

SAFETY DATA SHEET

HaloPlex ILM Pre-Pack - 96 Reactions, Part Number 5190-8636

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name	: HaloPlex ILM Pre-Pack - 96 Reactions, Part Number 5190-8636
Part no. (chemical kit)	: 5190-8636
Part no.	: RE Buffer 5190-4997
	SSC Buffer 5190-5356
	BSA Solution 5190-5409
	DNA Ligase 5190-7830
	Ligation Solution 5190-7833
	Wash Solution 5190-4994
	Capture Solution 5190-4995
	Primer 1 5190-5354
	Primer 2 5190-5355
	HaloPlex Indexing Primer A01 - H12 5190-8025
	Hybridization Solution 5190-5352
	Enrichment Control DNA 5190-5353
	Enzyme Strip 1 5190-5357
	Enzyme Strip 2 5190-5358

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

Identified uses	: Analytical reagent.
	RE Buffer 4.8 ml (96 reactions)
	SSC Buffer 2 x 8.15 ml (96 reactions)
	BSA Solution 0.115 ml (96 reactions)
	DNA Ligase 0.34 ml (96 reactions)
	Ligation Solution 6.5 ml (96 reactions)
	Wash Solution 14 ml (96 reactions)
	Capture Solution 4.8 ml (96 reactions)
	Primer 1 0.13 ml (96 reactions)
	Primer 2 0.13 ml (96 reactions)
	HaloPlex Indexing Primer A01 - H12 96 x 0.015 ml
	Hybridization Solution 7 ml (96 reactions)
	Enrichment Control DNA 0.48 ml (96 reactions)
	Enzyme Strip 1 8 x 0.075 ml (96 reactions)
	Enzyme Strip 2 8 x 0.075 ml (96 reactions)
Uses advised against	: None known.

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Deutschland GmbH
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation) : CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition	:	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	Mixture
		Primer A01 - H12	
		Hybridization Solution	Mixture
		Enrichment Control DNA	Mixture
		Enzyme Strip 1	Mixture
		Enzyme Strip 2	Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Wash Solution

H351	CARCINOGENICITY	Category 2
H360	REPRODUCTIVE TOXICITY	Category 1B
H373	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	Category 2

Hybridization Solution

H351	CARCINOGENICITY	Category 2
H360	REPRODUCTIVE TOXICITY	Category 1B
H373	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	Category 2

RE Buffer	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
SSC Buffer	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
BSA Solution	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
DNA Ligase	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Ligation Solution	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Wash Solution	The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Capture Solution	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Primer 1	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Primer 2	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
HaloPlex Indexing Primer A01 - H12	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Hybridization Solution	The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Enrichment Control DNA	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Enzyme Strip 1	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Enzyme Strip 2	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

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

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 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	No signal word.
	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 - H12	No signal word.
	Hybridization Solution	Danger
	Enrichment Control DNA	No signal word.
	Enzyme Strip 1	No signal word.
	Enzyme Strip 2	No signal word.

Hazard statements	RE Buffer	No known significant effects or critical hazards.
	SSC Buffer	No known significant effects or critical hazards.
	BSA Solution	No known significant effects or critical hazards.
	DNA Ligase	No known significant effects or critical hazards.
	Ligation Solution	No known significant effects or critical hazards.
	Wash Solution	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 A01 - H12	No known significant effects or critical hazards.
	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.

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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.

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 vapour.
Capture Solution	Not applicable.
Primer 1	Not applicable.
Primer 2	Not applicable.
HaloPlex Indexing	Not applicable.
Primer A01 - H12	
Hybridization Solution	P201 - Obtain special instructions before use. P280 - Wear protective gloves, protective clothing and eye or face protection. P260 - Do not breathe vapour.

Response

Enrichment Control DNA	Not applicable.
Enzyme Strip 1	Not applicable.
Enzyme Strip 2	Not applicable.
: RE Buffer	Not applicable.
SSC Buffer	Not applicable.
BSA Solution	Not applicable.
DNA Ligase	Not applicable.
Ligation Solution	Not applicable.
Wash Solution	P308 + P313 - IF exposed or concerned: Get medical advice or attention.
Capture Solution	Not applicable.
Primer 1	Not applicable.
Primer 2	Not applicable.
HaloPlex Indexing	Not applicable.
Primer A01 - H12	
Hybridization Solution	P308 + P313 - IF exposed or concerned: Get medical advice or attention.

Storage

Enrichment Control DNA	Not applicable.
Enzyme Strip 1	Not applicable.
Enzyme Strip 2	Not applicable.
: 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	Not applicable.
Primer A01 - H12	
Hybridization Solution	Not applicable.
Enrichment Control DNA	Not applicable.
Enzyme Strip 1	Not applicable.
Enzyme Strip 2	Not applicable.

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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 - H12	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.
Hazardous ingredients	:	Wash Solution	formamide
		Hybridization Solution	formamide
Supplemental label elements	:	RE Buffer	Not applicable.
		SSC Buffer	Not applicable.
		BSA Solution	Not applicable.
		DNA Ligase	Not applicable.
		Ligation Solution	Not applicable.
		Wash Solution	Not applicable.
		Capture Solution	Not applicable.
		Primer 1	Not applicable.
		Primer 2	Not applicable.
		HaloPlex Indexing Primer A01 - H12	Not applicable.
		Hybridization Solution	Not applicable.
		Enrichment Control DNA	Not applicable.
		Enzyme Strip 1	Not applicable.
		Enzyme Strip 2	Not applicable.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	:	RE Buffer	Not applicable.
		SSC Buffer	Not applicable.
		BSA Solution	Not applicable.
		DNA Ligase	Not applicable.
		Ligation Solution	Not applicable.
		Wash Solution	Restricted to professional users.
		Capture Solution	Not applicable.
		Primer 1	Not applicable.
		Primer 2	Not applicable.
		HaloPlex Indexing Primer A01 - H12	Not applicable.
		Hybridization Solution	Restricted to professional users.
		Enrichment Control DNA	Not applicable.
		Enzyme Strip 1	Not applicable.
		Enzyme Strip 2	Not applicable.
<u>Special packaging requirements</u>			
Tactile warning of danger	:	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 - H12	Not applicable.
		Hybridization Solution	Not applicable.

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Enrichment Control DNA	Not applicable.
Enzyme Strip 1	Not applicable.
Enzyme Strip 2	Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

: RE Buffer	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
SSC Buffer	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
BSA Solution	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
DNA Ligase	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Ligation Solution	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Wash Solution	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Capture Solution	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Primer 1	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Primer 2	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
HaloPlex Indexing Primer A01 - H12	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Hybridization Solution	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Enrichment Control DNA	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Enzyme Strip 1	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Enzyme Strip 2	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification

: RE Buffer	None known.
SSC Buffer	None known.
BSA Solution	None known.
DNA Ligase	Contains one or more substances considered to have endocrine-disrupting properties.
Ligation Solution	Contains one or more substances considered to have endocrine-disrupting properties.
Wash Solution	None known.
Capture Solution	None known.
Primer 1	None known.
Primer 2	None known.
HaloPlex Indexing Primer A01 - H12	None known.
Hybridization Solution	None known.
Enrichment Control DNA	None known.
Enzyme Strip 1	None known.
Enzyme Strip 2	None known.

Substances identified as having endocrine disruptor properties

: Ingredient name	Impact
DNA Ligase Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Environment
Ligation Solution Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Environment

SECTION 3: Composition/information on ingredients

3.1 Substances	:	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 A01 - H12	Mixture
		Hybridization Solution	Mixture
		Enrichment Control DNA	Mixture
		Enzyme Strip 1	Mixture
		Enzyme Strip 2	Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
BSA Solution					
glycerol	REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≤10	Not classified.	-	[1]
DNA Ligase					
glycerol	REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	-	[2]
Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	CAS: 9036-19-5	<0.25	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 500 mg/kg M [Acute] = 10 M [Chronic] = 1	[1] [3]
Ligation Solution					
Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	CAS: 9036-19-5	<0.25	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 500 mg/kg M [Acute] = 10 M [Chronic] = 1	[1] [2]
Wash Solution					
formamide	EC: 200-842-0 CAS: 75-12-7	≥10 - ≤25	Carc. 2, H351 Repr. 1B, H360 STOT RE 2, H373 (blood) (oral)	-	[1] [2]
Hybridization Solution					
formamide	EC: 200-842-0 CAS: 75-12-7	≥25 - ≤50	Carc. 2, H351 Repr. 1B, H360 STOT RE 2, H373 (blood) (oral)	-	[1] [2]

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Enzyme Strip 1 glycerol	REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	-	[1]
Enzyme Strip 2 glycerol	REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified. See Section 16 for the full text of the H statements declared above.	-	[1]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

BSA Solution
DNA Ligase

[1] Substance with a workplace exposure limit
[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance of equivalent concern

Ligation Solution

[1] Substance classified with a health or environmental hazard
[2] Substance of equivalent concern

Wash Solution

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit

Hybridization Solution

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit

Enzyme Strip 1
Enzyme Strip 2

[1] Substance with a workplace exposure limit
[1] Substance with a workplace exposure limit

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

: RE Buffer

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

SSC Buffer

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

BSA Solution

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

DNA Ligase

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Ligation Solution

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Wash Solution

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

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

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		lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs. 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. 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.
	HaloPlex Indexing Primer A01 - H12	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. Get medical attention if irritation occurs.
	Enrichment Control DNA	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Enzyme Strip 1	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Enzyme Strip 2	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	: RE Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	SSC Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	BSA Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	DNA Ligase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Ligation Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Wash Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	Capture Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	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 - H12	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Hybridization Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention

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immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

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

Enzyme Strip 1 Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

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

Skin contact

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

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

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

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

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

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

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

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 - H12 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.

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

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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. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	Ligation Solution	Wash out mouth with water. 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 - H12	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

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	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. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Enzyme Strip 2	Wash out mouth with water. 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.
Protection of first-aiders : RE Buffer	No action shall be taken involving any personal risk or without suitable training.
SSC Buffer	No action shall be taken involving any personal risk or without suitable training.
BSA Solution	No action shall be taken involving any personal risk or without suitable training.
DNA Ligase	No action shall be taken involving any personal risk or without suitable training.
Ligation Solution	No action shall be taken involving any personal risk or without suitable training.
Wash Solution	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
Capture Solution	No action shall be taken involving any personal risk or without suitable training.
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 A01 - H12	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.
Enzyme Strip 2	No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed**Potential acute health effects**

SECTION 4: First aid measures

Eye contact	: RE Buffer	No known significant effects or critical hazards.
	SSC Buffer	No known significant effects or critical hazards.
	BSA Solution	No known significant effects or critical hazards.
	DNA Ligase	No known significant effects or critical hazards.
	Ligation Solution	No known significant effects or critical hazards.
	Wash Solution	No known significant effects or critical hazards.
	Capture Solution	No known significant effects or critical hazards.
	Primer 1	No known significant effects or critical hazards.
	Primer 2	No known significant effects or critical hazards.
	HaloPlex Indexing	No known significant effects or critical hazards.
	Primer A01 - H12	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.
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	No known significant effects or critical hazards.
	Primer A01 - H12	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	No known significant effects or critical hazards.
	Primer A01 - H12	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	No known significant effects or critical hazards.
	Primer A01 - H12	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.

Over-exposure signs/symptoms

SECTION 4: First aid measures

Eye contact	:	RE Buffer	No specific data.
		SSC Buffer	No specific data.
		BSA Solution	No specific data.
		DNA Ligase	No specific data.
		Ligation Solution	No specific data.
		Wash Solution	No specific data.
		Capture Solution	No specific data.
		Primer 1	No specific data.
		Primer 2	No specific data.
		HaloPlex Indexing	No specific data.
		Primer A01 - H12	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.
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 foetal weight increase in foetal deaths skeletal malformations
		Capture Solution	No specific data.
		Primer 1	No specific data.
		Primer 2	No specific data.
		HaloPlex Indexing	No specific data.
		Primer A01 - H12	No specific data.
		Hybridization Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
		Enrichment Control DNA	No specific data.
		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 foetal weight increase in foetal deaths skeletal malformations
		Capture Solution	No specific data.
		Primer 1	No specific data.
		Primer 2	No specific data.
		HaloPlex Indexing	No specific data.
		Primer A01 - H12	No specific data.
		Hybridization Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
		Enrichment Control DNA	No specific data.
		Enzyme Strip 1	No specific data.
		Enzyme Strip 2	No specific data.

SECTION 4: First aid measures

Ingestion	:	RE Buffer	No specific data.
		SSC Buffer	No specific data.
		BSA Solution	No specific data.
		DNA Ligase	No specific data.
		Ligation Solution	No specific data.
		Wash Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
		Capture Solution	No specific data.
		Primer 1	No specific data.
		Primer 2	No specific data.
		HaloPlex Indexing	No specific data.
		Primer A01 - H12	
		Hybridization Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
		Enrichment Control DNA	No specific data.
		Enzyme Strip 1	No specific data.
		Enzyme Strip 2	No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

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	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Primer A01 - H12	
		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	No specific treatment.
		SSC Buffer	No specific treatment.
		BSA Solution	No specific treatment.
		DNA Ligase	No specific treatment.
		Ligation Solution	No specific treatment.
		Wash Solution	No specific treatment.
		Capture Solution	No specific treatment.
		Primer 1	No specific treatment.
		Primer 2	No specific treatment.
		HaloPlex Indexing	No specific treatment.

SECTION 4: First aid measures

Primer A01 - H12	
Hybridization Solution	No specific treatment.
Enrichment Control DNA	No specific treatment.
Enzyme Strip 1	No specific treatment.
Enzyme Strip 2	No specific treatment.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing media	: RE Buffer	Use an extinguishing agent suitable for the surrounding fire.
	SSC Buffer	Use an extinguishing agent suitable for the surrounding fire.
	BSA Solution	Use an extinguishing agent suitable for the surrounding fire.
	DNA Ligase	Use an extinguishing agent suitable for the surrounding fire.
	Ligation Solution	Use an extinguishing agent suitable for the surrounding fire.
	Wash Solution	Use an extinguishing agent suitable for the surrounding fire.
	Capture Solution	Use an extinguishing agent suitable for the surrounding fire.
	Primer 1	Use an extinguishing agent suitable for the surrounding fire.
	Primer 2	Use an extinguishing agent suitable for the surrounding fire.
	HaloPlex Indexing	Use an extinguishing agent suitable for the surrounding fire.
	Primer A01 - H12	
	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	None known.
	Primer A01 - H12	
	Hybridization Solution	None known.
	Enrichment Control DNA	None known.
	Enzyme Strip 1	None known.
	Enzyme Strip 2	None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	: RE Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	SSC Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	BSA Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	DNA Ligase	In a fire or if heated, a pressure increase will occur and the container may burst.
	Ligation Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	Wash Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	Capture Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	Primer 1	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	In a fire or if heated, a pressure increase will occur and the container may burst.
	Primer A01 - H12	
	Hybridization Solution	In a fire or if heated, a pressure increase will occur and the container may burst.

SECTION 5: Firefighting measures

Hazardous combustion products	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.
	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 - H12	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
Enzyme Strip 1

No specific data.
Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

5.3 Advice for firefighters

Special precautions 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

SECTION 5: Firefighting measures

	Primer 1	taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	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 - H12	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.
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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 5: Firefighting measures

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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
HaloPlex Indexing Primer A01 - H12	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel	: RE Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	SSC Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	BSA Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	DNA Ligase	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering.

SECTION 6: Accidental release measures

Ligation Solution

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

Wash Solution

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

Capture Solution

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

Primer 1

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

Primer 2

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

HaloPlex Indexing
Primer A01 - H12

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

Hybridization Solution

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

Enrichment Control DNA

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

Enzyme Strip 1

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

Enzyme Strip 2

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

**For emergency
responders**

: RE Buffer

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

SSC Buffer

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

SECTION 6: Accidental release measures

BSA Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
DNA Ligase	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Ligation Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Wash Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Capture Solution	If specialised clothing is required to deal with the 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 specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Primer 2	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
HaloPlex Indexing Primer A01 - H12	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Hybridization Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Enrichment Control DNA	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Enzyme Strip 1	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Enzyme Strip 2	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

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

SECTION 6: Accidental release measures

	authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Ligation Solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Wash Solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Capture Solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Primer 1	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Primer 2	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
HaloPlex Indexing Primer A01 - H12	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Hybridization Solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Enrichment Control DNA	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Enzyme Strip 1	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Enzyme Strip 2	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

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

SECTION 6: Accidental release measures

	harmful to the environment if released. Dispose of spillages under controlled conditions.
Ligation Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. May be harmful to the environment if released. Dispose of spillages under controlled conditions.
Wash Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Capture Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Primer 1	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Primer 2	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
HaloPlex Indexing Primer A01 - H12	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Hybridization Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Enrichment Control DNA	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Enzyme Strip 1	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Enzyme Strip 2	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections

- : See Section 1 for emergency contact information.
- See Section 8 for information on appropriate personal protective equipment.
- See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Protective measures	: RE Buffer	Put on appropriate personal protective equipment (see Section 8).
	SSC Buffer	Put on appropriate personal protective equipment (see Section 8).
	BSA Solution	Put on appropriate personal protective equipment (see Section 8).
	DNA Ligase	Put on appropriate personal protective equipment (see Section 8).
	Ligation Solution	Handle material(s) under controlled conditions. Put on appropriate personal protective equipment (see Section 8).
	Wash Solution	Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	Capture Solution	Put on appropriate personal protective equipment (see Section 8).
	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 - H12	Put on appropriate personal protective equipment (see Section 8).
	Hybridization Solution	Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	Enrichment Control DNA	Put on appropriate personal protective equipment (see Section 8).
	Enzyme Strip 1	Put on appropriate personal protective equipment (see Section 8).
	Enzyme Strip 2	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	: RE Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	SSC Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	BSA Solution	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

SECTION 7: Handling and storage

DNA Ligase

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

Ligation Solution

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

Wash Solution

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

Capture Solution

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

Primer 1

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

Primer 2

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

HaloPlex Indexing
Primer A01 - H12

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

Hybridization Solution

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

Enrichment Control DNA

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

Enzyme Strip 1

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

SECTION 7: Handling and storage

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.

7.2 Conditions for safe storage, including any incompatibilities

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

SECTION 7: Handling and storage

Capture Solution

Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

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

Primer 1

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

Primer 2

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

HaloPlex Indexing
Primer A01 - H12

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

Hybridization Solution

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

Enrichment Control DNA

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

SECTION 7: Handling and storage

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

7.3 Specific end use(s)**Recommendations**

: RE Buffer	Industrial applications, Professional applications.
SSC Buffer	Industrial applications, Professional applications.
BSA Solution	Industrial applications, Professional applications.
DNA Ligase	Industrial applications, Professional applications.
Ligation Solution	Industrial applications, Professional applications.
Wash Solution	Industrial applications, Professional applications.
Capture Solution	Industrial applications, Professional applications.
Primer 1	Industrial applications, Professional applications.
Primer 2	Industrial applications, Professional applications.
HaloPlex Indexing	Industrial applications, Professional applications.
Primer A01 - H12	
Hybridization Solution	Industrial applications, Professional applications.
Enrichment Control DNA	Industrial applications, Professional applications.
Enzyme Strip 1	Industrial applications, Professional applications.
Enzyme Strip 2	Industrial applications, Professional applications.

Industrial sector specific solutions

: RE Buffer	Not 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	Not available.
Primer A01 - H12	
Hybridization Solution	Not available.
Enrichment Control DNA	Not available.
Enzyme Strip 1	Not available.
Enzyme Strip 2	Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
BSA Solution Glycerol	NAOSH (Ireland, 5/2021). Notes: Advisory Occupational Exposure Limit Values (OELVs) OELV: 10 mg/m ³ 8 hours. Form: mist
DNA Ligase Glycerol	NAOSH (Ireland, 5/2021). Notes: Advisory Occupational Exposure Limit Values (OELVs) OELV: 10 mg/m ³ 8 hours. Form: mist
Wash Solution Formamide	NAOSH (Ireland, 5/2021). Absorbed through skin. Notes: Advisory Occupational Exposure Limit Values (OELVs) OELV: 10 ppm 8 hours. OELV: 18 mg/m ³ 8 hours.
Hybridization Solution Formamide	NAOSH (Ireland, 5/2021). Absorbed through skin. Notes: Advisory Occupational Exposure Limit Values (OELVs) OELV: 10 ppm 8 hours. OELV: 18 mg/m ³ 8 hours.
Enzyme Strip 1 Glycerol	NAOSH (Ireland, 5/2021). Notes: Advisory Occupational Exposure Limit Values (OELVs) OELV: 10 mg/m ³ 8 hours. Form: mist
Enzyme Strip 2 Glycerol	NAOSH (Ireland, 5/2021). Notes: Advisory Occupational Exposure Limit Values (OELVs) OELV: 10 mg/m ³ 8 hours. Form: mist

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures

: Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
Wash Solution Formamide	DNEL	Long term Dermal	0.952 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	6.6 mg/m ³	Workers	Systemic
Hybridization Solution Formamide	DNEL	Long term Dermal	0.952 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	6.6 mg/m ³	Workers	Systemic

SECTION 8: Exposure controls/personal protection**PNECs**

No PNECs available

8.2 Exposure controls

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

Individual protection measures

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

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

Skin protection

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

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

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

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

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.

SECTION 9: Physical and chemical properties

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

9.1 Information on basic physical and chemical properties**Appearance**

Physical state	:	RE Buffer	Liquid.
		SSC Buffer	Liquid.
		BSA Solution	Liquid. [Clear.]
		DNA Ligase	Liquid.
		Ligation Solution	Liquid.
		Wash Solution	Liquid.
		Capture Solution	Liquid.
		Primer 1	Liquid.
		Primer 2	Liquid.
		HaloPlex Indexing	Liquid.
		Primer A01 - H12	
		Hybridization Solution	Liquid.

SECTION 9: Physical and chemical properties

	Enrichment Control DNA	Liquid.
	Enzyme Strip 1	Liquid.
	Enzyme Strip 2	Liquid.
Colour	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Colourless.
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	Primer 1	Not available.
	Primer 2	Not available.
	HaloPlex Indexing	Not available.
	Primer A01 - H12	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
Odour	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Odourless.
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	Primer 1	Not available.
	Primer 2	Not available.
	HaloPlex Indexing	Not available.
	Primer A01 - H12	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
Odour threshold	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Not available.
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	Primer 1	Not available.
	Primer 2	Not available.
	HaloPlex Indexing	Not available.
	Primer A01 - H12	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
Melting point/freezing point	: RE Buffer	0°C
	SSC Buffer	0°C
	BSA Solution	20°C
	DNA Ligase	Not available.
	Ligation Solution	0°C
	Wash Solution	Not available.
	Capture Solution	Not available.
	Primer 1	0°C
	Primer 2	0°C
	HaloPlex Indexing	0°C
	Primer A01 - H12	
	Hybridization Solution	Not available.
	Enrichment Control DNA	0°C
	Enzyme Strip 1	Not available.

SECTION 9: Physical and chemical properties

	Enzyme Strip 2	Not available.
Initial boiling point and boiling range	: RE Buffer	100°C
	SSC Buffer	100°C
	BSA Solution	182°C
	DNA Ligase	Not available.
	Ligation Solution	100°C
	Wash Solution	Not available.
	Capture Solution	Not available.
	Primer 1	100°C
	Primer 2	100°C
	HaloPlex Indexing	100°C
	Primer A01 - H12	
	Hybridization Solution	Not available.
	Enrichment Control DNA	100°C
Flammability	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
	: 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	Not applicable.
	Primer A01 - H12	
Upper/lower flammability or explosive limits	Hybridization Solution	Not applicable.
	Enrichment Control DNA	Not applicable.
	Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.
	: 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.
Flash point	HaloPlex Indexing	Not available.
	Primer A01 - H12	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Closed cup: 160°C
	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	Not available.
	Primer A01 - H12	
	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

Ingredient name	Closed cup		Open cup	
	°C	Method	°C	Method
DNA Ligase				
glycerol	-	-	177	-
Wash Solution				
formamide	150	-	152	DIN EN ISO 2592
Hybridization Solution				
formamide	150	-	152	DIN EN ISO 2592
Enzyme Strip 1				
glycerol	-	-	177	-
Enzyme Strip 2				
glycerol	-	-	177	-

Auto-ignition temperature : BSA Solution 370°C
Enzyme Strip 1 370°C
Enzyme Strip 2 370°C

Ingredient name	°C	Method
DNA Ligase		
glycerol	370	-
Wash Solution		
formamide	>500	ASTM D 2155-66
Hybridization Solution		
formamide	>500	ASTM D 2155-66

Decomposition temperature : RE Buffer Not available.
SSC Buffer Not available.
BSA Solution Not available.
DNA Ligase Not available.
Ligation Solution Not available.
Wash Solution Not available.
Capture Solution Not available.
Primer 1 Not available.
Primer 2 Not available.
HaloPlex Indexing Not available.
Primer A01 - H12 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

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	Not available.																																																										
		Primer A01 - H12																																																											
		Hybridization Solution	7.5																																																										
		Enrichment Control DNA	Not available.																																																										
		Enzyme Strip 1	7.4																																																										
		Enzyme Strip 2	7.4																																																										
Viscosity	:	RE Buffer	Not available.																																																										
		SSC Buffer	Not available.																																																										
		BSA Solution	Not available.																																																										
		DNA Ligase	Not available.																																																										
		Ligation Solution	Not available.																																																										
		Wash Solution	Not available.																																																										
		Capture Solution	Not available.																																																										
		Primer 1	Not available.																																																										
		Primer 2	Not available.																																																										
		HaloPlex Indexing	Not available.																																																										
		Primer A01 - H12																																																											
		Hybridization Solution	Not available.																																																										
		Enrichment Control DNA	Not available.																																																										
		Enzyme Strip 1	Not available.																																																										
		Enzyme Strip 2	Not available.																																																										
Solubility(ies)	:	<table><tr><th>Media</th><th>Result</th></tr><tr><td>RE Buffer</td><td></td></tr><tr><td>water</td><td>Soluble</td></tr><tr><td>SSC Buffer</td><td></td></tr><tr><td>water</td><td>Soluble</td></tr><tr><td>BSA Solution</td><td></td></tr><tr><td>water</td><td>Soluble</td></tr><tr><td>DNA Ligase</td><td></td></tr><tr><td>water</td><td>Soluble</td></tr><tr><td>Ligation Solution</td><td></td></tr><tr><td>water</td><td>Soluble</td></tr><tr><td>Wash Solution</td><td></td></tr><tr><td>water</td><td>Soluble</td></tr><tr><td>Capture Solution</td><td></td></tr><tr><td>water</td><td>Soluble</td></tr><tr><td>Primer 1</td><td></td></tr><tr><td>water</td><td>Soluble</td></tr><tr><td>Primer 2</td><td></td></tr><tr><td>water</td><td>Soluble</td></tr><tr><td>HaloPlex Indexing Primer A01 - H12</td><td></td></tr><tr><td>water</td><td>Soluble</td></tr><tr><td>Hybridization Solution</td><td></td></tr><tr><td>water</td><td>Soluble</td></tr><tr><td>Enrichment Control DNA</td><td></td></tr><tr><td>water</td><td>Soluble</td></tr><tr><td>Enzyme Strip 1</td><td></td></tr><tr><td>water</td><td>Soluble</td></tr><tr><td>Enzyme Strip 2</td><td></td></tr><tr><td>water</td><td>Soluble</td></tr></table>		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 - H12		water	Soluble	Hybridization Solution		water	Soluble	Enrichment Control DNA		water	Soluble	Enzyme Strip 1		water	Soluble	Enzyme Strip 2		water	Soluble
	Media	Result																																																											
	RE Buffer																																																												
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	Primer 1																																																												
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Enzyme Strip 1																																																													
water	Soluble																																																												
Enzyme Strip 2																																																													
water	Soluble																																																												

SECTION 9: Physical and chemical properties

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 - H12	Not applicable.
	Hybridization Solution	Not applicable.
	Enrichment Control DNA	Not applicable.
	Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.
Vapour 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	Vapour Pressure at 20° C			Vapour 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	-
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	-

SECTION 9: Physical and chemical properties

HaloPlex Indexing Primer A01 - H12							
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	-

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 - H12	Not available.
		Hybridization Solution	Not available.
		Enrichment Control DNA	Not available.
		Enzyme Strip 1	Not available.
		Enzyme Strip 2	Not available.

Relative density	:	RE Buffer	Not available.
		SSC Buffer	Not available.
		BSA Solution	1.262
		DNA Ligase	Not available.
		Ligation Solution	Not available.
		Wash Solution	Not available.
		Capture Solution	Not available.
		Primer 1	Not available.
		Primer 2	Not available.
		HaloPlex Indexing Primer A01 - H12	Not available.
		Hybridization Solution	Not available.
		Enrichment Control DNA	Not available.
		Enzyme Strip 1	Not available.
		Enzyme Strip 2	Not available.

Vapour density	:	RE Buffer	Not available.
		SSC Buffer	Not available.
		BSA Solution	3.1 [Air = 1]
		DNA Ligase	Not available.
		Ligation Solution	Not available.
		Wash Solution	Not available.
		Capture Solution	Not available.
		Primer 1	Not available.
		Primer 2	Not available.
		HaloPlex Indexing Primer A01 - H12	Not available.
		Hybridization Solution	Not available.
		Enrichment Control DNA	Not available.
		Enzyme Strip 1	Not available.

SECTION 9: Physical and chemical properties

Explosive properties	Enzyme Strip 2	Not available.
	: 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	Not available.
	Primer A01 - H12	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
Oxidising properties	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
	: 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	Not available.
	Primer A01 - H12	
	Hybridization Solution	Not available.
	Enrichment Control DNA	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.

Particle characteristics

Median particle size	: 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	Not applicable.
	Primer A01 - H12	
	Hybridization Solution	Not applicable.
	Enrichment Control DNA	Not applicable.
	Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 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

SECTION 10: Stability and reactivity

Wash Solution	product or its ingredients. 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 - H12	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.

10.2 Chemical stability

: RE Buffer	The product is stable.
SSC Buffer	The product is stable.
BSA Solution	The product is stable.
DNA Ligase	The product is stable.
Ligation Solution	The product is stable.
Wash Solution	The product is stable.
Capture Solution	The product is stable.
Primer 1	The product is stable.
Primer 2	The product is stable.
HaloPlex Indexing Primer A01 - H12	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.

10.3 Possibility of hazardous reactions

: RE Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
SSC Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
BSA Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
DNA Ligase	Under normal conditions of storage and use, hazardous reactions will not occur.
Ligation Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
Wash Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
Capture Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
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 - H12	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.

SECTION 10: Stability and reactivity

Enzyme Strip 2

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

: RE Buffer	No specific data.
SSC Buffer	No specific data.
BSA Solution	No specific data.
DNA Ligase	No specific data.
Ligation Solution	No specific data.
Wash Solution	No specific data.
Capture Solution	No specific data.
Primer 1	No specific data.
Primer 2	No specific data.
HaloPlex Indexing Primer A01 - H12	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.

10.5 Incompatible materials

: RE Buffer	May react or be incompatible with oxidising materials.
SSC Buffer	May react or be incompatible with oxidising materials.
BSA Solution	May react or be incompatible with oxidising materials.
DNA Ligase	May react or be incompatible with oxidising materials.
Ligation Solution	May react or be incompatible with oxidising materials.
Wash Solution	May react or be incompatible with oxidising materials.
Capture Solution	May react or be incompatible with oxidising materials.
Primer 1	May react or be incompatible with oxidising materials.
Primer 2	May react or be incompatible with oxidising materials.
HaloPlex Indexing Primer A01 - H12	May react or be incompatible with oxidising materials.
Hybridization Solution	May react or be incompatible with oxidising materials.
Enrichment Control DNA	May react or be incompatible with oxidising materials.
Enzyme Strip 1	May react or be incompatible with oxidising materials.
Enzyme Strip 2	May react or be incompatible with oxidising materials.

10.6 Hazardous decomposition products

: RE Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
SSC Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
BSA Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
DNA Ligase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Ligation Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Wash Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Capture Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
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 - H12	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 10: Stability and reactivity

decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
DNA Ligase Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	LD50 Oral	Rat	2800 mg/kg	-
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 - -

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
DNA Ligase 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 Formamide	5570	17000	N/A	N/A	N/A
Hybridization Solution Formamide	5570	17000	N/A	N/A	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
DNA Ligase 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 %	-

SECTION 11: Toxicological information

Sensitiser

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Product/ingredient 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 likely routes of exposure

RE Buffer	Not available.
SSC Buffer	Not available.
BSA Solution	Not available.
DNA Ligase	Routes of entry anticipated: Oral, Dermal, Inhalation, 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	Not available.
Primer A01 - H12	
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.

Potential acute health effects

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	No known significant effects or critical hazards.
	Primer A01 - H12	
	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.

SECTION 11: Toxicological information

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	No known significant effects or critical hazards.
	Primer A01 - H12	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	No known significant effects or critical hazards.
	Primer A01 - H12	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.
Eye contact	: RE Buffer	No known significant effects or critical hazards.
	SSC Buffer	No known significant effects or critical hazards.
	BSA Solution	No known significant effects or critical hazards.
	DNA Ligase	No known significant effects or critical hazards.
	Ligation Solution	No known significant effects or critical hazards.
	Wash Solution	No known significant effects or critical hazards.
	Capture Solution	No known significant effects or critical hazards.
	Primer 1	No known significant effects or critical hazards.
	Primer 2	No known significant effects or critical hazards.
	HaloPlex Indexing	No known significant effects or critical hazards.
	Primer A01 - H12	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.

Symptoms related to the physical, chemical and toxicological characteristics

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 foetal weight increase in foetal deaths skeletal malformations
	Capture Solution	No specific data.
	Primer 1	No specific data.
	Primer 2	No specific data.
	HaloPlex Indexing	No specific data.
	Primer A01 - H12	No specific data.
	Hybridization Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths

SECTION 11: Toxicological information**Ingestion**

Enrichment Control DNA	skeletal malformations
Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.
: RE Buffer	No specific data.
SSC Buffer	No specific data.
BSA Solution	No specific data.
DNA Ligase	No specific data.
Ligation Solution	No specific data.
Wash Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
Capture Solution	No specific data.
Primer 1	No specific data.
Primer 2	No specific data.
HaloPlex Indexing	No specific data.
Primer A01 - H12	
Hybridization Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations

Skin contact

Enrichment Control DNA	No specific data.
Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.
: RE Buffer	No specific data.
SSC Buffer	No specific data.
BSA Solution	No specific data.
DNA Ligase	No specific data.
Ligation Solution	No specific data.
Wash Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
Capture Solution	No specific data.
Primer 1	No specific data.
Primer 2	No specific data.
HaloPlex Indexing	No specific data.
Primer A01 - H12	
Hybridization Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations

Eye contact

Enrichment Control DNA	No specific data.
Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.
: RE Buffer	No specific data.
SSC Buffer	No specific data.
BSA Solution	No specific data.
DNA Ligase	No specific data.
Ligation Solution	No specific data.
Wash Solution	No specific data.
Capture Solution	No specific data.
Primer 1	No specific data.
Primer 2	No specific data.
HaloPlex Indexing	No specific data.
Primer A01 - H12	
Hybridization Solution	No specific data.
Enrichment Control DNA	No specific data.
Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.

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

SECTION 11: Toxicological information

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

Conclusion/Summary : Not available.

General	RE Buffer	No known significant effects or critical hazards.
	SSC Buffer	No known significant effects or critical hazards.
	BSA Solution	No known significant effects or critical hazards.
	DNA Ligase	No known significant effects or critical hazards.
	Ligation Solution	No known significant effects or critical hazards.
	Wash Solution	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	No known significant effects or critical hazards.
	Primer A01 - H12	No known significant effects or critical hazards.
	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	No known significant effects or critical hazards.
	Primer A01 - H12	No known significant effects or critical hazards.
	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	No known significant effects or critical hazards.
	Primer A01 - H12	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.

SECTION 11: Toxicological information

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	No known significant effects or critical hazards.
	Primer A01 - H12	No known significant effects or critical hazards.
	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.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
DNA Ligase 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) 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
Wash Solution Formamide	Acute EC50 >500 mg/l Fresh water	Algae	72 hours
	Acute EC50 >500 mg/l Fresh water	Daphnia	48 hours
	Acute LC50 6569 mg/l Fresh water	Fish	96 hours
	Acute NOEC 4640 mg/l Fresh water	Algae	72 hours
	Acute NOEC 4640 mg/l Fresh water	Fish	96 hours
Hybridization Solution Formamide	Acute EC50 >500 mg/l Fresh water	Algae	72 hours
	Acute EC50 >500 mg/l Fresh water	Daphnia	48 hours
	Acute LC50 6569 mg/l Fresh water	Fish	96 hours
	Acute NOEC 4640 mg/l Fresh water	Algae	72 hours
	Acute NOEC 4640 mg/l Fresh water	Fish	96 hours

12.2 Persistence and degradability

SECTION 12: Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
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	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Wash Solution Formamide	-	-	Readily
Hybridization Solution Formamide	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
DNA Ligase 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

12.4 Mobility in soil

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

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

DNA Ligase	Contains one or more substances considered to have endocrine-disrupting properties.
Ligation Solution	Contains one or more substances considered to have endocrine-disrupting properties.

SECTION 12: Ecological information

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : Dispose of material(s) and residues under controlled conditions. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number or ID number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

Additional information

14.6 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.

14.7 Transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
DNA Ligase Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Endocrine disrupting properties for environment	Listed	42	7/3/2017
Ligation Solution Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Endocrine disrupting properties for environment	Listed	42	7/3/2017

Substances of very high concern

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
DNA Ligase Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Endocrine disrupting properties for environment	Recommended	ED/169/2012	7/3/2017
Ligation Solution Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Endocrine disrupting properties for environment	Recommended	ED/169/2012	7/3/2017
Wash Solution Formamide	Toxic to reproduction	Candidate	ED/87/2012	6/18/2012
Hybridization Solution Formamide	Toxic to reproduction	Candidate	ED/87/2012	6/18/2012

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product / Ingredient name	Identifiers	Designation [Usage]
Wash Solution Wash Solution Formamide		3 30 30
Hybridization Solution Hybridization Solution Formamide		3 30 30

Label	: RE Buffer	Not applicable.
	SSC Buffer	Not applicable.
	BSA Solution	Not applicable.
	DNA Ligase	Not applicable.
	Ligation Solution	Not applicable.
	Wash Solution	Restricted to professional users.
	Capture Solution	Not applicable.
	Primer 1	Not applicable.
	Primer 2	Not applicable.
	HaloPlex Indexing Primer	Not applicable.
	A01 - H12	
	Hybridization Solution	Restricted to professional users.

SECTION 15: Regulatory information

Enrichment Control DNA	Not applicable.
Enzyme Strip 1	Not applicable.
Enzyme Strip 2	Not applicable.

Other EU regulations**Ozone depleting substances (1005/2009/EU)**

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

Product/ingredient name	List name	Name on list	Classification	Notes
Wash Solution formamide	Ireland Occupational Exposure Limits	formamide	Repro. Repr.1B	-
Hybridization Solution formamide	Ireland Occupational Exposure Limits	formamide	Repro. Repr.1B	-

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

Australia	: Not determined.
Canada	: Not determined.
China	: Not determined.
Eurasian Economic Union	: Russian Federation inventory : Not determined.
Japan	: Japan inventory (CSCL) : Not determined. Japan inventory (ISHL) : Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: All components are listed or exempted.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: All components are active or exempted.
Viet Nam	: Not determined.

SECTION 15: Regulatory information

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments might still be required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
N/A = Not available
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Wash Solution Carc. 2, H351 Repr. 1B, H360 STOT RE 2, H373	Calculation method Calculation method Calculation method
Hybridization Solution Carc. 2, H351 Repr. 1B, H360 STOT RE 2, H373	Calculation method Calculation method Calculation method

Full text of abbreviated H statements

DNA Ligase H302 H315 H318 H400 H410	Harmful if swallowed. Causes skin irritation. Causes serious eye damage. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.
Ligation Solution H302 H315 H318 H400 H410	Harmful if swallowed. Causes skin irritation. Causes serious eye damage. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.
Wash Solution H351 H360 H373	Suspected of causing cancer. May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.
Hybridization Solution H351 H360 H373	Suspected of causing cancer. May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.

Full text of classifications [CLP/GHS]

SECTION 16: Other information

<p>DNA Ligase Acute Tox. 4 Aquatic Acute 1 Aquatic Chronic 1 Eye Dam. 1 Skin Irrit. 2</p> <p>Ligation Solution Acute Tox. 4 Aquatic Acute 1 Aquatic Chronic 1 Eye Dam. 1 Skin Irrit. 2</p> <p>Wash Solution Carc. 2 Repr. 1B STOT RE 2</p> <p>Hybridization Solution Carc. 2 Repr. 1B STOT RE 2</p>	<p>ACUTE TOXICITY - Category 4 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SKIN CORROSION/IRRITATION - Category 2</p> <p>ACUTE TOXICITY - Category 4 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SKIN CORROSION/IRRITATION - Category 2</p> <p>CARCINOGENICITY - Category 2 REPRODUCTIVE TOXICITY - Category 1B SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2</p> <p>CARCINOGENICITY - Category 2 REPRODUCTIVE TOXICITY - Category 1B SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2</p>
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Date of previous issue : No previous validation

Version : 1

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