

SAFETY DATA SHEET

HaloPlex ILM Pre-Pack - 48 Reactions, Part Number 5190-8635

Section 1. Identification

Product identifier	: HaloPlex ILM Pre-Pack - 48 Reactions, Part Number 5190-8635	
Part no. (chemical kit)	: 5190-8635	
Part no.	: <input checked="" type="checkbox"/> RE Buffer	5190-5956
	SSC Buffer	5190-5960
	BSA Solution	5190-5963
	DNA Ligase	5190-7829
	Ligation Solution	5190-7832
	Wash Solution	5190-5953
	Capture Solution	5190-5954
	Primer 1	5190-5958
	Primer 2	5190-5959
	HaloPlex Indexing Primer A01 - H06	5190-8026
	Hybridization Solution	5190-5951
	Enrichment Control DNA	5190-5957
	Enzyme Strip 1	5190-5961
	Enzyme Strip 2	5190-5962

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

Identified uses	: <input checked="" type="checkbox"/> Analytical reagent.	
	<input checked="" type="checkbox"/> RE Buffer	2.4 ml (48 reactions)
	SSC Buffer	8.15 ml (48 reactions)
	BSA Solution	0.058 ml (48 reactions)
	DNA Ligase	0.17 ml (48 reactions)
	Ligation Solution	3.25 ml (48 reactions)
	Wash Solution	7 ml (48 reactions)
	Capture Solution	2.4 ml (48 reactions)
	Primer 1	0.068 ml (48 reactions)
	Primer 2	0.068 ml (48 reactions)
	HaloPlex Indexing Primer A01 - H06	48 x 0.015 ml (48 reactions)
	Hybridization Solution	3.5 ml (48 reactions)
	Enrichment Control DNA	0.24 ml (48 reactions)
	Enzyme Strip 1	8 x 0.038 ml (48 reactions)
	Enzyme Strip 2	8 x 0.038 ml (48 reactions)

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

Emergency telephone number (with hours of operation) : CHEMTREC®: 1-800-424-9300

Section 2. Hazard identification

Classification of the substance or mixture

Section 2. Hazard identification

DNA Ligase

H320 EYE IRRITATION - Category 2B

Wash Solution

H351 CARCINOGENICITY - Category 2
 H360 TOXIC TO REPRODUCTION - Category 1
 H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

Hybridization Solution

H351 CARCINOGENICITY - Category 2
 H360 TOXIC TO REPRODUCTION - Category 1
 H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

Enzyme Strip 1

H320 EYE IRRITATION - Category 2B

Enzyme Strip 2

H320 EYE IRRITATION - Category 2B

GHS label elements

Hazard pictograms

: Wash Solution



Hybridization Solution



Signal word

: RE Buffer	No signal word.
SSC Buffer	No signal word.
BSA Solution	No signal word.
DNA Ligase	Warning
Ligation Solution	No signal word.
Wash Solution	Danger
Capture Solution	No signal word.
Primer 1	No signal word.
Primer 2	No signal word.
HaloPlex Indexing Primer A01 - H06	No signal word.
Hybridization Solution	Danger
Enrichment Control DNA	No signal word.
Enzyme Strip 1	Warning
Enzyme Strip 2	Warning

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	H320 - Causes eye irritation.
Ligation Solution	No known significant effects or critical hazards.
Wash Solution	H351 - Suspected of causing cancer. H360 - May damage fertility or the unborn child. H373 - May cause damage to organs through prolonged or repeated exposure.
Capture Solution	No known significant effects or critical hazards.
Primer 1	No known significant effects or critical hazards.
Primer 2	No known significant effects or critical hazards.
HaloPlex Indexing Primer	No known significant effects or critical hazards.

Section 2. Hazard identification

A01 - H06 Hybridization Solution	H351 - Suspected of causing cancer. H360 - May damage fertility or the unborn child. H373 - May cause damage to organs through prolonged or repeated exposure.
Enrichment Control DNA Enzyme Strip 1 Enzyme Strip 2	No known significant effects or critical hazards. H320 - Causes eye irritation. H320 - Causes eye irritation.

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. P280 - Wear protective gloves, protective clothing and eye or face protection. P260 - Do not breathe vapor.
Capture Solution	Not applicable.
Primer 1	Not applicable.
Primer 2	Not applicable.
HaloPlex Indexing Primer	Not applicable.
A01 - H06 Hybridization Solution	P201 - Obtain special instructions before use. P280 - Wear protective gloves, protective clothing and eye or face protection. P260 - Do not breathe vapor.

Response

Enrichment Control DNA Enzyme Strip 1 Enzyme Strip 2	Not applicable. Not applicable. Not applicable.
: RE Buffer	Not applicable.
SSC Buffer	Not applicable.
BSA Solution	Not applicable.
DNA Ligase	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.
Ligation Solution	Not applicable.
Wash Solution	P308 + P313 - IF exposed or concerned: Get medical advice or attention.
Capture Solution	Not applicable.
Primer 1	Not applicable.
Primer 2	Not applicable.
HaloPlex Indexing Primer	Not applicable.
A01 - H06 Hybridization Solution	P308 + P313 - IF exposed or concerned: Get medical advice or attention.
Enrichment Control DNA Enzyme Strip 1	Not applicable. 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 advice or attention.
Enzyme Strip 2	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.

Section 2. Hazard identification

Storage	:	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.
		Primer 1	Not applicable.
		Primer 2	Not applicable.
		HaloPlex Indexing Primer A01 - H06	Not applicable.
		Hybridization Solution	Not applicable.
		Enrichment Control DNA	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.
		Primer 1	Not applicable.
		Primer 2	Not applicable.
		HaloPlex Indexing Primer A01 - H06	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.
		Enzyme Strip 1	Not applicable.
		Enzyme Strip 2	Not applicable.
Supplemental label elements	:	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.
		Primer 1	None known.
		Primer 2	None known.
		HaloPlex Indexing Primer A01 - H06	None known.
		Hybridization Solution	None known.
		Enrichment Control DNA	None known.
		Enzyme Strip 1	None known.
		Enzyme Strip 2	None known.
Other hazards which do not result in classification	:	RE Buffer	None known.
		SSC Buffer	None known.
		BSA Solution	None known.
		DNA Ligase	None known.
		Ligation Solution	None known.
		Wash Solution	None known.
		Capture Solution	None known.
		Primer 1	None known.
		Primer 2	None known.
		HaloPlex Indexing Primer	None known.

Section 2. Hazard identification

A01 - H06	
Hybridization Solution	None known.
Enrichment Control DNA	None known.
Enzyme Strip 1	None known.
Enzyme Strip 2	None known.

Section 3. Composition/information on ingredients

Substance/mixture	:	RE Buffer	Mixture
		SSC Buffer	Mixture
		BSA Solution	Mixture
		DNA Ligase	Mixture
		Ligation Solution	Mixture
		Wash Solution	Mixture
		Capture Solution	Mixture
		Primer 1	Mixture
		Primer 2	Mixture
		HaloPlex Indexing Primer	Mixture
		A01 - H06	
		Hybridization Solution	Mixture
		Enrichment Control DNA	Mixture
		Enzyme Strip 1	Mixture
		Enzyme Strip 2	Mixture

Ingredient name	Synonyms	% (w/w)	CAS number
BSA Solution			
Glycerol	Glycerol	≥5 - ≤10	56-81-5
DNA Ligase			
Glycerol	Glycerol	≥30 - ≤60	56-81-5
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Polyethylene glycol octaphenyl ether	≥0.1 - ≤1	9036-19-5
Ligation Solution			
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Polyethylene glycol octaphenyl ether	≥0.1 - ≤1	9036-19-5
Wash Solution			
Formamide	Formamide	≥10 - ≤30	75-12-7
Hybridization Solution			
Formamide	Formamide	≥30 - ≤60	75-12-7
Enzyme Strip 1			
Glycerol	Glycerol	≥30 - ≤60	56-81-5
Enzyme Strip 2			

Section 3. Composition/information on ingredients

Glycerol	Glycerol	≥30 - ≤60	56-81-5
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Ranges if listed above for hazardous ingredient(s) are prescribed ranges. The actual concentration(s) or actual concentration range(s) are being withheld as a trade secret.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified 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. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
	Ligation Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Wash Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
	Capture Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	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.
	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 Indexing Primer A01 - H06	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.

Section 4. First-aid measures

		Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Enzyme Strip 1	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
	Enzyme Strip 2	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
Inhalation	: RE Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	SSC Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	BSA Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	DNA Ligase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	Ligation Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Wash Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing 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.
	Primer 1	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Primer 2	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	HaloPlex Indexing Primer A01 - H06	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical

Section 4. First-aid measures

Hybridization Solution	<p>attention if symptoms occur.</p> <p>Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.</p>
Enrichment Control DNA	<p>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</p>
Enzyme Strip 1	<p>Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.</p>
Enzyme Strip 2	<p>Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.</p>
Skin contact	<p>: RE Buffer</p> <p>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.</p> <p>SSC Buffer</p> <p>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.</p> <p>BSA Solution</p> <p>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.</p> <p>DNA Ligase</p> <p>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.</p> <p>Ligation Solution</p> <p>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.</p> <p>Wash Solution</p> <p>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</p>

Section 4. First-aid measures

		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.
	Primer 1	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Primer 2	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	HaloPlex Indexing Primer A01 - H06	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Hybridization Solution	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Enrichment Control DNA	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Enzyme Strip 1	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Enzyme Strip 2	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	: RE Buffer	Wash out mouth with water. 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. 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. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	DNA Ligase	Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open

Section 4. First-aid measures

	airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Ligation Solution	Wash out mouth with water. 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. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Capture Solution	Wash out mouth with water. 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.
Primer 1	Wash out mouth with water. 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.
Primer 2	Wash out mouth with water. 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 Indexing Primer A01 - H06	Wash out mouth with water. 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. 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. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Enzyme Strip 1	Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed

Section 4. First-aid measures

Enzyme Strip 2

person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

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

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact

: RE Buffer
SSC Buffer
BSA Solution
DNA Ligase
Ligation Solution
Wash Solution
Capture Solution
Primer 1
Primer 2
HaloPlex Indexing Primer
A01 - H06
Hybridization Solution
Enrichment Control DNA
Enzyme Strip 1
Enzyme Strip 2

No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.
Causes eye irritation.
No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.
Causes eye irritation.
Causes eye irritation.

Inhalation

: RE Buffer
SSC Buffer
BSA Solution
DNA Ligase
Ligation Solution
Wash Solution
Capture Solution
Primer 1
Primer 2
HaloPlex Indexing Primer
A01 - H06
Hybridization Solution
Enrichment Control DNA
Enzyme Strip 1
Enzyme Strip 2

No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.
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No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.

Section 4. First-aid measures

Skin contact	:	RE Buffer	No known significant effects or critical hazards.
		SSC Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		DNA Ligase	No known significant effects or critical hazards.
		Ligation Solution	No known significant effects or critical hazards.
		Wash Solution	No known significant effects or critical hazards.
		Capture Solution	No known significant effects or critical hazards.
		Primer 1	No known significant effects or critical hazards.
		Primer 2	No known significant effects or critical hazards.
		HaloPlex Indexing Primer A01 - H06	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.
		Enzyme Strip 1	No known significant effects or critical hazards.
		Enzyme Strip 2	No known significant effects or critical hazards.
Ingestion	:	RE Buffer	No known significant effects or critical hazards.
		SSC Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		DNA Ligase	No known significant effects or critical hazards.
		Ligation Solution	No known significant effects or critical hazards.
		Wash Solution	No known significant effects or critical hazards.
		Capture Solution	No known significant effects or critical hazards.
		Primer 1	No known significant effects or critical hazards.
		Primer 2	No known significant effects or critical hazards.
		HaloPlex Indexing Primer A01 - H06	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.
		Enzyme Strip 1	No known significant effects or critical hazards.
		Enzyme Strip 2	No known significant effects or critical hazards.
<u>Over-exposure signs/symptoms</u>			
Eye contact	:	RE Buffer	No specific data.
		SSC Buffer	No specific data.
		BSA Solution	No specific data.
		DNA Ligase	Adverse symptoms may include the following: irritation watering redness
		Ligation Solution	No specific data.
		Wash Solution	No specific data.
		Capture Solution	No specific data.
		Primer 1	No specific data.
		Primer 2	No specific data.
		HaloPlex Indexing Primer A01 - H06	No specific data.
		Hybridization Solution	No specific data.
		Enrichment Control DNA	No specific data.
		Enzyme Strip 1	Adverse symptoms may include the following: irritation watering redness
		Enzyme Strip 2	Adverse symptoms may include the following: irritation watering redness

Section 4. First-aid measures

Inhalation	:	RE Buffer	No specific data.
		SSC Buffer	No specific data.
		BSA Solution	No specific data.
		DNA Ligase	No specific data.
		Ligation Solution	No specific data.
		Wash Solution	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
		Capture Solution	No specific data.
		Primer 1	No specific data.
		Primer 2	No specific data.
		HaloPlex Indexing Primer A01 - H06	No specific data.
	Hybridization Solution	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations	
	Enrichment Control DNA	No specific data.	
	Enzyme Strip 1	No specific data.	
	Enzyme Strip 2	No specific data.	
Skin contact	:	RE Buffer	No specific data.
		SSC Buffer	No specific data.
		BSA Solution	No specific data.
		DNA Ligase	No specific data.
		Ligation Solution	No specific data.
		Wash Solution	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
		Capture Solution	No specific data.
		Primer 1	No specific data.
		Primer 2	No specific data.
		HaloPlex Indexing Primer A01 - H06	No specific data.
	Hybridization Solution	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations	
	Enrichment Control DNA	No specific data.	
	Enzyme Strip 1	No specific data.	
	Enzyme Strip 2	No specific data.	
Ingestion	:	RE Buffer	No specific data.
		SSC Buffer	No specific data.
		BSA Solution	No specific data.
		DNA Ligase	No specific data.
		Ligation Solution	No specific data.
		Wash Solution	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
		Capture Solution	No specific data.
		Primer 1	No specific data.
		Primer 2	No specific data.
		HaloPlex Indexing Primer A01 - H06	No specific data.
	Hybridization Solution	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations	

Section 4. First-aid measures

Enrichment Control DNA	No specific data.
Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.

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

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.
	Primer 1	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Primer 2	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	HaloPlex Indexing Primer A01 - H06	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.
	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
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.
Primer 1		No specific treatment.
Primer 2	No specific treatment.	
HaloPlex Indexing Primer	No specific treatment.	

Section 4. First-aid measures

	A01 - H06	No specific treatment.
	Hybridization Solution	No specific treatment.
	Enrichment Control DNA	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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	Ligation Solution	No action shall be taken involving any personal risk or without suitable training.
	Wash Solution	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
	Capture Solution	No action shall be taken involving any personal risk or without suitable training.
	Primer 1	No action shall be taken involving any personal risk or without suitable training.
	Primer 2	No action shall be taken involving any personal risk or without suitable training.
	HaloPlex Indexing Primer	No action shall be taken involving any personal risk or without suitable training.
	A01 - H06	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.
	Enzyme Strip 1	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	Enzyme Strip 2	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	: RE Buffer	Use an extinguishing agent suitable for the surrounding fire.
	SSC Buffer	Use an extinguishing agent suitable for the surrounding fire.
	BSA Solution	Use an extinguishing agent suitable for the surrounding fire.
	DNA Ligase	Use an extinguishing agent suitable for the surrounding fire.
	Ligation Solution	Use an extinguishing agent suitable for the surrounding fire.
	Wash Solution	Use an extinguishing agent suitable for the surrounding fire.
	Capture Solution	Use an extinguishing agent suitable for the surrounding fire.
	Primer 1	Use an extinguishing agent suitable for the surrounding fire.
	Primer 2	Use an extinguishing agent suitable for the surrounding fire.
	HaloPlex Indexing Primer A01 - H06	Use an extinguishing agent suitable for the surrounding fire.
	Hybridization Solution	Use an extinguishing agent suitable for the surrounding fire.
	Enrichment Control DNA	Use an extinguishing agent suitable for the surrounding fire.
	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.
	Primer 1	None known.
	Primer 2	None known.
	HaloPlex Indexing Primer A01 - H06	None known.
	Hybridization Solution	None known.
	Enrichment Control DNA	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	

Section 5. Fire-fighting measures

	Primer 1	and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst.
	Primer 2	In a fire or if heated, a pressure increase will occur and the container may burst.
	HaloPlex Indexing Primer A01 - H06	In a fire or if heated, a pressure increase will occur and the container may burst.
	Hybridization Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	Enrichment Control DNA	In a fire or if heated, a pressure increase will occur and the container may burst.
	Enzyme Strip 1	In a fire or if heated, a pressure increase will occur and the container may burst.
	Enzyme Strip 2	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	RE Buffer	No specific data.
	SSC Buffer	No specific data.
	BSA Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	DNA Ligase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	Ligation Solution	No specific data.
	Wash Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
	Capture Solution	Decomposition products may include the following materials: halogenated compounds metal oxide/oxides
	Primer 1	No specific data.
	Primer 2	No specific data.
	HaloPlex Indexing Primer A01 - H06	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.
	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. Fire-fighting 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.
	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.
	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 Indexing Primer A01 - H06	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.
	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. Fire-fighting 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.
	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.
	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 Indexing Primer A01 - H06	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.
	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 spilled material. Put on appropriate personal protective equipment.
	SSC Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
	BSA Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
	DNA Ligase	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	Ligation Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
	Wash Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	Capture Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
	Primer 1	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
	Primer 2	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

Section 6. Accidental release measures

HaloPlex Indexing Primer A01 - H06	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
Hybridization Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
Enrichment Control DNA	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
Enzyme Strip 1	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
Enzyme Strip 2	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders : RE Buffer	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
SSC Buffer	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
BSA Solution	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
DNA Ligase	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Ligation Solution	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Wash Solution	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Section 6. Accidental release measures

Capture Solution	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Primer 1	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Primer 2	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
HaloPlex Indexing Primer A01 - H06	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Hybridization Solution	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Enrichment Control DNA	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Enzyme Strip 1	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Enzyme Strip 2	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

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

Section 6. Accidental release measures

	Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Capture Solution	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Primer 1	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Primer 2	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
HaloPlex Indexing Primer A01 - H06	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Hybridization Solution	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Enrichment Control DNA	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Enzyme Strip 1	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Enzyme Strip 2	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Methods for cleaning up : RE Buffer

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

Section 6. Accidental release measures

DNA Ligase	<p>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.</p> <p>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.</p>
Ligation Solution	<p>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.</p>
Wash Solution	<p>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.</p>
Capture Solution	<p>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.</p>
Primer 1	<p>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.</p>
Primer 2	<p>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.</p>
HaloPlex Indexing Primer A01 - H06	<p>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.</p>
Hybridization Solution	<p>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.</p>
Enrichment Control DNA	<p>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.</p>
Enzyme Strip 1	<p>Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble.</p>

Section 6. Accidental release measures

Enzyme Strip 2

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.

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). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Ligation Solution	Put on appropriate personal protective equipment (see Section 8).
Wash Solution	Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Capture Solution	Put on appropriate personal protective equipment (see Section 8).
Primer 1	Put on appropriate personal protective equipment (see Section 8).
Primer 2	Put on appropriate personal protective equipment (see Section 8).
HaloPlex Indexing Primer A01 - H06	Put on appropriate personal protective equipment (see Section 8).
Hybridization Solution	Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the

Section 7. Handling and storage

		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).
	Enzyme Strip 1	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	Enzyme Strip 2	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Advice on general occupational hygiene	: RE Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	SSC Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	BSA Solution	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	DNA Ligase	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	Ligation Solution	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	Wash Solution	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face

Section 7. Handling and storage

Capture Solution	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.
Primer 1	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Primer 2	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
HaloPlex Indexing Primer A01 - H06	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Hybridization Solution	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Enrichment Control DNA	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Enzyme Strip 1	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Enzyme Strip 2	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : RE Buffer

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

Section 7. Handling and storage

Capture Solution	<p>drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p> <p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
Primer 1	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
Primer 2	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
HaloPlex Indexing Primer A01 - H06	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
Hybridization Solution	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid</p>

Section 8. Exposure controls/personal protection

Glycerol	<p>CA Alberta Provincial (Canada, 6/2018). OEL: 10 mg/m³ 8 hours. Form: Mist</p> <p>CA Quebec Provincial (Canada, 6/2022). TWAEV: 10 mg/m³ 8 hours. Form: mist</p> <p>CA Saskatchewan Provincial (Canada, 7/2013). STEL: 20 mg/m³ 15 minutes. Form: mist TWA: 10 mg/m³ 8 hours. Form: mist</p> <p>CA British Columbia Provincial (Canada, 6/2023). TWA: 3 mg/m³ 8 hours. Form: respirable mist TWA: 10 mg/m³ 8 hours. Form: total mist</p>
<p>Wash Solution Formamide</p>	<p>CA Alberta Provincial (Canada, 6/2018). Absorbed through skin. OEL: 10 ppm 8 hours. OEL: 18 mg/m³ 8 hours.</p> <p>CA British Columbia Provincial (Canada, 6/2023). Absorbed through skin. TWA: 10 ppm 8 hours.</p> <p>CA Ontario Provincial (Canada, 6/2019). Absorbed through skin. TWA: 10 ppm 8 hours.</p> <p>CA Quebec Provincial (Canada, 6/2022). Absorbed through skin. TWAEV: 10 ppm 8 hours. TWAEV: 18 mg/m³ 8 hours.</p> <p>CA Saskatchewan Provincial (Canada, 7/2013). Absorbed through skin. STEL: 15 ppm 15 minutes. TWA: 10 ppm 8 hours.</p>
<p>Hybridization Solution Formamide</p>	<p>CA Alberta Provincial (Canada, 6/2018). Absorbed through skin. OEL: 10 ppm 8 hours. OEL: 18 mg/m³ 8 hours.</p> <p>CA British Columbia Provincial (Canada, 6/2023). Absorbed through skin. TWA: 10 ppm 8 hours.</p> <p>CA Ontario Provincial (Canada, 6/2019). Absorbed through skin. TWA: 10 ppm 8 hours.</p> <p>CA Quebec Provincial (Canada, 6/2022). Absorbed through skin. TWAEV: 10 ppm 8 hours. TWAEV: 18 mg/m³ 8 hours.</p> <p>CA Saskatchewan Provincial (Canada, 7/2013). Absorbed through skin. STEL: 15 ppm 15 minutes. TWA: 10 ppm 8 hours.</p>
<p>Enzyme Strip 1 Glycerol</p>	<p>CA Alberta Provincial (Canada, 6/2018). OEL: 10 mg/m³ 8 hours. Form: Mist</p> <p>CA Quebec Provincial (Canada, 6/2022).</p>

Section 8. Exposure controls/personal protection

<p>Enzyme Strip 2 Glycerol</p>	<p>TWAEV: 10 mg/m³ 8 hours. Form: mist CA Saskatchewan Provincial (Canada, 7/2013). STEL: 20 mg/m³ 15 minutes. Form: mist TWA: 10 mg/m³ 8 hours. Form: mist CA British Columbia Provincial (Canada, 6/2023). TWA: 3 mg/m³ 8 hours. Form: respirable mist TWA: 10 mg/m³ 8 hours. Form: total mist</p> <p>CA Alberta Provincial (Canada, 6/2018). OEL: 10 mg/m³ 8 hours. Form: Mist CA Quebec Provincial (Canada, 6/2022). TWAEV: 10 mg/m³ 8 hours. Form: mist CA Saskatchewan Provincial (Canada, 7/2013). STEL: 20 mg/m³ 15 minutes. Form: mist TWA: 10 mg/m³ 8 hours. Form: mist CA British Columbia Provincial (Canada, 6/2023). TWA: 3 mg/m³ 8 hours. Form: respirable mist TWA: 10 mg/m³ 8 hours. Form: total mist</p>
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Biological exposure indices

No exposure indices known.

- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately

Section 8. Exposure controls/personal protection

- 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 and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state	:	RE Buffer	Liquid.
		SSC Buffer	Liquid.
		BSA Solution	Liquid. [Clear.]
		DNA Ligase	Liquid.
		Ligation Solution	Liquid.
		Wash Solution	Liquid.
		Capture Solution	Liquid.
		Primer 1	Liquid.
		Primer 2	Liquid.
		HaloPlex Indexing Primer A01 - H06	Liquid.
		Hybridization Solution	Liquid.
		Enrichment Control DNA	Liquid. [Clear.]
		Enzyme Strip 1	Liquid. [Clear.]
		Enzyme Strip 2	Liquid. [Clear.]
Color	:	RE Buffer	Not available.
		SSC Buffer	Not available.
		BSA Solution	Colorless.
		DNA Ligase	Not available.
		Ligation Solution	Not available.
		Wash Solution	Not available.
		Capture Solution	Not available.
		Primer 1	Not available.
		Primer 2	Not available.
		HaloPlex Indexing Primer A01 - H06	Not available.
		Hybridization Solution	Not available.
		Enrichment Control DNA	Colorless.
		Enzyme Strip 1	Colorless.
		Enzyme Strip 2	Colorless.
Odor	:	RE Buffer	Not available.
		SSC Buffer	Not available.
		BSA Solution	Odorless.
		DNA Ligase	Not available.
		Ligation Solution	Not available.
		Wash Solution	Not available.
		Capture Solution	Not available.
		Primer 1	Not available.
		Primer 2	Not available.
		HaloPlex Indexing Primer	Not available.

Section 9. Physical and chemical properties and safety characteristics

	A01 - H06	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	Enzyme Strip 1	Odorless.
	Enzyme Strip 2	Odorless.
Odor 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.
	Primer 1	Not available.
	Primer 2	Not available.
	HaloPlex Indexing Primer	Not available.
	A01 - H06	
	Hybridization Solution	Not available.
	Enrichment Control DNA	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.
	Primer 1	Not available.
	Primer 2	Not available.
	HaloPlex Indexing Primer	Not available.
	A01 - H06	
	Hybridization Solution	7.5
	Enrichment Control DNA	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
Melting point/freezing point	: RE Buffer	0°C (32°F)
	SSC Buffer	0°C (32°F)
	BSA Solution	20°C (68°F)
	DNA Ligase	Not available.
	Ligation Solution	0°C (32°F)
	Wash Solution	Not available.
	Capture Solution	Not available.
	Primer 1	0°C (32°F)
	Primer 2	0°C (32°F)
	HaloPlex Indexing Primer	0°C (32°F)
	A01 - H06	
	Hybridization Solution	Not available.
	Enrichment Control DNA	0°C (32°F)
	Enzyme Strip 1	20°C (68°F)
	Enzyme Strip 2	20°C (68°F)
Boiling point, initial boiling point, and boiling range	: RE Buffer	100°C (212°F)
	SSC Buffer	100°C (212°F)
	BSA Solution	182°C (359.6°F)
	DNA Ligase	Not available.
	Ligation Solution	100°C (212°F)
	Wash Solution	Not available.
	Capture Solution	Not available.
	Primer 1	100°C (212°F)

Section 9. Physical and chemical properties and safety characteristics

	Primer 2	100°C (212°F)
	HaloPlex Indexing Primer A01 - H06	100°C (212°F)
	Hybridization Solution	Not available.
	Enrichment Control DNA	100°C (212°F)
	Enzyme Strip 1	182°C (359.6°F)
	Enzyme Strip 2	182°C (359.6°F)
Flash point	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Closed cup: 160°C (320°F)
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	Primer 1	Not available.
	Primer 2	Not available.
	HaloPlex Indexing Primer A01 - H06	Not available.
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	Enzyme Strip 1	Closed cup: 160°C (320°F)
	Enzyme Strip 2	Closed cup: 160°C (320°F)

Ingredient name	Closed cup			Open cup		
	°C	°F	Method	°C	°F	Method
DNA Ligase						
Glycerol	-	-	-	177	350.6	-
Wash Solution						
Formamide	150	302	-	152	305.6	DIN EN ISO 2592
Hybridization Solution						
Formamide	150	302	-	152	305.6	DIN EN ISO 2592

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.
	Primer 1	Not available.
	Primer 2	Not available.
	HaloPlex Indexing Primer A01 - H06	Not available.
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	Enzyme Strip 1	Not available.
Enzyme Strip 2	Not available.	

Section 9. Physical and chemical properties and safety characteristics

Flammability :

- 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.
- Primer 1 Not applicable.
- Primer 2 Not applicable.
- HaloPlex Indexing Primer A01 - H06 Not applicable.
- Hybridization Solution Not applicable.
- Enrichment Control DNA Not applicable.
- Enzyme Strip 1 Not applicable.
- Enzyme Strip 2 Not applicable.

Lower and upper explosion limit/flammability limit :

- 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.
- Primer 1 Not available.
- Primer 2 Not available.
- HaloPlex Indexing Primer A01 - H06 Not available.
- Hybridization Solution Not available.
- Enrichment Control DNA Not available.
- Enzyme Strip 1 Not available.
- Enzyme Strip 2 Not available.

Vapor pressure :

- BSA Solution <0.13 kPa (<1 mm Hg)
- Enzyme Strip 1 <0.13 kPa (<1 mm Hg)
- Enzyme Strip 2 <0.13 kPa (<1 mm Hg)

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
RE Buffer						
water	17.5	2.3	-	92.258	12.3	-
SSC Buffer						
water	17.5	2.3	-	92.258	12.3	-
DNA Ligase						
water	17.5	2.3	-	92.258	12.3	-
Glycerol	0.000075	0.00001	-	0.0025	0.00033	-
Ligation Solution						
water	17.5	2.3	-	92.258	12.3	-

Section 9. Physical and chemical properties and safety characteristics

Wash Solution							
water	17.5	2.3	-	92.258	12.3	-	-
Formamide	0.045	0.006	-	-	-	-	-
Capture Solution							
water	17.5	2.3	-	92.258	12.3	-	-
Primer 1							
water	17.5	2.3	-	92.258	12.3	-	-
Primer 2							
water	17.5	2.3	-	92.258	12.3	-	-
HaloPlex Indexing Primer A01 - H06							
water	17.5	2.3	-	92.258	12.3	-	-
Hybridization Solution							
water	17.5	2.3	-	92.258	12.3	-	-
Formamide	0.045	0.006	-	-	-	-	-
Enrichment Control DNA							
water	17.5	2.3	-	92.258	12.3	-	-

Relative vapor density

BE Buffer	Not available.
SSC Buffer	Not available.
BSA Solution	3.1 [Air = 1]
DNA Ligase	Not available.
Ligation Solution	Not available.
Wash Solution	Not available.
Capture Solution	Not available.
Primer 1	Not available.
Primer 2	Not available.
HaloPlex Indexing Primer A01 - H06	Not available.
Hybridization Solution	Not available.
Enrichment Control DNA	Not available.
Enzyme Strip 1	3.1 [Air = 1]
Enzyme Strip 2	3.1 [Air = 1]

Section 9. Physical and chemical properties and safety characteristics

Relative density	RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	1.262
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	Primer 1	Not available.
	Primer 2	Not available.
	HaloPlex Indexing Primer A01 - H06	Not available.
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	Enzyme Strip 1	1.262
	Enzyme Strip 2	1.262

Solubility(ies)	Media	Result
	RE Buffer water	Soluble
	SSC Buffer water	Soluble
	BSA Solution water	Soluble
	DNA Ligase water	Soluble
	Ligation Solution water	Soluble
	Wash Solution water	Soluble
	Capture Solution water	Soluble
	Primer 1 water	Soluble
	Primer 2 water	Soluble
	HaloPlex Indexing Primer A01 - H06 water	Soluble
	Hybridization Solution water	Soluble
	Enrichment Control DNA water	Soluble
	Enzyme Strip 1 water	Soluble
	Enzyme Strip 2 water	Soluble

Partition coefficient: n-octanol/water	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.
	Primer 1	Not applicable.
	Primer 2	Not applicable.
	HaloPlex Indexing Primer A01 - H06	Not applicable.
	Hybridization Solution	Not applicable.
	Enrichment Control DNA	Not applicable.

Section 9. Physical and chemical properties and safety characteristics

Auto-ignition temperature	Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.
	BSA Solution	370°C (698°F)
	Enzyme Strip 1	370°C (698°F)
	Enzyme Strip 2	370°C (698°F)

Ingredient name	°C	°F	Method
DNA Ligase			
Glycerol	370	698	-
Wash Solution			
Formamide	>500	>932	ASTM D 2155-66
Hybridization Solution			
Formamide	>500	>932	ASTM D 2155-66

Decomposition temperature	BE 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.
	Primer 1	Not available.
	Primer 2	Not available.
	HaloPlex Indexing Primer A01 - H06	Not available.
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.

Viscosity	BE 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.
	Primer 1	Not available.
	Primer 2	Not available.
	HaloPlex Indexing Primer A01 - H06	Not available.
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.

Particle characteristics

Median particle size	BE Buffer	Not applicable.
	SSC Buffer	Not applicable.
	BSA Solution	Not applicable.
	DNA Ligase	Not applicable.
	Ligation Solution	Not applicable.
	Wash Solution	Not applicable.
	Capture Solution	Not applicable.

Section 9. Physical and chemical properties and safety characteristics

Primer 1	Not applicable.
Primer 2	Not applicable.
HaloPlex Indexing Primer A01 - H06	Not applicable.
Hybridization Solution	Not applicable.
Enrichment Control DNA	Not applicable.
Enzyme Strip 1	Not applicable.
Enzyme Strip 2	Not applicable.

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.
		Primer 1	No specific test data related to reactivity available for this product or its ingredients.
		Primer 2	No specific test data related to reactivity available for this product or its ingredients.
		HaloPlex Indexing Primer A01 - H06	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.
		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.
		Primer 1	The product is stable.
		Primer 2	The product is stable.
		HaloPlex Indexing Primer A01 - H06	The product is stable.
		Hybridization Solution	The product is stable.
		Enrichment Control DNA	The product is stable.
		Enzyme Strip 1	The product is stable.
		Enzyme Strip 2	The product is stable.

Section 10. Stability and reactivity

Possibility of hazardous reactions	: RE Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	SSC Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	BSA Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
	DNA Ligase	Under normal conditions of storage and use, hazardous reactions will not occur.
	Ligation Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
	Wash Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
	Capture Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
	Primer 1	Under normal conditions of storage and use, hazardous reactions will not occur.
	Primer 2	Under normal conditions of storage and use, hazardous reactions will not occur.
	HaloPlex Indexing Primer A01 - H06	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.
	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.
	Primer 1	No specific data.
	Primer 2	No specific data.
	HaloPlex Indexing Primer A01 - H06	No specific data.
	Hybridization Solution	No specific data.
	Enrichment Control DNA	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 oxidizing materials.
	SSC Buffer	May react or be incompatible with oxidizing materials.
	BSA Solution	May react or be incompatible with oxidizing materials.
	DNA Ligase	May react or be incompatible with oxidizing materials.
	Ligation Solution	May react or be incompatible with oxidizing materials.
	Wash Solution	May react or be incompatible with oxidizing materials.
	Capture Solution	May react or be incompatible with oxidizing materials.
	Primer 1	May react or be incompatible with oxidizing materials.
	Primer 2	May react or be incompatible with oxidizing materials.
	HaloPlex Indexing Primer A01 - H06	May react or be incompatible with oxidizing materials.
	Hybridization Solution	May react or be incompatible with oxidizing materials.
	Enrichment Control DNA	May react or be incompatible with oxidizing materials.
	Enzyme Strip 1	May react or be incompatible with oxidizing materials.

Section 10. Stability and reactivity

	Enzyme Strip 2	May react or be incompatible with oxidizing materials.
Hazardous decomposition products	RE Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	SSC Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	BSA Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	DNA Ligase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	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.
	Primer 1	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Primer 2	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	HaloPlex Indexing Primer A01 - H06	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.
	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	-
Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	LD50 Oral	Rat	2800 mg/kg	-

Section 11. Toxicological information

Ligation Solution Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	LD50 Oral	Rat	2800 mg/kg	-
Wash Solution Formamide	LC50 Inhalation Dusts and mists LD50 Dermal LD50 Oral	Rat - Male Rabbit Rat	>21 mg/l 17 g/kg 5570 mg/kg	4 hours - -
Hybridization Solution Formamide	LC50 Inhalation Dusts and mists LD50 Dermal LD50 Oral	Rat - Male Rabbit Rat	>21 mg/l 17 g/kg 5570 mg/kg	4 hours - -
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 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
DNA Ligase Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	Eyes - Severe irritant	Rabbit	-	1 %	-
	Ligation Solution Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	Eyes - Severe irritant	Rabbit	-	1 %
Enzyme Strip 1 Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Enzyme Strip 2 Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-

Section 11. Toxicological information

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Classification

Product/ingredient name	IARC	NTP	ACGIH
Wash Solution Formamide	-	-	A3
Hybridization Solution Formamide	-	-	A3

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Wash Solution Formamide	Category 2	oral	blood
Hybridization Solution Formamide	Category 2	oral	blood

Aspiration hazard

Not available.

Information on the likely routes of exposure

<input checked="" type="checkbox"/> RE Buffer	Not available.
SSC Buffer	Not available.
BSA Solution	Not available.
DNA Ligase	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Ligation Solution	Not available.
Wash Solution	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Capture Solution	Not available.
Primer 1	Not available.
Primer 2	Not available.
HaloPlex Indexing Primer A01 - H06	Not available.
Hybridization Solution	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Enrichment Control DNA	Not available.
Enzyme Strip 1	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Enzyme Strip 2	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Section 11. Toxicological information

Potential acute health effects

Eye contact

: RE Buffer	No known significant effects or critical hazards.
SSC Buffer	No known significant effects or critical hazards.
BSA Solution	No known significant effects or critical hazards.
DNA Ligase	Causes eye irritation.
Ligation Solution	No known significant effects or critical hazards.
Wash Solution	No known significant effects or critical hazards.
Capture Solution	No known significant effects or critical hazards.
Primer 1	No known significant effects or critical hazards.
Primer 2	No known significant effects or critical hazards.
HaloPlex Indexing Primer A01 - H06	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.
Enzyme Strip 1	Causes eye irritation.
Enzyme Strip 2	Causes eye irritation.

Inhalation

: RE Buffer	No known significant effects or critical hazards.
SSC Buffer	No known significant effects or critical hazards.
BSA Solution	No known significant effects or critical hazards.
DNA Ligase	No known significant effects or critical hazards.
Ligation Solution	No known significant effects or critical hazards.
Wash Solution	No known significant effects or critical hazards.
Capture Solution	No known significant effects or critical hazards.
Primer 1	No known significant effects or critical hazards.
Primer 2	No known significant effects or critical hazards.
HaloPlex Indexing Primer A01 - H06	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.
Enzyme Strip 1	No known significant effects or critical hazards.
Enzyme Strip 2	No known significant effects or critical hazards.

Skin contact

: RE Buffer	No known significant effects or critical hazards.
SSC Buffer	No known significant effects or critical hazards.
BSA Solution	No known significant effects or critical hazards.
DNA Ligase	No known significant effects or critical hazards.
Ligation Solution	No known significant effects or critical hazards.
Wash Solution	No known significant effects or critical hazards.
Capture Solution	No known significant effects or critical hazards.
Primer 1	No known significant effects or critical hazards.
Primer 2	No known significant effects or critical hazards.
HaloPlex Indexing Primer A01 - H06	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.
Enzyme Strip 1	No known significant effects or critical hazards.
Enzyme Strip 2	No known significant effects or critical hazards.

Ingestion

: RE Buffer	No known significant effects or critical hazards.
SSC Buffer	No known significant effects or critical hazards.
BSA Solution	No known significant effects or critical hazards.
DNA Ligase	No known significant effects or critical hazards.
Ligation Solution	No known significant effects or critical hazards.
Wash Solution	No known significant effects or critical hazards.
Capture Solution	No known significant effects or critical hazards.
Primer 1	No known significant effects or critical hazards.
Primer 2	No known significant effects or critical hazards.
HaloPlex Indexing Primer A01 - H06	No known significant effects or critical hazards.
Hybridization Solution	No known significant effects or critical hazards.

Section 11. Toxicological information

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

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: RE Buffer SSC Buffer BSA Solution DNA Ligase	No specific data.
		No specific data.
		No specific data.
		Adverse symptoms may include the following: irritation watering redness
	Ligation Solution Wash Solution Capture Solution Primer 1 Primer 2 HaloPlex Indexing Primer A01 - H06	No specific data.
		No specific data.
		No specific data.
		No specific data.
		No specific data.
		No specific data.
	Hybridization Solution Enrichment Control DNA Enzyme Strip 1	No specific data.
		No specific data.
		Adverse symptoms may include the following: irritation watering redness
Enzyme Strip 2	Adverse symptoms may include the following: irritation watering redness	
Inhalation	: RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution	No specific data.
		No specific data.
		No specific data.
		No specific data.
		No specific data.
		Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
	Capture Solution Primer 1 Primer 2 HaloPlex Indexing Primer A01 - H06	No specific data.
		No specific data.
		No specific data.
		No specific data.
	Hybridization Solution	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
		No specific data.
		No specific data.
Skin contact	Enrichment Control DNA Enzyme Strip 1 Enzyme Strip 2	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 fetal weight increase in fetal deaths

Section 11. Toxicological information

	Capture Solution	skeletal malformations
	Primer 1	No specific data.
	Primer 2	No specific data.
	HaloPlex Indexing Primer A01 - H06	No specific data.
	Hybridization Solution	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
	Enrichment Control DNA	No specific data.
	Enzyme Strip 1	No specific data.
	Enzyme Strip 2	No specific data.
Ingestion	: RE Buffer	No specific data.
	SSC Buffer	No specific data.
	BSA Solution	No specific data.
	DNA Ligase	No specific data.
	Ligation Solution	No specific data.
	Wash Solution	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
	Capture Solution	No specific data.
	Primer 1	No specific data.
	Primer 2	No specific data.
	HaloPlex Indexing Primer A01 - H06	No specific data.
	Hybridization Solution	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
	Enrichment Control DNA	No specific data.
	Enzyme Strip 1	No specific data.
	Enzyme Strip 2	No specific data.

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	: RE Buffer	No known significant effects or critical hazards.
	SSC Buffer	No known significant effects or critical hazards.
	BSA Solution	No known significant effects or critical hazards.
	DNA Ligase	No known significant effects or critical hazards.
	Ligation Solution	No known significant effects or critical hazards.
	Wash Solution	May cause damage to organs through prolonged or repeated exposure.
	Capture Solution	No known significant effects or critical hazards.
	Primer 1	No known significant effects or critical hazards.
	Primer 2	No known significant effects or critical hazards.
	HaloPlex Indexing Primer	No known significant effects or critical hazards.

Section 11. Toxicological information

	A01 - H06		
	Hybridization Solution		May cause damage to organs through prolonged or repeated exposure.
	Enrichment Control DNA		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		Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
	Capture Solution		No known significant effects or critical hazards.
	Primer 1		No known significant effects or critical hazards.
	Primer 2		No known significant effects or critical hazards.
	HaloPlex Indexing Primer		No known significant effects or critical hazards.
	A01 - H06		
	Hybridization Solution		Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
	Enrichment Control DNA		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.
	Primer 1		No known significant effects or critical hazards.
	Primer 2		No known significant effects or critical hazards.
	HaloPlex Indexing Primer		No known significant effects or critical hazards.
	A01 - H06		
	Hybridization Solution		No known significant effects or critical hazards.
	Enrichment Control DNA		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.
Reproductive toxicity	: 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 fertility or the unborn child.
	Capture Solution		No known significant effects or critical hazards.
	Primer 1		No known significant effects or critical hazards.
	Primer 2		No known significant effects or critical hazards.
	HaloPlex Indexing Primer		No known significant effects or critical hazards.
	A01 - H06		
	Hybridization Solution		May damage fertility or the unborn child.
	Enrichment Control DNA		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.

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
BSA Solution Glycerol	12600	N/A	N/A	N/A	N/A
DNA Ligase Glycerol	12600	N/A	N/A	N/A	N/A
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	500	N/A	N/A	N/A	N/A
Ligation Solution Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	500	N/A	N/A	N/A	N/A
Wash Solution Wash Solution	51832.8	N/A	N/A	N/A	N/A
Formamide	5570	17000	N/A	N/A	N/A
Capture Solution Capture Solution	51832.8	N/A	N/A	N/A	N/A
Hybridization Solution Hybridization Solution	23166.0	N/A	N/A	N/A	N/A
Formamide	5570	17000	N/A	N/A	N/A
Enzyme Strip 1 Glycerol	12600	N/A	N/A	N/A	N/A
Enzyme Strip 2 Glycerol	12600	N/A	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
BSA Solution Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
DNA Ligase Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Acute EC50 210 µg/l Fresh water	Algae - <i>Selenastrum sp.</i>	96 hours
	Acute LC50 10800 µg/l Marine water	Crustaceans - <i>Pandalus montagui</i> - Adult	48 hours
	Acute LC50 2.518 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 7200 µg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
Ligation Solution Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)	Acute EC50 210 µg/l Fresh water	Algae - <i>Selenastrum sp.</i>	96 hours

Section 12. Ecological information

phenyl]-.omega.-hydroxy-	Acute LC50 10800 µg/l Marine water Acute LC50 2.518 mg/l Fresh water Acute LC50 7200 µg/l Fresh water	Crustaceans - <i>Pandalus montagui</i> - Adult Daphnia - <i>Daphnia magna</i> Fish - <i>Oncorhynchus mykiss</i>	48 hours 48 hours 96 hours
Wash Solution Formamide	Acute EC50 >500 mg/l Fresh water Acute EC50 >500 mg/l Fresh water Acute LC50 6569 mg/l Fresh water Acute NOEC 4640 mg/l Fresh water Acute NOEC 4640 mg/l Fresh water	Algae Daphnia Fish Algae Fish	72 hours 48 hours 96 hours 72 hours 96 hours
Hybridization Solution Formamide	Acute EC50 >500 mg/l Fresh water Acute EC50 >500 mg/l Fresh water Acute LC50 6569 mg/l Fresh water Acute NOEC 4640 mg/l Fresh water Acute NOEC 4640 mg/l Fresh water	Algae Daphnia Fish Algae Fish	72 hours 48 hours 96 hours 72 hours 96 hours
Enzyme Strip 1 Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
Enzyme Strip 2 Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
BSA Solution Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
DNA Ligase Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
Wash Solution Formamide	OECD 301A Ready Biodegradability - DOC Die-Away Test	99 % - Readily - 28 days	-	-
Hybridization Solution Formamide	OECD 301A Ready Biodegradability - DOC Die-Away Test	99 % - Readily - 28 days	-	-
Enzyme Strip 1 Glycerol	301D Ready Biodegradability - Closed Bottle	93 % - 30 days	-	-

Section 12. Ecological information

Enzyme Strip 2 Glycerol	Test 301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability	
Wash Solution Formamide	-	-	Readily	
Hybridization Solution Formamide	-	-	Readily	

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
BSA Solution Glycerol	-1.76	-	Low
DNA Ligase Glycerol	-1.76	-	Low
Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	2.7	78.67	Low
Ligation Solution Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	2.7	78.67	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 minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

TDG / IMDG / IATA : Not regulated.

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

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

Canadian lists

Canadian NPRI : None of the components are listed.

CEPA Toxic substances : None of the components are listed.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Canada : Not determined.

United States : All components are active or exempted.

Section 16. Other information

History

Date of issue/Date of revision : 02/01/2024

Date of previous issue : 02/12/2021


Version : 5

Key to abbreviations

: ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 HPR = Hazardous Products Regulations
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 N/A = Not available
 UN = United Nations

Procedure used to derive the classification

Classification	Justification
DNA Ligase EYE IRRITATION - Category 2B	Calculation method
Wash Solution CARCINOGENICITY - Category 2 TOXIC TO REPRODUCTION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method Calculation method Calculation method
Hybridization Solution CARCINOGENICITY - Category 2 TOXIC TO REPRODUCTION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method Calculation method Calculation method
Enzyme Strip 1 EYE IRRITATION - Category 2B	Calculation method
Enzyme Strip 2 EYE IRRITATION - Category 2B	Calculation method

 Indicates information that has changed from previously issued version.

Notice to reader

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