

SAFETY DATA SHEET



HaloPlex Target Enrichment Kits - ION - 16 reactions

Section 1. Identification

Product identifier	: HaloPlex Target Enrichment Kits - ION - 16 reactions	
Part No. (Chemical Kit)	: G9904A, G9909A	
Part No.	: RE Buffer	5190-4980
	SSC Buffer	5190-5342
	BSA Solution	5190-5347
	DNA Ligase	5190-4979
	Ligation Solution	5190-4976
	Wash Solution	5190-4977
	Capture Solution	5190-4978
	HaloPlex ION Primer 1	5190-5480
	HaloPlex ION Primer 2	5190-5483
	HaloPlex ION Barcode Primer Cassette 1-16*	various*
	Hybridization Solution	5190-5345
	Enrichment Control DNA	5190-5339
	HaloPlex Magnetic Beads	5190-5351
	HaloPlex Probe	5190-5933 / 5190-5541 / 5190-5907 / 5190-5908 / 5190-6239
	Enzyme Strip 1	5190-5343
	Enzyme Strip 2	5190-5344

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

Analytical reagent.

RE Buffer	0.8 ml (16 reactions)
SSC Buffer	2 x 1.1 ml (16 reactions)
BSA Solution	0.03 ml (16 reactions)
DNA Ligase	0.05 ml (16 reactions)
Ligation Solution	0.96 ml (16 reactions)
Wash Solution	2 x 1.1 ml (16 reactions)
Capture Solution	0.8 ml (16 reactions)
HaloPlex ION Primer 1	0.024 ml (16 reactions)
HaloPlex ION Primer 2	0.024 ml (16 reactions)
HaloPlex ION Barcode Primer Cassette 1-16*	0.015 ml (16 reactions)
Hybridization Solution	1.1 ml (16 reactions)
Enrichment Control DNA	0.12 ml (16 reactions)
HaloPlex Magnetic Beads	0.8 ml (16 reactions)
HaloPlex Probe	0.4 ml (16 reactions)
Enzyme Strip 1	0.128 ml
Enzyme Strip 2	0.128 ml

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

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

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

Section 2. Hazard(s) identification

Classification of the substance or mixture

Wash Solution

H360 TOXIC TO REPRODUCTION (Unborn child) - Category 1B

Hybridization Solution

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

RE Buffer	Not applicable.
SSC Buffer	Not applicable.
BSA Solution	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 1%
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 ION Barcode	Not applicable.
Primer Cassette 1-16*	
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.
RE Buffer	Not applicable.
SSC Buffer	Not applicable.
BSA Solution	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1%
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 ION Barcode	Not applicable.
Primer Cassette 1-16*	
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.

GHS label elements

Hazard pictograms



Signal word

RE Buffer	No signal word.
SSC Buffer	No signal word.
BSA Solution	No signal word.
DNA Ligase	No signal word.
Ligation Solution	No signal word.
Wash Solution	DANGER
Capture Solution	No signal word.
HaloPlex ION Primer 1	No signal word.
HaloPlex ION Primer 2	No signal word.
HaloPlex ION Barcode	No signal word.
Primer Cassette 1-16*	
Hybridization Solution	DANGER

Section 2. Hazard(s) identification

	Enrichment Control DNA	No signal word.
	HaloPlex Magnetic Beads	No signal word.
	HaloPlex Probe	No signal word.
	Enzyme Strip 1	No signal word.
	Enzyme Strip 2	No signal word.
Hazard statements	: 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	H360 - May damage the unborn child.
	Capture Solution	No known significant effects or critical hazards.
	HaloPlex ION Primer 1	No known significant effects or critical hazards.
	HaloPlex ION Primer 2	No known significant effects or critical hazards.
	HaloPlex ION Barcode Primer Cassette 1-16*	No known significant effects or critical hazards.
	Hybridization Solution	H319 - Causes serious eye irritation. H360 - May damage the unborn child.
	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.
Precautionary statements		
Prevention	: RE Buffer	Not applicable.
	SSC Buffer	Not applicable.
	BSA Solution	Not applicable.
	DNA Ligase	Not applicable.
	Ligation Solution	Not applicable.
	Wash Solution	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P281 - Use personal protective equipment as required.
	Capture Solution	Not applicable.
	HaloPlex ION Primer 1	Not applicable.
	HaloPlex ION Primer 2	Not applicable.
	HaloPlex ION Barcode Primer Cassette 1-16*	Not applicable.
	Hybridization Solution	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P281 - Use personal protective equipment as required. P280 - Wear eye or face protection. P264 - Wash hands thoroughly after handling.
	Enrichment Control DNA	Not applicable.
	HaloPlex Magnetic Beads	Not applicable.
	HaloPlex Probe	Not applicable.
	Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.
Response	: RE Buffer	Not applicable.
	SSC Buffer	Not applicable.
	BSA Solution	Not applicable.
	DNA Ligase	Not applicable.
	Ligation Solution	Not applicable.
	Wash Solution	P308 + P313 - IF exposed or concerned: Get medical attention.
	Capture Solution	Not applicable.
	HaloPlex ION Primer 1	Not applicable.
	HaloPlex ION Primer 2	Not applicable.
	HaloPlex ION Barcode Primer Cassette 1-16*	Not applicable.

Section 2. Hazard(s) identification

	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	Not applicable.
	Enzyme Strip 2	Not applicable.
Storage	: RE Buffer	Not applicable.
	SSC Buffer	Not applicable.
	BSA Solution	Not applicable.
	DNA Ligase	Not applicable.
	Ligation Solution	Not applicable.
	Wash Solution	P405 - Store locked up.
	Capture Solution	Not applicable.
	HaloPlex ION Primer 1	Not applicable.
	HaloPlex ION Primer 2	Not applicable.
	HaloPlex ION Barcode	Not applicable.
	Primer Cassette 1-16*	Not applicable.
	Hybridization Solution	P405 - Store locked up.
	Enrichment Control DNA	Not applicable.
	HaloPlex Magnetic Beads	Not applicable.
	HaloPlex Probe	Not applicable.
	Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.
Disposal	: RE Buffer	Not applicable.
	SSC Buffer	Not applicable.
	BSA Solution	Not applicable.
	DNA Ligase	Not applicable.
	Ligation Solution	Not applicable.
	Wash Solution	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	Capture Solution	Not applicable.
	HaloPlex ION Primer 1	Not applicable.
	HaloPlex ION Primer 2	Not applicable.
	HaloPlex ION Barcode	Not applicable.
	Primer Cassette 1-16*	Not applicable.
	Hybridization Solution	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	Enrichment Control DNA	Not applicable.
	HaloPlex Magnetic Beads	Not applicable.
	HaloPlex Probe	Not applicable.
	Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.
Supplemental label elements	: 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 ION Barcode	Not applicable.
	Primer Cassette 1-16*	Not applicable.
	Hybridization Solution	Not applicable.
	Enrichment Control DNA	Not applicable.

Section 2. Hazard(s) identification

HaloPlex Magnetic Beads	Not applicable.
HaloPlex Probe	Not applicable.
Enzyme Strip 1	Not applicable.
Enzyme Strip 2	Not applicable.

Other hazards which do not result in classification

<input checked="" type="checkbox"/> RE Buffer	None known.
SSC Buffer	None known.
BSA Solution	None known.
DNA Ligase	None known.
Ligation Solution	None known.
Wash Solution	None known.
Capture Solution	None known.
HaloPlex ION Primer 1	None known.
HaloPlex ION Primer 2	None known.
HaloPlex ION Barcode Primer Cassette 1-16*	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.

Section 3. Composition and ingredient information

Substance/mixture

<input checked="" type="checkbox"/> RE Buffer	Mixture
SSC Buffer	Mixture
BSA Solution	Mixture
DNA Ligase	Mixture
Ligation Solution	Mixture
Wash Solution	Mixture
Capture Solution	Mixture
HaloPlex ION Primer 1	Mixture
HaloPlex ION Primer 2	Mixture
HaloPlex ION Barcode Primer Cassette 1-16*	Mixture
Hybridization Solution	Mixture
Enrichment Control DNA	Mixture
HaloPlex Magnetic Beads	Mixture
HaloPlex Probe	Mixture
Enzyme Strip 1	Mixture
Enzyme Strip 2	Mixture

CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
BSA Solution Glycerol	≤10	56-81-5
DNA Ligase Glycerol	≥30 - ≤60	56-81-5
Ligation Solution Glycerol	≤10	56-81-5
Wash Solution Formamide	≥10 - ≤30	75-12-7
Hybridization Solution Formamide Sodium chloride	≥30 - ≤60 ≥10 - <25	75-12-7 7647-14-5

Section 3. Composition and ingredient information

Enzyme Strip 1 Glycerol	≥30 - ≤60	56-81-5
Enzyme Strip 2 Glycerol	≥30 - ≤60	56-81-5

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

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

Section 4. First aid measures

Description of necessary first aid measures

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. Get medical attention if irritation occurs.
	Ligation Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Wash Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
	Capture Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	HaloPlex ION Primer 1	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	HaloPlex ION Primer 2	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	HaloPlex ION Barcode Primer Cassette 1-16*	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Hybridization Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
	Enrichment Control DNA	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Section 4. First aid measures

	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. Get medical attention if irritation occurs.
	Enzyme Strip 2	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
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. Get medical attention if symptoms occur.
	Ligation Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Wash Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	Capture Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	HaloPlex ION Primer 1	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	HaloPlex ION Primer 2	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	HaloPlex ION Barcode Primer Cassette 1-16*	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Hybridization Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Section 4. First aid measures

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. Get medical attention if symptoms occur.

Enzyme Strip 2 Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact

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

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

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

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

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

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

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

HaloPlex ION Primer 1 Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

HaloPlex ION Primer 2 Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

HaloPlex ION Barcode Primer Cassette 1-16* Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

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

Section 4. First aid measures

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. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Enzyme Strip 2 Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion

: RE Buffer Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

SSC Buffer Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

BSA Solution Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

DNA Ligase Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Ligation Solution Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Wash Solution Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position

Section 4. First aid measures

	and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Capture Solution	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
HaloPlex ION Primer 1	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
HaloPlex ION Primer 2	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
HaloPlex ION Barcode Primer Cassette 1-16*	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Hybridization Solution	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Enrichment Control DNA	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
HaloPlex Magnetic Beads	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
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

Section 4. First aid measures

Enzyme Strip 1

exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Enzyme Strip 2

Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

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	No known significant effects or critical hazards.
Ligation Solution	No known significant effects or critical hazards.
Wash Solution	No known significant effects or critical hazards.
Capture Solution	No known significant effects or critical hazards.
HaloPlex ION Primer 1	No known significant effects or critical hazards.
HaloPlex ION Primer 2	No known significant effects or critical hazards.
HaloPlex ION Barcode Primer Cassette 1-16*	No known significant effects or critical hazards.
Hybridization Solution	Causes serious eye irritation.
Enrichment Control DNA	No known significant effects or critical hazards.
HaloPlex Magnetic Beads	No known significant effects or critical hazards.
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.

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 ION Barcode Primer Cassette 1-16*	No known significant effects or critical hazards.
Hybridization Solution	No known significant effects or critical hazards.
Enrichment Control DNA	No known significant effects or critical hazards.
HaloPlex Magnetic Beads	No known significant effects or critical hazards.
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 4. First aid measures

Skin contact

Capture Solution
 HaloPlex ION Primer 1
 HaloPlex ION Primer 2
 HaloPlex ION Barcode
 Primer Cassette 1-16*
 Hybridization Solution

skeletal malformations
 No specific data.
 No specific data.
 No specific data.
 No specific data.

Adverse symptoms may include the following:
 reduced foetal weight
 increase in foetal 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.

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 foetal weight
 increase in foetal deaths
 skeletal malformations

Capture Solution
 HaloPlex ION Primer 1
 HaloPlex ION Primer 2
 HaloPlex ION Barcode
 Primer Cassette 1-16*
 Hybridization Solution

No specific data.
 No specific data.
 No specific data.
 No specific data.

Adverse symptoms may include the following:
 reduced foetal weight
 increase in foetal 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.

Ingestion

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 foetal weight
 increase in foetal deaths
 skeletal malformations

Capture Solution
 HaloPlex ION Primer 1
 HaloPlex ION Primer 2
 HaloPlex ION Barcode
 Primer Cassette 1-16*
 Hybridization Solution

No specific data.
 No specific data.
 No specific data.
 No specific data.

Adverse symptoms may include the following:
 reduced foetal weight
 increase in foetal 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.

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

Section 4. First aid measures

Notes to physician	: RE Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	SSC Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	BSA Solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	DNA Ligase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Ligation Solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Wash Solution	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	Capture Solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	HaloPlex ION Primer 1	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	HaloPlex ION Primer 2	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	HaloPlex ION Barcode Primer Cassette 1-16*	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Hybridization Solution	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	Enrichment Control DNA	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	HaloPlex Magnetic Beads	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	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 ION Barcode Primer Cassette 1-16*	No specific treatment.
	Hybridization Solution	No specific treatment.
	Enrichment Control DNA	No specific treatment.

Section 4. First aid measures

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

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media	: RE Buffer	Use an extinguishing agent suitable for the surrounding fire.
	SSC Buffer	Use an extinguishing agent suitable for the surrounding fire.
	BSA Solution	Use an extinguishing agent suitable for the surrounding fire.
	DNA Ligase	Use an extinguishing agent suitable for the surrounding fire.
	Ligation Solution	Use an extinguishing agent suitable for the surrounding fire.

Section 5. Firefighting measures

	Wash Solution	surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
	Capture Solution	Use an extinguishing agent suitable for the surrounding fire.
	HaloPlex ION Primer 1	Use an extinguishing agent suitable for the surrounding fire.
	HaloPlex ION Primer 2	Use an extinguishing agent suitable for the surrounding fire.
	HaloPlex ION Barcode Primer Cassette 1-16* 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 ION Barcode Primer Cassette 1-16* 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.
Specific hazards arising from the chemical	: RE Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	SSC Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	BSA Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	DNA Ligase	In a fire or if heated, a pressure increase will occur and the container may burst.
	Ligation Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	Wash Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	Capture Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	HaloPlex ION Primer 1	In a fire or if heated, a pressure increase will occur and the container may burst.
	HaloPlex ION Primer 2	In a fire or if heated, a pressure increase will occur and the container may burst.
	HaloPlex ION Barcode Primer Cassette 1-16* Hybridization Solution	In a fire or if heated, a pressure increase will occur and the container may burst.

Section 5. Firefighting measures

Hazardous thermal decomposition products

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.
: RE Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide metal oxide/oxides
SSC Buffer	No specific data.
BSA Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide
DNA Ligase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
Ligation Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide
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 ION Barcode Primer Cassette 1-16*	No specific data.
Hybridization Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
Enrichment Control DNA	No specific data.
HaloPlex Magnetic Beads	No specific data.
HaloPlex Probe	No specific data.
Enzyme Strip 1	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

Section 5. Firefighting measures

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 ION Barcode Primer Cassette 1-16*	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Hybridization Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Enrichment Control DNA	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
HaloPlex Magnetic Beads	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
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.

Section 5. Firefighting measures

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 (SCBA) with a full face-piece operated in positive pressure mode.
	HaloPlex ION Barcode Primer Cassette 1-16*	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Hybridization Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Enrichment Control DNA	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	HaloPlex Magnetic Beads	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	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

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: RE Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
SSC Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
BSA Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
DNA Ligase	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Ligation Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Wash Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
Capture Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
HaloPlex ION Primer 1	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
HaloPlex ION Primer 2	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
HaloPlex ION Barcode Primer Cassette 1-16*	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

Section 6. Accidental release measures

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

Section 6. Accidental release measures

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

Environmental precautions : RE Buffer

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

Section 6. Accidental release measures

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

[Methods and material for containment and cleaning up](#)

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 ION Barcode Primer Cassette 1-16*	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	Hybridization Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an

Section 6. Accidental release measures

	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

Precautions for safe handling

Protective measures

: RE Buffer	Put on appropriate personal protective equipment (see Section 8).
SSC Buffer	Put on appropriate personal protective equipment (see Section 8).
BSA Solution	Put on appropriate personal protective equipment (see Section 8).
DNA Ligase	Put on appropriate personal protective equipment (see Section 8).
Ligation Solution	Put on appropriate personal protective equipment (see Section 8).
Wash Solution	Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour 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).

Section 7. Handling and storage

HaloPlex ION Primer 2	Put on appropriate personal protective equipment (see Section 8).
HaloPlex ION Barcode Primer Cassette 1-16*	Put on appropriate personal protective equipment (see Section 8).
Hybridization Solution	Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour 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).
Enzyme Strip 2	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene : RE Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
SSC Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
BSA Solution	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
DNA Ligase	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Ligation Solution	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Wash Solution	Eating, drinking and smoking should be prohibited in

Section 7. Handling and storage

Capture Solution	<p>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.</p> <p>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.</p>
HaloPlex ION Primer 1	<p>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.</p>
HaloPlex ION Primer 2	<p>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.</p>
HaloPlex ION Barcode Primer Cassette 1-16*	<p>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.</p>
Hybridization Solution	<p>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.</p>
Enrichment Control DNA	<p>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.</p>
HaloPlex Magnetic Beads	<p>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.</p>
HaloPlex Probe	<p>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.</p>
Enzyme Strip 1	<p>Eating, drinking and smoking should be prohibited in</p>

Section 7. Handling and storage

<p>Enzyme Strip 2</p>	<p>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.</p>
<p>Conditions for safe storage, including any incompatibilities : RE Buffer</p>	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.</p>
<p>SSC Buffer</p>	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.</p>
<p>BSA Solution</p>	<p>Store between the following temperatures: -20°C (-4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.</p>
<p>DNA Ligase</p>	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.</p>
<p>Ligation Solution</p>	<p>Storage temperature: -20°C (-4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not</p>

Section 7. Handling and storage

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

Section 7. Handling and storage

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

Section 8. Exposure controls and personal protection

[Control parameters](#)

[Occupational exposure limits](#)

Section 8. Exposure controls and personal protection

Ingredient name	Exposure limits
BSA Solution Glycerol	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours.
DNA Ligase Glycerol	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours.
Ligation Solution Glycerol	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours.
Wash Solution Formamide	Safe Work Australia (Australia, 1/2014). Absorbed through skin. TWA: 18 mg/m ³ 8 hours. TWA: 10 ppm 8 hours.
Hybridization Solution Formamide	Safe Work Australia (Australia, 1/2014). Absorbed through skin. TWA: 18 mg/m ³ 8 hours. TWA: 10 ppm 8 hours.
Enzyme Strip 1 Glycerol	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours.
Enzyme Strip 2 Glycerol	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours.

Appropriate engineering controls

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

Environmental exposure controls

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

Individual protection measures

Hygiene measures

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

Eye/face protection

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

Skin protection

Section 8. Exposure controls and personal protection

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

Section 9. Physical and chemical properties

Appearance

Physical state	RE Buffer	Liquid.
	SSC Buffer	Liquid.
	BSA Solution	Liquid. [Clear.]
	DNA Ligase	Liquid. [Viscous liquid.]
	Ligation Solution	Liquid.
	Wash Solution	Liquid.
	Capture Solution	Liquid.
	HaloPlex ION Primer 1	Liquid.
	HaloPlex ION Primer 2	Liquid.
	HaloPlex ION Barcode Primer Cassette 1-16*	Liquid.
	Hybridization Solution	Liquid.
	Enrichment Control DNA	Liquid.
	HaloPlex Magnetic Beads	Liquid. [aqueous suspensions]
	HaloPlex Probe	Liquid.
	Enzyme Strip 1	Liquid.
	Enzyme Strip 2	Liquid.
	Colour	RE Buffer
SSC Buffer		Not available.
BSA Solution		Colourless.
DNA Ligase		Colourless.
Ligation Solution		Not available.
Wash Solution		Not available.
Capture Solution		Not available.
HaloPlex ION Primer 1		Not available.
HaloPlex ION Primer 2		Not available.
HaloPlex ION Barcode Primer Cassette 1-16*		Not available.
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.

Section 9. Physical and chemical properties

Odour	:	RE Buffer	Not available.
		SSC Buffer	Not available.
		BSA Solution	Odourless.
		DNA Ligase	Odourless.
		Ligation Solution	Not available.
		Wash Solution	Not available.
		Capture Solution	Not available.
		HaloPlex ION Primer 1	Not available.
		HaloPlex ION Primer 2	Not available.
		HaloPlex ION Barcode Primer Cassette 1-16*	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.
Odour threshold	:	RE Buffer	Not available.
		SSC Buffer	Not available.
		BSA Solution	Not available.
		DNA Ligase	Not available.
		Ligation Solution	Not available.
		Wash Solution	Not available.
		Capture Solution	Not available.
		HaloPlex ION Primer 1	Not available.
		HaloPlex ION Primer 2	Not available.
		HaloPlex ION Barcode Primer Cassette 1-16*	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 ION Barcode Primer Cassette 1-16*	Not available.
		Hybridization Solution	7.5
		Enrichment Control DNA	Not available.
		HaloPlex Magnetic Beads	Not available.
		HaloPlex Probe	Not available.
		Enzyme Strip 1	Not available.
		Enzyme Strip 2	Not available.
Melting point	:	RE Buffer	0°C (32°F)
		SSC Buffer	0°C (32°F)
		BSA Solution	20°C (68°F)
		DNA Ligase	-23°C (-9.4°F)
		Ligation Solution	0°C (32°F)
		Wash Solution	Not available.
		Capture Solution	Not available.
		HaloPlex ION Primer 1	0°C (32°F)
		HaloPlex ION Primer 2	0°C (32°F)
		HaloPlex ION Barcode Primer Cassette 1-16*	0°C (32°F)
		Hybridization Solution	Not available.

Section 9. Physical and chemical properties

	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.
Boiling point	: RE Buffer	100°C (212°F)
	SSC Buffer	100°C (212°F)
	BSA Solution	182°C (359.6°F)
	DNA Ligase	182°C (359.6°F)
	Ligation Solution	100°C (212°F)
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	100°C (212°F)
	HaloPlex ION Primer 2	100°C (212°F)
	HaloPlex ION Barcode	100°C (212°F)
	Primer Cassette 1-16*	
	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	Open cup: 176°C (348.8°F)
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex ION Barcode	Not available.
	Primer Cassette 1-16*	
	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 ION Barcode	Not available.
	Primer Cassette 1-16*	
	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)	: 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 ION Barcode	Not applicable.
	Primer Cassette 1-16*	
	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	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Not available.
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex ION Barcode	Not available.
	Primer Cassette 1-16*	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	HaloPlex Magnetic Beads	Not available.
	HaloPlex Probe	Not available.
	Enzyme Strip 1	Lower: 0.9%
Enzyme Strip 2	Not available.	
Vapour pressure	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	<0.13 kPa (<1 mm Hg) [room temperature]
	DNA Ligase	0.4 kPa (3 mm Hg) [room temperature]
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex ION Barcode	Not available.
	Primer Cassette 1-16*	
	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	Not available.
Enzyme Strip 2	<0.13 kPa (<1 mm Hg) [room temperature]	
Vapour density	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	3.1 [Air = 1]
	DNA Ligase	3.1 [Air = 1]
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex ION Barcode	Not available.
	Primer Cassette 1-16*	
	Hybridization Solution	Not available.

Section 9. Physical and chemical properties

	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	1.261
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex ION Barcode	Not available.
	Primer Cassette 1-16*	
	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 ION Barcode	Easily soluble in the following materials: cold water and hot water.
	Primer Cassette 1-16*	
	Hybridization Solution	Soluble in the following materials: cold water and hot water.
	Enrichment Control DNA	Easily soluble in the following materials: cold water and hot water.
	HaloPlex Magnetic Beads	Not available.
	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.
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 ION Barcode	Not available.

Section 9. Physical and chemical properties

	Primer Cassette 1-16*	
	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 ION Barcode	Not available.
	Primer Cassette 1-16*	
	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.
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 ION Barcode	Not available.
	Primer Cassette 1-16*	
	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.
Viscosity	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Not available.
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	HaloPlex ION Primer 1	Not available.
	HaloPlex ION Primer 2	Not available.
	HaloPlex ION Barcode	Not available.
	Primer Cassette 1-16*	
	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

Reactivity	: RE Buffer	No specific test data related to reactivity available for this product or its ingredients.
	SSC Buffer	No specific test data related to reactivity available for this product or its ingredients.
	BSA Solution	No specific test data related to reactivity available for this product or its ingredients.
	DNA Ligase	No specific test data related to reactivity available for this product or its ingredients.
	Ligation Solution	No specific test data related to reactivity available for this product or its ingredients.
	Wash Solution	No specific test data related to reactivity available for this product or its ingredients.
	Capture Solution	No specific test data related to reactivity available for this product or its ingredients.
	HaloPlex ION Primer 1	No specific test data related to reactivity available for this product or its ingredients.
	HaloPlex ION Primer 2	No specific test data related to reactivity available for this product or its ingredients.
	HaloPlex ION Barcode Primer Cassette 1-16*	No specific test data related to reactivity available for this product or its ingredients.
	Hybridization Solution	No specific test data related to reactivity available for this product or its ingredients.
	Enrichment Control DNA	No specific test data related to reactivity available for this product or its ingredients.
	HaloPlex Magnetic Beads	No specific test data related to reactivity available for this product or its ingredients.
	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.

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 ION Barcode Primer Cassette 1-16*	The product is stable.
	Hybridization Solution	The product is stable.
	Enrichment Control DNA	The product is stable.
	HaloPlex Magnetic Beads	The product is stable.
	HaloPlex Probe	The product is stable.
	Enzyme Strip 1	The product is stable.
	Enzyme Strip 2	The product is stable.

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.

Section 10. Stability and reactivity

Capture Solution	hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
HaloPlex ION Primer 1	Under normal conditions of storage and use, hazardous reactions will not occur.
HaloPlex ION Primer 2	Under normal conditions of storage and use, hazardous reactions will not occur.
HaloPlex ION Barcode Primer Cassette 1-16*	Under normal conditions of storage and use, hazardous reactions will not occur.
Hybridization Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
Enrichment Control DNA	Under normal conditions of storage and use, hazardous reactions will not occur.
HaloPlex Magnetic Beads	Under normal conditions of storage and use, hazardous reactions will not occur.
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.

Conditions to avoid

: RE Buffer	No specific data.
SSC Buffer	No specific data.
BSA Solution	No specific data.
DNA Ligase	No specific data.
Ligation Solution	No specific data.
Wash Solution	No specific data.
Capture Solution	No specific data.
HaloPlex ION Primer 1	No specific data.
HaloPlex ION Primer 2	No specific data.
HaloPlex ION Barcode Primer Cassette 1-16*	No specific data.
Hybridization Solution	No specific data.
Enrichment Control DNA	No specific data.
HaloPlex Magnetic Beads	No specific data.
HaloPlex Probe	No specific data.
Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.

Incompatible materials

: RE Buffer	May react or be incompatible with oxidising materials.
SSC Buffer	May react or be incompatible with oxidising materials.
BSA Solution	May react or be incompatible with oxidising materials.
DNA Ligase	May react or be incompatible with oxidising materials.
Ligation Solution	May react or be incompatible with oxidising materials.
Wash Solution	May react or be incompatible with oxidising materials.
Capture Solution	May react or be incompatible with oxidising materials.
HaloPlex ION Primer 1	May react or be incompatible with oxidising materials.
HaloPlex ION Primer 2	May react or be incompatible with oxidising materials.
HaloPlex ION Barcode Primer Cassette 1-16*	May react or be incompatible with oxidising materials.
Hybridization Solution	May react or be incompatible with oxidising materials.
Enrichment Control DNA	May react or be incompatible with oxidising materials.
HaloPlex Magnetic Beads	May react or be incompatible with oxidising materials.
HaloPlex Probe	May react or be incompatible with oxidising materials.
Enzyme Strip 1	May react or be incompatible with oxidising materials.
Enzyme Strip 2	May react or be incompatible with oxidising materials.

Section 10. Stability and reactivity

Hazardous decomposition products	: RE Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	SSC Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	BSA Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	DNA Ligase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Ligation Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Wash Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Capture Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	HaloPlex ION Primer 1	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	HaloPlex ION Primer 2	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	HaloPlex ION Barcode Primer Cassette 1-16*	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Hybridization Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Enrichment Control DNA	Under normal conditions of storage and use, 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

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	-
Ligation Solution Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Section 11. Toxicological information

Wash Solution Formamide	LD50 Dermal LD50 Oral	Rabbit Rat	17 g/kg 4000 mg/kg	- -
Hybridization Solution Formamide	LD50 Dermal LD50 Oral	Rabbit Rat	17 g/kg 4000 mg/kg	- -
Sodium chloride	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	-
Ligation Solution 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	-
Hybridization Solution Formamide	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant Skin - Mild irritant	Rabbit Rabbit	- -	10 milligrams 24 hours 500 milligrams	- -
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	-

Sensitisation

Not available.

Section 11. Toxicological information

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

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

Potential acute health effects

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

	HaloPlex ION Barcode Primer Cassette 1-16* Hybridization Solution	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 Enzyme Strip 2	No specific data. No specific data. No specific data. No specific data. No specific data.
Inhalation	: 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 foetal weight increase in foetal deaths skeletal malformations
	Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex ION Barcode Primer Cassette 1-16* Hybridization Solution	No specific data. No specific data. No specific data. No specific data. Adverse symptoms may include the following: reduced foetal weight increase in foetal 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.
Skin contact	: 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 foetal weight increase in foetal deaths skeletal malformations
	Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex ION Barcode Primer Cassette 1-16* Hybridization Solution	No specific data. No specific data. No specific data. No specific data. Adverse symptoms may include the following: reduced foetal weight increase in foetal 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

Ingestion	:	RE Buffer	No specific data.
		SSC Buffer	No specific data.
		BSA Solution	No specific data.
		DNA Ligase	No specific data.
		Ligation Solution	No specific data.
		Wash Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
		Capture Solution	No specific data.
		HaloPlex ION Primer 1	No specific data.
		HaloPlex ION Primer 2	No specific data.
		HaloPlex ION Barcode Primer Cassette 1-16*	No specific data.
		Hybridization Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
		Enrichment Control DNA	No specific data.
		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 as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General	:	RE Buffer	No known significant effects or critical hazards.
		SSC Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		DNA Ligase	No known significant effects or critical hazards.
		Ligation Solution	No known significant effects or critical hazards.
		Wash Solution	No known significant effects or critical hazards.
		Capture Solution	No known significant effects or critical hazards.
		HaloPlex ION Primer 1	No known significant effects or critical hazards.
		HaloPlex ION Primer 2	No known significant effects or critical hazards.
		HaloPlex ION Barcode Primer Cassette 1-16*	No known significant effects or critical hazards.
		Hybridization Solution	No known significant effects or critical hazards.
		Enrichment Control DNA	No known significant effects or critical hazards.
		HaloPlex Magnetic Beads	No known significant effects or critical hazards.
		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.	

Section 11. Toxicological information

	HaloPlex ION Primer 2	No known significant effects or critical hazards.
	HaloPlex ION Barcode	No known significant effects or critical hazards.
	Primer Cassette 1-16*	
	Hybridization Solution	No known significant effects or critical hazards.
	Enrichment Control DNA	No known significant effects or critical hazards.
	HaloPlex Magnetic Beads	No known significant effects or critical hazards.
	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 ION Barcode	No known significant effects or critical hazards.
	Primer Cassette 1-16*	
	Hybridization Solution	No known significant effects or critical hazards.
	Enrichment Control DNA	No known significant effects or critical hazards.
	HaloPlex Magnetic Beads	No known significant effects or critical hazards.
	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.
Teratogenicity	: 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	May damage the unborn child.
	Capture Solution	No known significant effects or critical hazards.
	HaloPlex ION Primer 1	No known significant effects or critical hazards.
	HaloPlex ION Primer 2	No known significant effects or critical hazards.
	HaloPlex ION Barcode	No known significant effects or critical hazards.
	Primer Cassette 1-16*	
	Hybridization Solution	May damage the unborn child.
	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.
Developmental effects	: RE Buffer	No known significant effects or critical hazards.
	SSC Buffer	No known significant effects or critical hazards.
	BSA Solution	No known significant effects or critical hazards.
	DNA Ligase	No known significant effects or critical hazards.
	Ligation Solution	No known significant effects or critical hazards.
	Wash Solution	No known significant effects or critical hazards.
	Capture Solution	No known significant effects or critical hazards.
	HaloPlex ION Primer 1	No known significant effects or critical hazards.
	HaloPlex ION Primer 2	No known significant effects or critical hazards.
	HaloPlex ION Barcode	No known significant effects or critical hazards.
	Primer Cassette 1-16*	
	Hybridization Solution	No known significant effects or critical hazards.
	Enrichment Control DNA	No known significant effects or critical hazards.
	HaloPlex Magnetic Beads	No known significant effects or critical hazards.
	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

Fertility effects	: RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution HaloPlex ION Primer 1 HaloPlex ION Primer 2 HaloPlex ION Barcode Primer Cassette 1-16* Hybridization Solution Enrichment Control DNA HaloPlex Magnetic Beads HaloPlex Probe Enzyme Strip 1 Enzyme Strip 2	No known significant effects or critical hazards. No known significant effects or critical hazards.
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Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

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
Ligation Solution Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Hybridization Solution Sodium chloride	Acute EC50 2430000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 28.85 mg/dm3 Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1661 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
Enzyme Strip 1 Glycerol	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks
Enzyme Strip 2 Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Enzyme Strip 2 Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

Section 12. Ecological information

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
BSA Solution Glycerol	-1.76	-	low
DNA Ligase Glycerol	-1.76	-	low
Ligation Solution Glycerol	-1.76	-	low
Wash Solution Formamide	-0.82	-	low
Hybridization Solution Formamide	-0.82	-	low
Enzyme Strip 1 Glycerol	-1.76	-	low
Enzyme Strip 2 Glycerol	-1.76	-	low

Mobility in soil

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

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

Section 13. Disposal considerations

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

Section 14. Transport information

Regulatory information

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

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

Section 14. Transport information

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

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons

Not regulated.

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

Australia inventory (AICS) : Not determined.

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 Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

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

Section 16. Any other relevant information

History

Date of issue/Date of revision : 27/04/2016

Date of previous issue : 30/05/2013.

Version : 3

Key to abbreviations

ADG = Australian Dangerous Goods
 ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods

Section 16. Any other relevant information

LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 NOHSC = National Occupational Health and Safety Commission
 SUSMP = Standard Uniform Schedule of Medicine and Poisons
 UN = United Nations

Procedure used to derive the classification

Classification	Justification
Wash Solution Repr. 1B, H360 (Unborn child)	Calculation method
Hybridization Solution Eye Irrit. 2A, H319 Repr. 1B, H360 (Unborn child)	Calculation method Calculation method

References : Not available.

Indicates information that has changed from previously issued version.

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

Notice to reader

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