution	No specific treatment.
HaloPlex ION Primer 1	No specific treatment.
HaloPlex ION Primer 2	No specific treatment.
HaloPlex Barcoding Primer Cassettes 1-48	No specific treatment.
Hybridization Solution	No specific treatment.
Enrichment Control DNA	No specific treatment.
HaloPlex Magnetic Beads	No specific treatment.
HaloPlex Probe	No specific treatment.
Enzyme Strip 1	No specific treatment.
Enzyme Strip 2	No specific treatment.

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Protection of first-aiders	:  E 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 Barcoding Primer Cassettes 1-48	No action shall be taken involving any personal risk or without suitable training.
	Hybridization Solution	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
	Enrichment Control DNA	No action shall be taken involving any personal risk or without suitable training.
	HaloPlex Magnetic Beads	No action shall be taken involving any personal risk or without suitable training.
	HaloPlex 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 Barcoding Primer Cassettes 1-48	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.
	HaloPlex 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.
	HaloPlex ION Primer 2	None known.
	HaloPlex Barcoding Primer Cassettes 1-48	None known.
	Hybridization Solution	None known.
	Enrichment Control DNA	None known.
	HaloPlex Magnetic Beads	None known.
	HaloPlex Probe	None known.
	Enzyme Strip 1	None known.
	Enzyme Strip 2	None known.

5.2 Special hazards arising from the substance or mixture

Section 5. Fire-fighting measures

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 Barcoding Primer Cassettes 1-48	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.
	HaloPlex 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	No specific data.
	SSC Buffer	No specific data.
	BSA Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	DNA Ligase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	Ligation Solution	No specific data.
	Wash Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
	Capture Solution	Decomposition products may include the following materials: halogenated compounds metal oxide/oxides
	HaloPlex ION Primer 1	No specific data.
	HaloPlex ION Primer 2	No specific data.
	HaloPlex Barcoding Primer Cassettes 1-48	No specific data.
	Hybridization Solution	Decomposition products may include the following

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Enrichment Control DNA	materials: carbon dioxide
HaloPlex Magnetic Beads	carbon monoxide
HaloPlex Probe	nitrogen oxides
Enzyme Strip 1	halogenated compounds metal oxide/oxides 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.
Capture Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
HaloPlex ION Primer 1	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
HaloPlex ION Primer 2	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
HaloPlex Barcoding Primer Cassettes 1-48	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

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Hybridization Solution		without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
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.
HaloPlex 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.
Special protective equipment for fire-fighters	: 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 pressure mode.
	Wash Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Capture Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	HaloPlex ION Primer 1	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	HaloPlex ION Primer 2	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus

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HaloPlex Barcoding Primer Cassettes 1-48	(SCBA) with a full face-piece operated in positive pressure mode. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
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.
HaloPlex 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

: E 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 touch or walk through spilled material. Put on appropriate personal protective equipment.

BSA Solution

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

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Ligation Solution	ventilation is inadequate. 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.
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 Barcoding Primer Cassettes 1-48	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 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.
Enrichment Control DNA	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. 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


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	HaloPlex Probe	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>For emergency responders :  RE Buffer</p>		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.
	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 spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Wash Solution	If 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".

Section 6. Accidental release measures

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 Barcoding Primer Cassettes 1-48	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".
HaloPlex 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

:  E 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 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

Section 6. Accidental release measures

Capture Solution	<p>contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</p> <p>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).</p>
HaloPlex ION Primer 1	<p>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).</p>
HaloPlex ION Primer 2	<p>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).</p>
HaloPlex Barcoding Primer Cassettes 1-48	<p>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).</p>
Hybridization Solution	<p>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).</p>
Enrichment Control DNA	<p>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).</p>
HaloPlex Magnetic Beads	<p>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).</p>
HaloPlex Probe	<p>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).</p>
Enzyme Strip 1	<p>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).</p>
Enzyme Strip 2	<p>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).</p>

6.3 Methods and materials for containment and cleaning up

Section 6. Accidental release measures

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. Dispose of via a licensed waste disposal contractor.
HaloPlex ION Primer 2	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
HaloPlex Barcoding Primer Cassettes 1-48	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

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Hybridization Solution	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.
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.
HaloPlex 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

Protective measures	:	RE Buffer	Put on appropriate personal protective equipment (see Section 8).
		SSC Buffer	Put on appropriate personal protective equipment (see Section 8).
		BSA Solution	Put on appropriate personal protective equipment (see Section 8).
		DNA Ligase	Put on appropriate personal protective equipment (see Section 8). 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

Section 7. Handling and storage

	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 Barcoding Primer Cassettes 1-48	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).
HaloPlex Probe	Put on appropriate personal protective equipment (see Section 8).
Enzyme Strip 1	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 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.

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Advice on general occupational hygiene

: RE Buffer

SSC Buffer

BSA Solution

DNA Ligase

Ligation Solution

Wash Solution

Capture Solution

HaloPlex ION Primer 1

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.

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.

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

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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.

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

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HaloPlex Barcoding Primer Cassettes 1-48	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.
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.
HaloPlex 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 before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Enzyme Strip 2	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

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 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.

Wash Solution

Store in accordance with local regulations. Store in original container protected from direct sunlight in a

Section 7. Handling and storage

	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.
Capture Solution	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to 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.
HaloPlex ION Primer 1	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.
HaloPlex ION Primer 2	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
HaloPlex Barcoding Primer Cassettes 1-48	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.
Hybridization Solution	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly

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	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.
Enrichment Control DNA	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
HaloPlex Magnetic Beads	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.
HaloPlex Probe	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.
Enzyme Strip 1	Storage temperature: -20°C (-4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
Enzyme Strip 2	Storage temperature: -20°C (-4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food

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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.

7.3 Specific end use(s)

Recommendations

: RE Buffer	Industrial applications, Professional applications.
SSC Buffer	Industrial applications, Professional applications.
BSA Solution	Industrial applications, Professional applications.
DNA Ligase	Industrial applications, Professional applications.
Ligation Solution	Industrial applications, Professional applications.
Wash Solution	Industrial applications, Professional applications.
Capture Solution	Industrial applications, Professional applications.
HaloPlex ION Primer 1	Industrial applications, Professional applications.
HaloPlex ION Primer 2	Industrial applications, Professional applications.
HaloPlex Barcoding Primer	Industrial applications, Professional applications.
Cassettes 1-48	
Hybridization Solution	Industrial applications, Professional applications.
Enrichment Control DNA	Industrial applications, Professional applications.
HaloPlex Magnetic Beads	Industrial applications, Professional applications.
HaloPlex Probe	Industrial applications, Professional applications.
Enzyme Strip 1	Industrial applications, Professional applications.
Enzyme Strip 2	Industrial applications, Professional applications.

Industrial sector specific solutions

: RE Buffer	Not applicable.
SSC Buffer	Not applicable.
BSA Solution	Not applicable.
DNA Ligase	Not applicable.
Ligation Solution	Not applicable.
Wash Solution	Not applicable.
Capture Solution	Not applicable.
HaloPlex ION Primer 1	Not applicable.
HaloPlex ION Primer 2	Not applicable.
HaloPlex Barcoding Primer	Not applicable.
Cassettes 1-48	
Hybridization Solution	Not applicable.
Enrichment Control DNA	Not applicable.
HaloPlex Magnetic Beads	Not applicable.
HaloPlex Probe	Not applicable.
Enzyme Strip 1	Not applicable.
Enzyme Strip 2	Not applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
BSA Solution Glycerol	<p>OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction</p> <p>TWA: 10 mg/m³ 8 hours. Form: Total dust</p> <p>OSHA PEL (United States, 6/2016). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction</p>

Section 8. Exposure controls/personal protection

DNA Ligase
Glycerol

TWA: 15 mg/m³ 8 hours. Form: Total dust

OSHA PEL 1989 (United States, 3/1989).

TWA: 5 mg/m³ 8 hours. Form: Respirable fraction

TWA: 10 mg/m³ 8 hours. Form: Total dust

OSHA PEL (United States, 6/2016).

TWA: 5 mg/m³ 8 hours. Form: Respirable fraction

TWA: 15 mg/m³ 8 hours. Form: Total dust

Wash Solution
Formamide

ACGIH TLV (United States, 3/2017).

Absorbed through skin.

TWA: 10 ppm 8 hours.

TWA: 18 mg/m³ 8 hours.

OSHA PEL 1989 (United States, 3/1989).

TWA: 20 ppm 8 hours.

TWA: 30 mg/m³ 8 hours.

STEL: 30 ppm 15 minutes.

STEL: 45 mg/m³ 15 minutes.

NIOSH REL (United States, 10/2016).

Absorbed through skin.

TWA: 10 ppm 10 hours.

TWA: 15 mg/m³ 10 hours.

None.

Sodium chloride

Capture Solution
Sodium chloride

None.

Hybridization Solution
Formamide

ACGIH TLV (United States, 3/2017).

Absorbed through skin.

TWA: 10 ppm 8 hours.

TWA: 18 mg/m³ 8 hours.

OSHA PEL 1989 (United States, 3/1989).

TWA: 20 ppm 8 hours.

TWA: 30 mg/m³ 8 hours.

STEL: 30 ppm 15 minutes.

STEL: 45 mg/m³ 15 minutes.

NIOSH REL (United States, 10/2016).

Absorbed through skin.

TWA: 10 ppm 10 hours.

TWA: 15 mg/m³ 10 hours.

None.

Sodium chloride

Enzyme Strip 1
Glycerol

OSHA PEL 1989 (United States, 3/1989).

TWA: 5 mg/m³ 8 hours. Form: Respirable fraction

TWA: 10 mg/m³ 8 hours. Form: Total dust

OSHA PEL (United States, 6/2016).

TWA: 5 mg/m³ 8 hours. Form: Respirable fraction

TWA: 15 mg/m³ 8 hours. Form: Total dust

Section 8. Exposure controls/personal protection

Enzyme Strip 2 Glycerol	OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 10 mg/m ³ 8 hours. Form: Total dust OSHA PEL (United States, 6/2016). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 15 mg/m ³ 8 hours. Form: Total dust
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8.2 Exposure controls

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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

Individual protection measures

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

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

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

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

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

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

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	:	RE Buffer	Liquid.
		SSC Buffer	Liquid.
		BSA Solution	Liquid. [Clear.]
		DNA Ligase	Liquid.
		Ligation Solution	Liquid.
		Wash Solution	Liquid.
		Capture Solution	Liquid.
		HaloPlex ION Primer 1	Liquid.
		HaloPlex ION Primer 2	Liquid.
		HaloPlex Barcoding Primer	Liquid.
		Cassettes 1-48	
		Hybridization Solution	Liquid.
		Enrichment Control DNA	Liquid.
		HaloPlex Magnetic Beads	Liquid. [aqueous suspensions]
		HaloPlex Probe	Liquid.
		Enzyme Strip 1	Liquid.
		Enzyme Strip 2	Liquid.
Color	:	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 Barcoding Primer	Not available.
		Cassettes 1-48	
		Hybridization Solution	Not available.
		Enrichment Control DNA	Not available.
		HaloPlex Magnetic Beads	Brown.
		HaloPlex Probe	Not available.
		Enzyme Strip 1	Not available.
		Enzyme Strip 2	Not available.
Odor	:	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 Barcoding Primer	Not available.
		Cassettes 1-48	
		Hybridization Solution	Not available.
		Enrichment Control DNA	Not available.
		HaloPlex Magnetic Beads	Not available.
		HaloPlex Probe	Not available.
		Enzyme Strip 1	Not available.
		Enzyme Strip 2	Not available.

Section 9. Physical and chemical properties

Odor threshold	:	<input checked="" type="checkbox"/> RE Buffer	Not available.
		SSC Buffer	Not available.
		BSA Solution	Not available.
		DNA Ligase	Not available.
		Ligation Solution	Not available.
		Wash Solution	Not available.
		Capture Solution	Not available.
		HaloPlex ION Primer 1	Not available.
		HaloPlex ION Primer 2	Not available.
		HaloPlex Barcoding Primer Cassettes 1-48	Not available.
		Hybridization Solution	Not available.
		Enrichment Control DNA	Not available.
		HaloPlex Magnetic Beads	Not available.
		HaloPlex Probe	Not available.
		Enzyme Strip 1	Not available.
		Enzyme Strip 2	Not available.
pH	:	RE Buffer	7.9
		SSC Buffer	Not available.
		BSA Solution	Not available.
		DNA Ligase	7.4
		Ligation Solution	Not available.
		Wash Solution	7.5
		Capture Solution	Not available.
		HaloPlex ION Primer 1	Not available.
		HaloPlex ION Primer 2	Not available.
		HaloPlex Barcoding Primer Cassette 1-96	Not available.
		Hybridization Solution	7.5
		Enrichment Control DNA	Not available.
		HaloPlex Magnetic Beads	Not available.
		HaloPlex Probe	Not available.
		Enzyme Strip 1 - well A, B, C, D, E, G, H	Not available.
		Enzyme Strip 1 - well F	Not available.
	Enzyme Strip 2 - well A, B, C, D, E, F, H	Not available.	
	Enzyme Strip 2 - well G	Not available.	
Melting point	:	<input checked="" type="checkbox"/> RE Buffer	0°C (32°F)
		SSC Buffer	0°C (32°F)
		BSA Solution	20°C (68°F)
		DNA Ligase	Not available.
		Ligation Solution	0°C (32°F)
		Wash Solution	Not available.
		Capture Solution	Not available.
		HaloPlex ION Primer 1	0°C (32°F)
		HaloPlex ION Primer 2	0°C (32°F)
		HaloPlex Barcoding Primer Cassettes 1-48	0°C (32°F)
		Hybridization Solution	Not available.
		Enrichment Control DNA	0°C (32°F)
		HaloPlex Magnetic Beads	~0°C (32°F)
		HaloPlex Probe	0°C (32°F)
		Enzyme Strip 1	Not available.
		Enzyme Strip 2	Not available.

Section 9. Physical and chemical properties

Boiling point	:	RE Buffer	100°C (212°F)
		SSC Buffer	100°C (212°F)
		BSA Solution	182°C (359.6°F)
		DNA Ligase	Not available.
		Ligation Solution	100°C (212°F)
		Wash Solution	Not available.
		Capture Solution	Not available.
		HaloPlex ION Primer 1	100°C (212°F)
		HaloPlex ION Primer 2	100°C (212°F)
		HaloPlex Barcoding Primer	100°C (212°F)
		Cassettes 1-48	
		Hybridization Solution	Not available.
		Enrichment Control DNA	100°C (212°F)
		HaloPlex Magnetic Beads	100°C (212°F)
		HaloPlex Probe	100°C (212°F)
		Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.	
Flash point	:	RE Buffer	Not available.
		SSC Buffer	Not available.
		BSA Solution	Closed cup: 160°C (320°F)
		DNA Ligase	Not available.
		Ligation Solution	Not available.
		Wash Solution	Not available.
		Capture Solution	Not available.
		HaloPlex ION Primer 1	Not available.
		HaloPlex ION Primer 2	Not available.
		HaloPlex Barcoding Primer	Not available.
		Cassettes 1-48	
		Hybridization Solution	Not available.
		Enrichment Control DNA	Not available.
		HaloPlex Magnetic Beads	Not available.
		HaloPlex Probe	Not available.
		Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.	
Evaporation rate	:	RE Buffer	Not available.
		SSC Buffer	Not available.
		BSA Solution	Not available.
		DNA Ligase	Not available.
		Ligation Solution	Not available.
		Wash Solution	Not available.
		Capture Solution	Not available.
		HaloPlex ION Primer 1	Not available.
		HaloPlex ION Primer 2	Not available.
		HaloPlex Barcoding Primer	Not available.
		Cassettes 1-48	
		Hybridization Solution	Not available.
		Enrichment Control DNA	Not available.
		HaloPlex Magnetic Beads	Not available.
		HaloPlex Probe	Not available.
		Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.	

Section 9. Physical and chemical properties

Flammability (solid, gas)	<input checked="" type="checkbox"/> RE Buffer	Not applicable.
	SSC Buffer	Not applicable.
	BSA Solution	Not applicable.
	DNA Ligase	Not applicable.
	Ligation Solution	Not applicable.
	Wash Solution	Not applicable.
	Capture Solution	Not applicable.
	HaloPlex ION Primer 1	Not applicable.
	HaloPlex ION Primer 2	Not applicable.
	HaloPlex Barcoding Primer Cassettes 1-48	Not applicable.
	Hybridization Solution	Not applicable.
	Enrichment Control DNA	Not applicable.
	HaloPlex Magnetic Beads	Not applicable.
	HaloPlex Probe	Not applicable.
Enzyme Strip 1	Not applicable.	
Enzyme Strip 2	Not applicable.	
Lower and upper explosive (flammable) limits	<input checked="" type="checkbox"/> RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Not available.
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer Cassettes 1-48	Not available.
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	Not available.
	HaloPlex Probe	Not available.
Enzyme Strip 1	Not available.	
Enzyme Strip 2	Not available.	
Vapor pressure	<input checked="" type="checkbox"/> RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	<0.13 kPa (<1 mm Hg) [room temperature]
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer Cassettes 1-48	Not available.
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	2.3 kPa (17.5 mm Hg) [room temperature]
	HaloPlex Probe	Not available.
Enzyme Strip 1	<0.13 kPa (<1 mm Hg) [room temperature]	
Enzyme Strip 2	<0.13 kPa (<1 mm Hg) [room temperature]	
Vapor density	<input checked="" type="checkbox"/> 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.

Section 9. Physical and chemical properties

	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer Cassettes 1-48	Not available.
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	0.624 [Air = 1]
	HaloPlex Probe	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
Relative density	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	1.262
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer Cassettes 1-48	Not available.
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	1.4 to 1.5
	HaloPlex Probe	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
Solubility	: RE Buffer	Easily soluble in the following materials: cold water and hot water.
	SSC Buffer	Easily soluble in the following materials: cold water and hot water.
	BSA Solution	Soluble in the following materials: cold water and hot water.
	DNA Ligase	Easily soluble in the following materials: cold water and hot water.
	Ligation Solution	Easily soluble in the following materials: cold water and hot water.
	Wash Solution	Soluble in the following materials: cold water and hot water.
	Capture Solution	Easily soluble in the following materials: cold water and hot water.
	HaloPlex ION Primer 1	Easily soluble in the following materials: cold water and hot water.
	HaloPlex ION Primer 2	Easily soluble in the following materials: cold water and hot water.
	HaloPlex Barcoding Primer Cassettes 1-48	Easily soluble in the following materials: cold water and hot water.
	Hybridization Solution	Soluble in the following materials: cold water and hot water.
	Enrichment Control DNA	Easily soluble in the following materials: cold water and hot water.
	HaloPlex Magnetic Beads	Easily soluble in the following materials: cold water and hot water.
	HaloPlex 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.

Section 9. Physical and chemical properties

Partition coefficient: n-octanol/water	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Not available.
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer Cassettes 1-48	Not available.
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	Not available.
	HaloPlex Probe	Not available.
	Enzyme Strip 1	Not available.
Enzyme Strip 2	Not available.	
Auto-ignition temperature	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	370°C (698°F)
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer Cassettes 1-48	Not available.
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	Not available.
	HaloPlex Probe	Not available.
	Enzyme Strip 1	370°C (698°F)
Enzyme Strip 2	370°C (698°F)	
Decomposition temperature	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Not available.
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer Cassettes 1-48	Not available.
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	Not available.
	HaloPlex Probe	Not available.
	Enzyme Strip 1	Not available.
Enzyme Strip 2	Not available.	

Section 9. Physical and chemical properties

Viscosity	: <input checked="" type="checkbox"/> RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Not available.
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex Barcoding Primer	Not available.
	Cassettes 1-48	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	Not available.
	HaloPlex Probe	Not available.
Enzyme Strip 1	Not available.	
Enzyme Strip 2	Not available.	

Section 10. Stability and reactivity

10.1 Reactivity	: <input checked="" type="checkbox"/> RE Buffer	No specific test data related to reactivity available for this product or its ingredients.
	SSC Buffer	No specific test data related to reactivity available for this product or its ingredients.
	BSA Solution	No specific test data related to reactivity available for this product or its ingredients.
	DNA Ligase	No specific test data related to reactivity available for this product or its ingredients.
	Ligation Solution	No specific test data related to reactivity available for this product or its ingredients.
	Wash Solution	No specific test data related to reactivity available for this product or its ingredients.
	Capture Solution	No specific test data related to reactivity available for this product or its ingredients.
	HaloPlex ION Primer 1	No specific test data related to reactivity available for this product or its ingredients.
	HaloPlex ION Primer 2	No specific test data related to reactivity available for this product or its ingredients.
	HaloPlex Barcoding Primer	No specific test data related to reactivity available for this product or its ingredients.
	Cassettes 1-48	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.
	HaloPlex 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.	

Section 10. Stability and reactivity

10.2 Chemical stability	:  RE Buffer	The product is stable.	
		SSC Buffer	The product is stable.
		BSA Solution	The product is stable.
		DNA Ligase	The product is stable.
		Ligation Solution	The product is stable.
		Wash Solution	The product is stable.
		Capture Solution	The product is stable.
		HaloPlex ION Primer 1	The product is stable.
		HaloPlex ION Primer 2	The product is stable.
		HaloPlex Barcoding Primer Cassettes 1-48	The product is stable.
		Hybridization Solution	The product is stable.
		Enrichment Control DNA	The product is stable.
		HaloPlex Magnetic Beads	The product is stable.
		HaloPlex Probe	The product is stable.
Enzyme Strip 1	The product is stable.		
Enzyme Strip 2	The product is stable.		
10.3 Possibility of hazardous reactions	:  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 Barcoding Primer Cassettes 1-48	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.
		HaloPlex 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.		
10.4 Conditions to avoid	:  RE Buffer	No specific data.	
		SSC Buffer	No specific data.
		BSA Solution	No specific data.
		DNA Ligase	No specific data.
		Ligation Solution	No specific data.
		Wash Solution	No specific data.
		Capture Solution	No specific data.

Section 10. Stability and reactivity

HaloPlex ION Primer 1	No specific data.
HaloPlex ION Primer 2	No specific data.
HaloPlex Barcoding Primer Cassettes 1-48	No specific data.
Hybridization Solution	No specific data.
Enrichment Control DNA	No specific data.
HaloPlex Magnetic Beads	No specific data.
HaloPlex Probe	No specific data.
Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.

10.5 Incompatible materials :	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.
	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 Barcoding Primer Cassettes 1-48	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.
	HaloPlex 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.

Section 10. Stability and reactivity

Wash Solution	produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Capture Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
HaloPlex ION Primer 1	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
HaloPlex ION Primer 2	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
HaloPlex Barcoding Primer Cassettes 1-48	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hybridization Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Enrichment Control DNA	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
HaloPlex Magnetic Beads	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
HaloPlex 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
BSA Solution Glycerol	LD50 Oral	Rat	12600 mg/kg	-
DNA Ligase Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Wash Solution Formamide	LC50 Inhalation Dusts and mists LD50 Dermal	Rat Rabbit	>21 mg/l 17 g/kg	4 hours -
Sodium chloride	LD50 Oral	Rat	4000 mg/kg	-
	LD50 Oral	Rat	3000 mg/kg	-
Capture Solution Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
Hybridization Solution Formamide	LC50 Inhalation Dusts and mists LD50 Dermal	Rat Rabbit	>21 mg/l 17 g/kg	4 hours -

Section 11. Toxicological information

Sodium chloride	LD50 Oral	Rat	4000 mg/kg	-
	LD50 Oral	Rat	3000 mg/kg	-
Enzyme Strip 1 Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Enzyme Strip 2 Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Irritation/Corrosion

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

Section 11. Toxicological information

				milligrams	
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Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : 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

<ul style="list-style-type: none"> <input checked="" type="checkbox"/> RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-48 Hybridization Solution Enrichment Control DNA HaloPlex Magnetic Beads HaloPlex Probe Enzyme Strip 1 Enzyme Strip 2 	<ul style="list-style-type: none"> Not available. Not available. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available. Not available. Not available. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available. Not available. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Routes of entry anticipated: Oral, Dermal, Inhalation.
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Potential acute health effects

Eye contact

<ul style="list-style-type: none"> <input checked="" type="checkbox"/> RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer 	<ul style="list-style-type: none"> No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. Causes eye irritation. No known significant effects or critical hazards. Causes serious eye irritation. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
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Section 11. Toxicological information

	Cassettes 1-48		
	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.
	HaloPlex Probe		No known significant effects or critical hazards.
	Enzyme Strip 1		Causes eye irritation.
	Enzyme Strip 2		Causes eye irritation.
Inhalation	: RE Buffer		No known significant effects or critical hazards.
	SSC Buffer		No known significant effects or critical hazards.
	BSA Solution		No known significant effects or critical hazards.
	DNA Ligase		No known significant effects or critical hazards.
	Ligation Solution		No known significant effects or critical hazards.
	Wash Solution		No known significant effects or critical hazards.
	Capture Solution		No known significant effects or critical hazards.
	HaloPlex ION Primer 1		No known significant effects or critical hazards.
	HaloPlex ION Primer 2		No known significant effects or critical hazards.
	HaloPlex Barcoding Primer		No known significant effects or critical hazards.
	Cassettes 1-48		
	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.
	HaloPlex 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.
Skin 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		No known significant effects or critical hazards.
	Ligation Solution		No known significant effects or critical hazards.
	Wash Solution		No known significant effects or critical hazards.
	Capture Solution		No known significant effects or critical hazards.
	HaloPlex ION Primer 1		No known significant effects or critical hazards.
	HaloPlex ION Primer 2		No known significant effects or critical hazards.
	HaloPlex Barcoding Primer		No known significant effects or critical hazards.
	Cassettes 1-48		
	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.
	HaloPlex 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.
Ingestion	: RE Buffer		No known significant effects or critical hazards.
	SSC Buffer		No known significant effects or critical hazards.
	BSA Solution		No known significant effects or critical hazards.
	DNA Ligase		No known significant effects or critical hazards.
	Ligation Solution		No known significant effects or critical hazards.
	Wash Solution		No known significant effects or critical hazards.
	Capture Solution		No known significant effects or critical hazards.
	HaloPlex ION Primer 1		No known significant effects or critical hazards.
	HaloPlex ION Primer 2		No known significant effects or critical hazards.
	HaloPlex Barcoding Primer		No known significant effects or critical hazards.
	Cassettes 1-48		
	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.
	HaloPlex 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

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

<input checked="" type="checkbox"/> RE Buffer SSC Buffer BSA Solution DNA Ligase	No specific data. No specific data. No specific data. Adverse symptoms may include the following: irritation watering redness
Ligation Solution Wash Solution	No specific data. Adverse symptoms may include the following: pain or irritation watering redness
Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-48 Hybridization Solution	No specific data. No specific data. No specific data. No specific data. Adverse symptoms may include the following: pain or irritation watering redness
Enrichment Control DNA HaloPlex Magnetic Beads HaloPlex Probe Enzyme Strip 1	No specific data. No specific data. No specific data. Adverse symptoms may include the following: irritation watering redness
Enzyme Strip 2	Adverse symptoms may include the following: irritation watering redness

Inhalation

<input checked="" type="checkbox"/> RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution	No specific data. No specific data. No specific data. No specific data. No specific data. Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-48 Hybridization Solution	No specific data. No specific data. No specific data. No specific data. Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
Enrichment Control DNA HaloPlex Magnetic Beads HaloPlex Probe Enzyme Strip 1 Enzyme Strip 2	No specific data. No specific data. No specific data. No specific data. No specific data.

Section 11. Toxicological information

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 Barcoding Primer	No specific data.
		Cassettes 1-48	
		Hybridization Solution	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
Ingestion		Enrichment Control DNA	No specific data.
		HaloPlex Magnetic Beads	No specific data.
		HaloPlex Probe	No specific data.
		Enzyme Strip 1	No specific data.
		Enzyme Strip 2	No specific data.
	:	RE Buffer	No specific data.
		SSC Buffer	No specific data.
		BSA Solution	No specific data.
		DNA Ligase	No specific data.
		Ligation Solution	No specific data.
		Wash Solution	Adverse symptoms may include the following: reduced 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 Barcoding Primer	No specific data.	
	Cassettes 1-48		
	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.	
	HaloPlex 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 Barcoding Primer	No known significant effects or critical hazards.
Cassettes 1-48	
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.
HaloPlex 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 Barcoding Primer	No known significant effects or critical hazards.
Cassettes 1-48	
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.
HaloPlex 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 Barcoding Primer	No known significant effects or critical hazards.
Cassettes 1-48	
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.
HaloPlex 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

Teratogenicity	<ul style="list-style-type: none"> : RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-48 Hybridization Solution Enrichment Control DNA HaloPlex Magnetic Beads HaloPlex Probe Enzyme Strip 1 Enzyme Strip 2 	<ul style="list-style-type: none"> 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. 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.
Developmental effects	<ul style="list-style-type: none"> : RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-48 Hybridization Solution Enrichment Control DNA HaloPlex Magnetic Beads HaloPlex Probe Enzyme Strip 1 Enzyme Strip 2 	<ul style="list-style-type: none"> No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Fertility effects	<ul style="list-style-type: none"> : RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-48 Hybridization Solution Enrichment Control DNA HaloPlex Magnetic Beads HaloPlex Probe Enzyme Strip 1 Enzyme Strip 2 	<ul style="list-style-type: none"> No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Route	ATE value
Wash Solution Oral	14453.4 mg/kg
Capture Solution Oral	51832.8 mg/kg
Hybridization Solution Oral	8119.1 mg/kg

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
BSA Solution Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
DNA Ligase Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Wash Solution 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 EC50 402600 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 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
	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
Capture Solution 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 EC50 402600 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 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
	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
Hybridization Solution 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 EC50 402600 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours

Section 12. Ecological information

Enzyme Strip 1 Glycerol	Acute LC50 1000000 µg/l Fresh water Chronic LC10 781 mg/l Fresh water	Fish - Morone saxatilis - Larvae Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	96 hours 3 weeks
	Chronic NOEC 6 g/L Fresh water Chronic NOEC 0.314 g/L Fresh water Chronic NOEC 100 mg/l Fresh water	Aquatic plants - Lemna minor Daphnia - Daphnia pulex Fish - Gambusia holbrooki - Adult	96 hours 21 days 8 weeks
Enzyme Strip 2 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

Product/ingredient name	Test	Result	Dose	Inoculum
BSA Solution Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
DNA Ligase Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
Enzyme Strip 1 Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
Enzyme Strip 2 Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
BSA Solution Glycerol	-1.76	-	low
DNA Ligase Glycerol	-1.76	-	low
Wash Solution Formamide	-0.82	-	low
Hybridization Solution Formamide	-0.82	-	low
Enzyme Strip 1			

Section 12. Ecological information

Glycerol	-1.76	-	low
Enzyme Strip 2 Glycerol	-1.76	-	low

12.4 Mobility in soil

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

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

Section 13. Disposal considerations

13.1 Waste treatment methods

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

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)
HaloPlex Magnetic Beads Sodium azide	≤0.1	Yes.	500	-	1000	-

SARA 304 RQ : 32000000 lbs / 14528000 kg

SARA 311/312

Classification	<ul style="list-style-type: none"> ☑E Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex Barcoding Primer Cassettes 1-48 Hybridization Solution Enrichment Control DNA HaloPlex Magnetic Beads HaloPlex Probe Enzyme Strip 1 Enzyme Strip 2 	<ul style="list-style-type: none"> Not applicable. Not applicable. Not applicable. EYE IRRITATION - Category 2B Not applicable. EYE IRRITATION - Category 2A TOXIC TO REPRODUCTION (Unborn child) - Category 1B Not applicable. Not applicable. Not applicable. Not applicable. EYE IRRITATION - Category 2A TOXIC TO REPRODUCTION (Unborn child) - Category 1B Not applicable. Not applicable. Not applicable. EYE IRRITATION - Category 2B EYE IRRITATION - Category 2B
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Composition/information on ingredients

Section 15. Regulatory information

Name	%	Classification
BSA Solution Glycerol	<10	EYE IRRITATION - Category 2A
DNA Ligase Glycerol	≥50 - ≤75	EYE IRRITATION - Category 2A
Wash Solution Formamide	≥10 - ≤25	EYE IRRITATION - Category 2A TOXIC TO REPRODUCTION (Unborn child) - Category 1B
Sodium chloride	≤10	EYE IRRITATION - Category 2A
Capture Solution Sodium chloride	<10	EYE IRRITATION - Category 2A
Hybridization Solution Formamide	≥25 - ≤50	EYE IRRITATION - Category 2A TOXIC TO REPRODUCTION (Unborn child) - Category 1B
Sodium chloride	≥10 - ≤25	EYE IRRITATION - Category 2A
Enzyme Strip 1 Glycerol	≥50 - ≤75	EYE IRRITATION - Category 2A
Enzyme Strip 2 Glycerol	≥50 - ≤75	EYE IRRITATION - Category 2A

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

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.

Section 15. Regulatory information

Malaysia	: Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: Not determined.
Thailand	: <input checked="" type="checkbox"/> Not determined.
Turkey	: Not determined.
United States	: Not determined.
Viet Nam	: <input checked="" type="checkbox"/> Not determined.

Section 16. Other information

History

Date of issue	: 02/14/2018
Date of previous issue	: 04/29/2016
Version	: 3

Procedure used to derive the classification

Classification	Justification
DNA Ligase EYE IRRITATION - Category 2B	Calculation method
Wash Solution EYE IRRITATION - Category 2A TOXIC TO REPRODUCTION (Unborn child) - Category 1B	Calculation method Calculation method
Hybridization Solution EYE IRRITATION - Category 2A TOXIC TO REPRODUCTION (Unborn child) - Category 1B	Calculation method Calculation method
Enzyme Strip 1 EYE IRRITATION - Category 2B	Calculation method
Enzyme Strip 2 EYE IRRITATION - Category 2B	Calculation method

Indicates information that has changed from previously issued version.

Notice to reader

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