

# SAFETY DATA SHEET



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

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

### 1.1 Product identifier

<b>Product name</b>	: HaloPlex ILM Pre-Pack - 48 Reactions, Part Number 5190-8635
<b>Part No. (Kit)</b>	: 5190-8635
<b>Part No.</b>	: RE Buffer 5190-5956
	SSC Buffer 5190-5960
	BSA Solution 5190-5963
	DNA Ligase 5190-5955
	Ligation Solution 5190-5952
	Wash Solution 5190-5953
	Capture Solution 5190-5954
	Primer 1 5190-5958
	Primer 2 5190-5959
	HaloPlex Indexing 5190-8026
	Primer A01 - H06
	Hybridization Solution 5190-5951
	Enrichment Control DNA 5190-5957
	Enzyme Strip 1 5190-5961
	Enzyme Strip 2 5190-5962

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

Identified uses	
Analytical reagent.	
RE Buffer	2.4 ml
SSC Buffer	8.15 ml
BSA Solution	0.058 ml
DNA Ligase	0.17 ml
Ligation Solution	3.25 ml
Wash Solution	7 ml
Capture Solution	2.4 ml
Primer 1	0.068 ml
Primer 2	0.068 ml
HaloPlex Indexing Primer A01 - H06	48 x 0.015 ml
Hybridization Solution	3.5 ml
Enrichment Control DNA	0.24 ml
Enzyme Strip 1	8 x 0.038 ml
Enzyme Strip 2	8 x 0.038 ml

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

Agilent Technologies Manufacturing GmbH & Co. KG  
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

<b>Product definition</b>	:	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 - H06	
		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

H360D REPRODUCTIVE TOXICITY (Unborn child) - Category 1B

##### Hybridization Solution

H319 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2  
H360D REPRODUCTIVE TOXICITY (Unborn child) - Category 1B

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



#### 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	No signal word.
	Primer A01 - H06	
	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	<b>GHS08</b> - May damage 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 - H06	
	Hybridization Solution	

**SECTION 2: Hazards identification****GHS07 -**

Causes serious eye irritation.

**GHS08 -**

May damage 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.

**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. Wear eye or face protection.

Wear protective clothing.

Capture Solution

Not applicable.

Primer 1

Not applicable.

Primer 2

Not applicable.

HaloPlex Indexing

Not applicable.

Primer A01 - H06

Hybridization Solution

P201 - Obtain special instructions before use.

P280 - Wear protective gloves. Wear eye or face protection.

Wear protective clothing.

Enrichment Control DNA

Not applicable.

Enzyme Strip 1

Not applicable.

Enzyme Strip 2

Not applicable.

**Response**

: RE Buffer

Not applicable.

SSC Buffer

Not applicable.

BSA Solution

Not applicable.

DNA Ligase

Not applicable.

Ligation Solution

Not applicable.

Wash Solution

P308 + P313 - IF exposed or concerned: Get medical attention.

Capture Solution

Not applicable.

Primer 1

Not applicable.

Primer 2

Not applicable.

HaloPlex Indexing

Not applicable.

Primer A01 - H06

Hybridization Solution

P308 + P313 - IF exposed or concerned: Get medical attention.

P305 + P351 - IF IN EYES: Rinse cautiously with water for several minutes.

Enrichment Control DNA

Not applicable.

Enzyme Strip 1

Not applicable.

Enzyme Strip 2

Not applicable.

**Storage**

: RE Buffer

Not applicable.

SSC Buffer

Not applicable.

BSA Solution

Not applicable.

DNA Ligase

Not applicable.

Ligation Solution

Not applicable.

Wash Solution

P405 - Store locked up.

Capture Solution

Not applicable.

Primer 1

Not applicable.

Primer 2

Not applicable.

HaloPlex Indexing

Not applicable.

Primer A01 - H06

Hybridization Solution

P405 - Store locked up.

Enrichment Control DNA

Not applicable.

Enzyme Strip 1

Not applicable.

Enzyme Strip 2

Not applicable.

**SECTION 2: Hazards identification**

<b>Disposal</b>	: RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution  Capture Solution Primer 1 Primer 2 HaloPlex Indexing Primer A01 - H06 Hybridization Solution  Enrichment Control DNA Enzyme Strip 1 Enzyme Strip 2	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. Not applicable. Not applicable. Not applicable. Not applicable. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. Not applicable. Not applicable. Not applicable.
<b>Hazardous ingredients</b>	: Wash Solution Capture Solution Hybridization Solution	- formamide Not applicable. - formamide
<b>Supplemental label elements</b>	: RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution Primer 1 Primer 2 HaloPlex Indexing Primer A01 - H06 Hybridization Solution Enrichment Control DNA Enzyme Strip 1 Enzyme Strip 2	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Safety data sheet available on request. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>	: RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution Primer 1 Primer 2 HaloPlex Indexing Primer A01 - H06 Hybridization Solution Enrichment Control DNA Enzyme Strip 1 Enzyme Strip 2	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Restricted to professional users. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Restricted to professional users. Not applicable. Not applicable. Not applicable.
<b><u>Special packaging requirements</u></b>		
<b>Tactile warning of danger</b>	: RE Buffer SSC Buffer BSA Solution DNA Ligase Ligation Solution Wash Solution Capture Solution Primer 1 Primer 2 HaloPlex Indexing Primer A01 - H06	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.

## SECTION 2: Hazards identification

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

### 2.3 Other hazards

<b>Other hazards which do not result in classification</b>	: RE Buffer	None known.
	SSC Buffer	None known.
	BSA Solution	None known.
	DNA Ligase	None known.
	Ligation Solution	None known.
	Wash Solution	None known.
	Capture Solution	None known.
	Primer 1	None known.
	Primer 2	None known.
	HaloPlex Indexing Primer A01 - H06	None known.
	Hybridization Solution	None known.
	Enrichment Control DNA	None known.
	Enzyme Strip 1	None known.
	Enzyme Strip 2	None known.

## SECTION 3: Composition/information on ingredients

<b>3.2 Mixtures</b>	: 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 - H06	Mixture
	Hybridization Solution	Mixture
	Enrichment Control DNA	Mixture
	Enzyme Strip 1	Mixture
	Enzyme Strip 2	Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
<b>BSA Solution</b> Glycerol	EC: 200-289-5 CAS: 56-81-5	≤10	Not classified.	[2]
<b>DNA Ligase</b> Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
<b>Ligation Solution</b> Glycerol	EC: 200-289-5 CAS: 56-81-5	≤10	Not classified.	[2]
<b>Wash Solution</b> Formamide	EC: 200-842-0 CAS: 75-12-7 Index: 616-052-00-8	≥10 - ≤25	Repr. 1B, H360D (Unborn child)	[1] [2]
Sodium chloride	EC: 231-598-3 CAS: 7647-14-5	<10	Eye Irrit. 2, H319	[1]
<b>Capture Solution</b> Sodium chloride	EC: 231-598-3	<10	Eye Irrit. 2, H319	[1]

### SECTION 3: Composition/information on ingredients

<b>Hybridization Solution</b>	CAS: 7647-14-5			
Formamide	EC: 200-842-0 CAS: 75-12-7 Index: 616-052-00-8	≥25 - ≤50	Repr. 1B, H360D (Unborn child)	[1] [2]
Sodium chloride	EC: 231-598-3 CAS: 7647-14-5	≥10 - ≤25	Eye Irrit. 2, H319	[1]
<b>Enzyme Strip 1</b>				
Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
<b>Enzyme Strip 2</b>				
Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
			<b>See Section 16 for the full text of the H statements declared above.</b>	

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

#### Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

<b>Eye contact</b>	: RE Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	SSC Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	BSA Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	DNA Ligase	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Ligation Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Wash Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
	Capture Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Primer 1	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Primer 2	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	HaloPlex Indexing Primer A01 - H06	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

**SECTION 4: First aid measures**

	Hybridization Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
	Enrichment Control DNA	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	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.
<b>Inhalation</b>	: 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 - H06	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Hybridization Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**SECTION 4: First aid measures**

	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.
<b>Skin contact</b>	: RE Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	SSC Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	BSA Solution	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	DNA Ligase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	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 - H06	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Hybridization Solution	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Enrichment Control DNA	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Enzyme Strip 1	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Enzyme Strip 2	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.



**SECTION 4: First aid measures**

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

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Hybridization Solution	conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Enrichment Control DNA	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Enzyme Strip 1	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Enzyme Strip 2	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
<b>Protection of first-aiders</b> : RE Buffer	No action shall be taken involving any personal risk or without suitable training.
SSC Buffer	No action shall be taken involving any personal risk or without suitable training.
BSA Solution	No action shall be taken involving any personal risk or without suitable training.
DNA Ligase	No action shall be taken involving any personal risk or without suitable training.
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 - H06	No action shall be taken involving any personal risk or without suitable training.
Hybridization Solution	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth

**SECTION 4: First aid measures**

	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**

<b>Eye contact</b>	:	RE Buffer	No known significant effects or critical hazards.
		SSC Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		DNA Ligase	No known significant effects or critical hazards.
		Ligation Solution	No known significant effects or critical hazards.
		Wash Solution	No known significant effects or critical hazards.
		Capture Solution	No known significant effects or critical hazards.
		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 - H06	
		Hybridization Solution	Causes serious eye irritation.
		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.
<b>Inhalation</b>	:	RE Buffer	No known significant effects or critical hazards.
		SSC Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		DNA Ligase	No known significant effects or critical hazards.
		Ligation Solution	No known significant effects or critical hazards.
		Wash Solution	No known significant effects or critical hazards.
		Capture Solution	No known significant effects or critical hazards.
		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 - H06	
		Hybridization Solution	No known significant effects or critical hazards.
		Enrichment Control DNA	No known significant effects or critical hazards.
		Enzyme Strip 1	No known significant effects or critical hazards.
		Enzyme Strip 2	No known significant effects or critical hazards.
<b>Skin contact</b>	:	RE Buffer	No known significant effects or critical hazards.
		SSC Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		DNA Ligase	No known significant effects or critical hazards.
		Ligation Solution	No known significant effects or critical hazards.
		Wash Solution	No known significant effects or critical hazards.
		Capture Solution	No known significant effects or critical hazards.
		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 - H06	
		Hybridization Solution	No known significant effects or critical hazards.
		Enrichment Control DNA	No known significant effects or critical hazards.
		Enzyme Strip 1	No known significant effects or critical hazards.
		Enzyme Strip 2	No known significant effects or critical hazards.

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<b>Ingestion</b>	:	RE Buffer	No known significant effects or critical hazards.
		SSC Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		DNA Ligase	No known significant effects or critical hazards.
		Ligation Solution	No known significant effects or critical hazards.
		Wash Solution	No known significant effects or critical hazards.
		Capture Solution	No known significant effects or critical hazards.
		Primer 1	No known significant effects or critical hazards.
		Primer 2	No known significant effects or critical hazards.
		HaloPlex Indexing Primer A01 - H06	No known significant effects or critical hazards.
		Hybridization Solution	No known significant effects or critical hazards.
		Enrichment Control DNA	No known significant effects or critical hazards.
		Enzyme Strip 1	No known significant effects or critical hazards.
	Enzyme Strip 2	No known significant effects or critical hazards.	

**Over-exposure signs/symptoms**

<b>Eye contact</b>	:	RE Buffer	No specific data.
		SSC Buffer	No specific data.
		BSA Solution	No specific data.
		DNA Ligase	No specific data.
		Ligation Solution	No specific data.
		Wash Solution	No specific data.
		Capture Solution	No specific data.
		Primer 1	No specific data.
		Primer 2	No specific data.
		HaloPlex Indexing Primer A01 - H06	No specific data.
		Hybridization Solution	Adverse symptoms may include the following: pain or irritation watering redness
		Enrichment Control DNA	No specific data.
		Enzyme Strip 1	No specific data.
	Enzyme Strip 2	No specific data.	

<b>Inhalation</b>	:	RE Buffer	No specific data.
		SSC Buffer	No specific data.
		BSA Solution	No specific data.
		DNA Ligase	No specific data.
		Ligation Solution	No specific data.
		Wash Solution	Adverse symptoms may include the following: reduced 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 Primer A01 - H06	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.	

<b>Skin contact</b>	:	RE Buffer	No specific data.
		SSC Buffer	No specific data.
		BSA Solution	No specific data.
		DNA Ligase	No specific data.
		Ligation Solution	No specific data.
		Wash Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths

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	Capture Solution	skeletal malformations
	Primer 1	No specific data.
	Primer 2	No specific data.
	HaloPlex Indexing Primer A01 - H06	No specific data.
	Hybridization Solution	Adverse symptoms may include the following: reduced 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.
<b>Ingestion</b>	: RE Buffer	No specific data.
	SSC Buffer	No specific data.
	BSA Solution	No specific data.
	DNA Ligase	No specific data.
	Ligation Solution	No specific data.
	Wash Solution	Adverse symptoms may include the following: reduced 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 Primer A01 - H06	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.

**4.3 Indication of any immediate medical attention and special treatment needed**

<b>Notes to physician</b>	: RE Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	SSC Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	BSA Solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	DNA Ligase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Ligation Solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Wash Solution	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	Capture Solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Primer 1	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Primer 2	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	HaloPlex Indexing Primer A01 - H06	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Hybridization Solution	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	Enrichment Control DNA	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Enzyme Strip 1	Treat symptomatically. Contact poison treatment specialist

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	Enzyme Strip 2	immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	: RE Buffer	No specific treatment.
	SSC Buffer	No specific treatment.
	BSA Solution	No specific treatment.
	DNA Ligase	No specific treatment.
	Ligation Solution	No specific treatment.
	Wash Solution	No specific treatment.
	Capture Solution	No specific treatment.
	Primer 1	No specific treatment.
	Primer 2	No specific treatment.
	HaloPlex Indexing	No specific treatment.
	Primer A01 - H06	No specific treatment.
	Hybridization Solution	No specific treatment.
	Enrichment Control DNA	No specific treatment.
	Enzyme Strip 1	No specific treatment.
	Enzyme Strip 2	No specific treatment.

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

<b>Suitable extinguishing media</b>	: 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 - H06	Use an extinguishing agent suitable for the surrounding fire.
	Hybridization Solution	Use an extinguishing agent suitable for the surrounding fire.
	Enrichment Control DNA	Use an extinguishing agent suitable for the surrounding fire.
	Enzyme Strip 1	Use an extinguishing agent suitable for the surrounding fire.
	Enzyme Strip 2	Use an extinguishing agent suitable for the surrounding fire.

<b>Unsuitable extinguishing media</b>	: RE Buffer	None known.
	SSC Buffer	None known.
	BSA Solution	None known.
	DNA Ligase	None known.
	Ligation Solution	None known.
	Wash Solution	None known.
	Capture Solution	None known.
	Primer 1	None known.
	Primer 2	None known.
	HaloPlex Indexing	None known.
	Primer A01 - H06	None known.
	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**

<b>Hazards from the substance or mixture</b>	: 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

**SECTION 5: Firefighting measures**

	Wash Solution	container may burst. 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 Primer A01 - H06 Hybridization Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	Enrichment Control DNA	In a fire or if heated, a pressure increase will occur and the container may burst.
	Enzyme Strip 1	In a fire or if heated, a pressure increase will occur and the container may burst.
	Enzyme Strip 2	In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous combustion products</b>	: 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	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	Wash Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
	Capture Solution	Decomposition products may include the following materials: halogenated compounds metal oxide/oxides
	Primer 1	No specific data.
	Primer 2	No specific data.
	HaloPlex Indexing Primer A01 - H06 Hybridization Solution	No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
	Enrichment Control DNA	No specific data.
	Enzyme Strip 1	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	Enzyme Strip 2	Decomposition products may include the following materials: carbon dioxide carbon monoxide

**5.3 Advice for firefighters**

**SECTION 5: Firefighting measures**

<b>Special precautions for fire-fighters</b>	: RE Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	SSC Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	BSA Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	DNA Ligase	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Ligation Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Wash Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Capture Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Primer 1	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Primer 2	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	HaloPlex Indexing Primer A01 - H06	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Hybridization Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Enrichment Control DNA	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Enzyme Strip 1	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Enzyme Strip 2	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	<b>Special protective equipment for fire-fighters</b>	: RE Buffer
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)



**SECTION 5: Firefighting measures**

Ligation Solution	conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. 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	conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. 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	conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. 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 1	conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. 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	conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. 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 - H06	conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. 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	conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. 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	conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. 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	conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. 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	conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. 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**

<b>For non-emergency personnel</b>	: RE Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	SSC Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	BSA Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	DNA Ligase	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	Ligation Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	Wash Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	Capture Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	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 - H06	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through 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.

**SECTION 6: Accidental release measures**

	Enzyme Strip 1	Do not touch or walk through spilled material. Put on appropriate personal protective equipment. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
	Enzyme Strip 2	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	: RE Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	SSC Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	BSA Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	DNA Ligase	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Ligation Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Wash Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Capture Solution	If specialised clothing is required to deal with the 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 - H06	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".

**SECTION 6: Accidental release measures**

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 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 - H06 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**

**SECTION 6: Accidental release measures**

<b>Methods for cleaning up</b>	: RE Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	SSC Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	BSA Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	DNA Ligase	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	Ligation Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	Wash Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	Capture Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	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 - H06	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

**SECTION 6: Accidental release measures**

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

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

**SECTION 7: Handling and storage**

<b>Advice on general occupational hygiene</b>	: RE Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	SSC Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	BSA Solution	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	DNA Ligase	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	Ligation Solution	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	Wash Solution	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	Capture Solution	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	Primer 1	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	Primer 2	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	HaloPlex Indexing Primer A01 - H06	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	Hybridization Solution	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and

**SECTION 7: Handling and storage**

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

**7.2 Conditions for safe storage, including any incompatibilities**

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



**SECTION 7: Handling and storage**

	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.
Wash Solution	Storage temperature: -20°C (-4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
Capture Solution	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
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.
Primer 2	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
HaloPlex Indexing Primer A01 - H06	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
Hybridization Solution	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
Enrichment Control DNA	Store in accordance with local regulations. Store in 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

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

**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 Primer A01 - H06	Industrial applications, Professional applications.
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 applicable.
SSC Buffer	Not applicable.
BSA Solution	Not applicable.
DNA Ligase	Not applicable.
Ligation Solution	Not applicable.
Wash Solution	Not applicable.
Capture Solution	Not applicable.
Primer 1	Not applicable.
Primer 2	Not applicable.
HaloPlex Indexing Primer A01 - H06	Not applicable.
Hybridization Solution	Not applicable.
Enrichment Control DNA	Not applicable.
Enzyme Strip 1	Not applicable.
Enzyme Strip 2	Not applicable.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
<b>BSA Solution</b> Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist
<b>DNA Ligase</b> Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist
<b>Ligation Solution</b> Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist
<b>Wash Solution</b> Formamide	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b> STEL: 56 mg/m <sup>3</sup> 15 minutes. STEL: 30 ppm 15 minutes. TWA: 37 mg/m <sup>3</sup> 8 hours. TWA: 20 ppm 8 hours.
<b>Hybridization Solution</b> Formamide	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b> STEL: 56 mg/m <sup>3</sup> 15 minutes. STEL: 30 ppm 15 minutes. TWA: 37 mg/m <sup>3</sup> 8 hours. TWA: 20 ppm 8 hours.
<b>Enzyme Strip 1</b> Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist
<b>Enzyme Strip 2</b> Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist

#### Recommended monitoring procedures

: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. 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

No DNELs/DMELs available.

#### 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.

## SECTION 8: Exposure controls/personal protection

### Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- 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

### 9.1 Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	:	RE Buffer	Liquid.
		SSC Buffer	Liquid.
		BSA Solution	Liquid. [Clear.]
		DNA Ligase	Liquid. [Viscous liquid.]
		Ligation Solution	Liquid.
		Wash Solution	Liquid.
		Capture Solution	Liquid.
		Primer 1	Liquid.
		Primer 2	Liquid.
		HaloPlex Indexing	Liquid.
		Primer A01 - H06	
		Hybridization Solution	Liquid.
		Enrichment Control	Liquid.
		DNA	
		Enzyme Strip 1	Liquid. [Clear.]
		Enzyme Strip 2	Liquid. [Clear.]
	<b>Colour</b>	:	RE Buffer
		SSC Buffer	Not available.
		BSA Solution	Colourless.
		DNA Ligase	Colourless.
		Ligation Solution	Not available.
		Wash Solution	Not available.
		Capture Solution	Not available.
		Primer 1	Not available.
	Primer 2	Not available.	

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	HaloPlex Indexing Primer A01 - H06	Not available.
	Hybridization Solution	Not available.
	Enrichment Control	Not available.
	DNA	
	Enzyme Strip 1	Colourless.
	Enzyme Strip 2	Colourless.
<b>Odour</b>	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Odourless.
	DNA Ligase	Odourless.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	Primer 1	Not available.
	Primer 2	Not available.
	HaloPlex Indexing Primer A01 - H06	Not available.
	Hybridization Solution	Not available.
	Enrichment Control	Not available.
	DNA	
	Enzyme Strip 1	Odourless.
	Enzyme Strip 2	Odourless.
<b>Odour threshold</b>	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Not available.
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	Primer 1	Not available.
	Primer 2	Not available.
	HaloPlex Indexing Primer A01 - H06	Not available.
	Hybridization Solution	Not available.
	Enrichment Control	Not available.
	DNA	
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
<b>pH</b>	: RE Buffer	7.9
	SSC Buffer	Not available.
	BSA Solution	Not available.
	DNA Ligase	7.4
	Ligation Solution	Not available.
	Wash Solution	7.5
	Capture Solution	Not available.
	Primer 1	Not available.
	Primer 2	Not available.
	HaloPlex Indexing Primer A01 - H06	Not available.
	Hybridization Solution	7.5
	Enrichment Control	Not available.
	DNA	
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
<b>Melting point/freezing point</b>	: RE Buffer	0°C
	SSC Buffer	0°C
	BSA Solution	20°C
	DNA Ligase	-23°C
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	Primer 1	0°C
	Primer 2	0°C

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	HaloPlex Indexing	0°C
	Primer A01 - H06	
	Hybridization Solution	Not available.
	Enrichment Control	0°C
	DNA	
	Enzyme Strip 1	20°C
	Enzyme Strip 2	20°C
<b>Initial boiling point and boiling range</b>	: RE Buffer	100°C
	SSC Buffer	100°C
	BSA Solution	182°C
	DNA Ligase	182°C
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	Primer 1	100°C
	Primer 2	100°C
	HaloPlex Indexing	100°C
	Primer A01 - H06	
	Hybridization Solution	Not available.
	Enrichment Control	100°C
	DNA	
	Enzyme Strip 1	182°C
	Enzyme Strip 2	182°C
<b>Flash point</b>	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Closed cup: 160°C
	DNA Ligase	Open cup: 176°C
	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 - H06	
	Hybridization Solution	Not available.
	Enrichment Control	Not available.
	DNA	
	Enzyme Strip 1	Closed cup: 160°C
	Enzyme Strip 2	Closed cup: 160°C
<b>Evaporation rate</b>	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Not available.
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	Primer 1	Not available.
	Primer 2	Not available.
	HaloPlex Indexing	Not available.
	Primer A01 - H06	
	Hybridization Solution	Not available.
	Enrichment Control	Not available.
	DNA	
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
<b>Flammability (solid, gas)</b>	: RE Buffer	Not applicable.
	SSC Buffer	Not applicable.
	BSA Solution	Not applicable.
	DNA Ligase	Not applicable.
	Ligation Solution	Not applicable.
	Wash Solution	Not applicable.
	Capture Solution	Not applicable.
	Primer 1	Not applicable.

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	Primer 2	Not applicable.
	HaloPlex Indexing	Not applicable.
	Primer A01 - H06	
	Hybridization Solution	Not applicable.
	Enrichment Control	Not applicable.
	DNA	
	Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	Not available.
	DNA Ligase	Not available.
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	Primer 1	Not available.
	Primer 2	Not available.
	HaloPlex Indexing	Not available.
	Primer A01 - H06	
	Hybridization Solution	Not available.
	Enrichment Control	Not available.
	DNA	
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
<b>Vapour pressure</b>	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	<0.13 kPa [room temperature]
	DNA Ligase	0.4 kPa [room temperature]
	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 - H06	
	Hybridization Solution	Not available.
	Enrichment Control	Not available.
	DNA	
	Enzyme Strip 1	<0.13 kPa [room temperature]
	Enzyme Strip 2	<0.13 kPa [room temperature]
<b>Vapour density</b>	: RE Buffer	Not available.
	SSC Buffer	Not available.
	BSA Solution	3.1 [Air = 1]
	DNA Ligase	3.1 [Air = 1]
	Ligation Solution	Not available.
	Wash Solution	Not available.
	Capture Solution	Not available.
	Primer 1	Not available.
	Primer 2	Not available.
	HaloPlex Indexing	Not available.
	Primer A01 - H06	
	Hybridization Solution	Not available.
	Enrichment Control	Not available.
	DNA	
	Enzyme Strip 1	3.1 [Air = 1]
	Enzyme Strip 2	3.1 [Air = 1]

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<b>Relative density</b>	:	RE Buffer	Not available.
		SSC Buffer	Not available.
		BSA Solution	1.262
		DNA Ligase	1.261
		Ligation Solution	Not available.
		Wash Solution	Not available.
		Capture Solution	Not available.
		Primer 1	Not available.
		Primer 2	Not available.
		HaloPlex Indexing Primer A01 - H06	Not available.
		Hybridization Solution	Not available.
		Enrichment Control	Not available.
		DNA	
		Enzyme Strip 1	1.262
		Enzyme Strip 2	1.262
<b>Solubility(ies)</b>	:	RE Buffer	Easily soluble in the following materials: cold water and hot water.
		SSC Buffer	Easily soluble in the following materials: cold water and hot water.
		BSA Solution	Soluble in the following materials: cold water and hot water.
		DNA Ligase	Easily soluble in the following materials: cold water and hot water.
		Ligation Solution	Easily soluble in the following materials: cold water and hot water.
		Wash Solution	Soluble in the following materials: cold water and hot water.
		Capture Solution	Easily soluble in the following materials: cold water and hot water.
		Primer 1	Easily soluble in the following materials: cold water and hot water.
		Primer 2	Easily soluble in the following materials: cold water and hot water.
		HaloPlex Indexing Primer A01 - H06	Easily soluble in the following materials: cold water and hot water.
		Hybridization Solution	Soluble in the following materials: cold water and hot water.
		Enrichment Control	Easily soluble in the following materials: cold water and hot water.
		DNA	
		Enzyme Strip 1	Soluble in the following materials: cold water and hot water.
		Enzyme Strip 2	Soluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	:	RE Buffer	Not available.
		SSC Buffer	Not available.
		BSA Solution	Not available.
		DNA Ligase	Not available.
		Ligation Solution	Not available.
		Wash Solution	Not available.
		Capture Solution	Not available.
		Primer 1	Not available.
		Primer 2	Not available.
		HaloPlex Indexing Primer A01 - H06	Not available.
		Hybridization Solution	Not available.
		Enrichment Control	Not available.
		DNA	
		Enzyme Strip 1	Not available.
		Enzyme Strip 2	Not available.



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<b>Auto-ignition temperature</b>	<b>:</b>	RE Buffer	Not available.
		SSC Buffer	Not available.
		BSA Solution	370°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 - H06	
		Hybridization Solution	Not available.
		Enrichment Control	Not available.
		DNA	
		Enzyme Strip 1	370°C
	Enzyme Strip 2	370°C	
<b>Decomposition temperature</b>	<b>:</b>	RE Buffer	Not available.
		SSC Buffer	Not available.
		BSA Solution	Not available.
		DNA Ligase	Not available.
		Ligation Solution	Not available.
		Wash Solution	Not available.
		Capture Solution	Not available.
		Primer 1	Not available.
		Primer 2	Not available.
		HaloPlex Indexing	Not available.
		Primer A01 - H06	
		Hybridization Solution	Not available.
		Enrichment Control	Not available.
		DNA	
		Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.	
<b>Viscosity</b>	<b>:</b>	RE Buffer	Not available.
		SSC Buffer	Not available.
		BSA Solution	Not available.
		DNA Ligase	Not available.
		Ligation Solution	Not available.
		Wash Solution	Not available.
		Capture Solution	Not available.
		Primer 1	Not available.
		Primer 2	Not available.
		HaloPlex Indexing	Not available.
		Primer A01 - H06	
		Hybridization Solution	Not available.
		Enrichment Control	Not available.
		DNA	
		Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.	
<b>Explosive properties</b>	<b>:</b>	RE Buffer	Not available.
		SSC Buffer	Not available.
		BSA Solution	Not available.
		DNA Ligase	Not available.
		Ligation Solution	Not available.
		Wash Solution	Not available.
		Capture Solution	Not available.
		Primer 1	Not available.
		Primer 2	Not available.
		HaloPlex Indexing	Not available.
		Primer A01 - H06	
		Hybridization Solution	Not available.
		Enrichment Control	Not available.
		DNA	
		Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.	

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<b>Oxidising properties</b>	:	RE Buffer	Not available.
		SSC Buffer	Not available.
		BSA Solution	Not available.
		DNA Ligase	Not available.
		Ligation Solution	Not available.
		Wash Solution	Not available.
		Capture Solution	Not available.
		Primer 1	Not available.
		Primer 2	Not available.
		HaloPlex Indexing Primer A01 - H06	Not available.
		Hybridization Solution	Not available.
		Enrichment Control DNA	Not available.
		Enzyme Strip 1	Not available.
		Enzyme Strip 2	Not available.

**9.2 Other information**

No additional information.

**SECTION 10: Stability and reactivity**

<b>10.1 Reactivity</b>	:	RE Buffer	No specific test data related to reactivity available for this product or its ingredients.
		SSC Buffer	No specific test data related to reactivity available for this product or its ingredients.
		BSA Solution	No specific test data related to reactivity available for this product or its ingredients.
		DNA Ligase	No specific test data related to reactivity available for this product or its ingredients.
		Ligation Solution	No specific test data related to reactivity available for this product or its ingredients.
		Wash Solution	No specific test data related to reactivity available for this product or its ingredients.
		Capture Solution	No specific test data related to reactivity available for this product or its ingredients.
		Primer 1	No specific test data related to reactivity available for this product or its ingredients.
		Primer 2	No specific test data related to reactivity available for this product or its ingredients.
		HaloPlex Indexing Primer A01 - H06	No specific test data related to reactivity available for this product or its ingredients.
		Hybridization Solution	No specific test data related to reactivity available for this product or its ingredients.
		Enrichment Control DNA	No specific test data related to reactivity available for this product or its ingredients.
		Enzyme Strip 1	No specific test data related to reactivity available for this product or its ingredients.
		Enzyme Strip 2	No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	:	RE Buffer	The product is stable.
		SSC Buffer	The product is stable.
		BSA Solution	The product is stable.
		DNA Ligase	The product is stable.
		Ligation Solution	The product is stable.
		Wash Solution	The product is stable.
		Capture Solution	The product is stable.
		Primer 1	The product is stable.
		Primer 2	The product is stable.
		HaloPlex Indexing Primer A01 - H06	The product is stable.
		Hybridization Solution	The product is stable.
		Enrichment Control DNA	The product is stable.

**SECTION 10: Stability and reactivity**

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 - H06 Under normal conditions of storage and use, hazardous reactions will not occur.  
Hybridization Solution Under normal conditions of storage and use, hazardous reactions will not occur.  
Enrichment Control DNA Under normal conditions of storage and use, hazardous reactions will not occur.  
Enzyme Strip 1 Under normal conditions of storage and use, hazardous reactions will not occur.  
Enzyme Strip 2 Under normal conditions of storage and use, hazardous reactions will not occur.

**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 - H06 No specific data.  
Hybridization Solution No specific data.  
Enrichment Control DNA No specific data.  
Enzyme Strip 1 No specific data.  
Enzyme Strip 2 No specific data.

**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 - H06 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.

## SECTION 10: Stability and reactivity

<b>10.6 Hazardous decomposition products</b>	: RE Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	SSC Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	BSA Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	DNA Ligase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Ligation Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Wash Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Capture Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Primer 1	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Primer 2	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	HaloPlex Indexing Primer A01 - H06	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Hybridization Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Enrichment Control DNA	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Enzyme Strip 1	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Enzyme Strip 2	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
<b>Wash Solution</b>				
Formamide	LD50 Dermal	Rabbit	17 g/kg	-
	LD50 Oral	Rat	4000 mg/kg	-
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
<b>Capture Solution</b>				
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
<b>Hybridization Solution</b>				
Formamide	LD50 Dermal	Rabbit	17 g/kg	-
	LD50 Oral	Rat	4000 mg/kg	-
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-

#### Acute toxicity estimates

Not available.

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>Wash Solution</b>					
Formamide	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
<b>Capture Solution</b>					

## SECTION 11: Toxicological information

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

### Sensitiser

**Conclusion/Summary** : Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

### Information on likely routes of exposure

RE Buffer	Not available.
SSC Buffer	Not available.
BSA Solution	Not available.
DNA Ligase	Not available.
Ligation Solution	Not available.
Wash Solution	Routes of entry anticipated: Oral, Dermal, Inhalation.
Capture Solution	Not available.
Primer 1	Not available.
Primer 2	Not available.
HaloPlex Indexing	Not available.
Primer A01 - H06	
Hybridization Solution	Routes of entry anticipated: Oral, Dermal, Inhalation.
Enrichment Control DNA	Not available.
Enzyme Strip 1	Routes of entry anticipated: Oral, Dermal, Inhalation.
Enzyme Strip 2	Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential acute health effects

<b>Inhalation</b>	RE Buffer	No known significant effects or critical hazards.
	SSC Buffer	No known significant effects or critical hazards.
	BSA Solution	No known significant effects or critical hazards.
	DNA Ligase	No known significant effects or critical hazards.
	Ligation Solution	No known significant effects or critical hazards.
	Wash Solution	No known significant effects or critical hazards.
	Capture Solution	No known significant effects or critical hazards.
	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 - H06	
	Hybridization Solution	No known significant effects or critical hazards.
	Enrichment Control DNA	No known significant effects or critical hazards.
	Enzyme Strip 1	No known significant effects or critical hazards.
	Enzyme Strip 2	No known significant effects or critical hazards.

**SECTION 11: Toxicological information**

<b>Ingestion</b>	:	RE Buffer	No known significant effects or critical hazards.
		SSC Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		DNA Ligase	No known significant effects or critical hazards.
		Ligation Solution	No known significant effects or critical hazards.
		Wash Solution	No known significant effects or critical hazards.
		Capture Solution	No known significant effects or critical hazards.
		Primer 1	No known significant effects or critical hazards.
		Primer 2	No known significant effects or critical hazards.
		HaloPlex Indexing Primer A01 - H06	No known significant effects or critical hazards.
		Hybridization Solution	No known significant effects or critical hazards.
		Enrichment Control DNA	No known significant effects or critical hazards.
		Enzyme Strip 1	No known significant effects or critical hazards.
		Enzyme Strip 2	No known significant effects or critical hazards.
<b>Skin contact</b>	:	RE Buffer	No known significant effects or critical hazards.
		SSC Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		DNA Ligase	No known significant effects or critical hazards.
		Ligation Solution	No known significant effects or critical hazards.
		Wash Solution	No known significant effects or critical hazards.
		Capture Solution	No known significant effects or critical hazards.
		Primer 1	No known significant effects or critical hazards.
		Primer 2	No known significant effects or critical hazards.
		HaloPlex Indexing Primer A01 - H06	No known significant effects or critical hazards.
		Hybridization Solution	No known significant effects or critical hazards.
		Enrichment Control DNA	No known significant effects or critical hazards.
		Enzyme Strip 1	No known significant effects or critical hazards.
		Enzyme Strip 2	No known significant effects or critical hazards.
<b>Eye contact</b>	:	RE Buffer	No known significant effects or critical hazards.
		SSC Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		DNA Ligase	No known significant effects or critical hazards.
		Ligation Solution	No known significant effects or critical hazards.
		Wash Solution	No known significant effects or critical hazards.
		Capture Solution	No known significant effects or critical hazards.
		Primer 1	No known significant effects or critical hazards.
		Primer 2	No known significant effects or critical hazards.
		HaloPlex Indexing Primer A01 - H06	No known significant effects or critical hazards.
		Hybridization Solution	Causes serious eye irritation.
		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**

<b>Inhalation</b>	:	RE Buffer	No specific data.
		SSC Buffer	No specific data.
		BSA Solution	No specific data.
		DNA Ligase	No specific data.
		Ligation Solution	No specific data.
		Wash Solution	Adverse symptoms may include the following: reduced 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 Primer A01 - H06	No specific data.
		Hybridization Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths

**SECTION 11: Toxicological information**

		Enrichment Control DNA	skeletal malformations
		Enzyme Strip 1	No specific data.
		Enzyme Strip 2	No specific data.
<b>Ingestion</b>	:	RE Buffer	No specific data.
		SSC Buffer	No specific data.
		BSA Solution	No specific data.
		DNA Ligase	No specific data.
		Ligation Solution	No specific data.
		Wash Solution	Adverse symptoms may include the following: reduced 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 - H06	
		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.
<b>Skin contact</b>	:	RE Buffer	No specific data.
		SSC Buffer	No specific data.
		BSA Solution	No specific data.
		DNA Ligase	No specific data.
		Ligation Solution	No specific data.
		Wash Solution	Adverse symptoms may include the following: reduced 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 - H06	
		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.
<b>Eye contact</b>	:	RE Buffer	No specific data.
		SSC Buffer	No specific data.
		BSA Solution	No specific data.
		DNA Ligase	No specific data.
		Ligation Solution	No specific data.
		Wash Solution	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 - H06	
		Hybridization Solution	Adverse symptoms may include the following: pain or irritation watering redness
		Enrichment Control DNA	No specific data.
		Enzyme Strip 1	No specific data.
		Enzyme Strip 2	No specific data.

**SECTION 11: Toxicological information**Delayed and immediate effects as well as chronic effects from short and long-term exposureShort term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

Potential chronic health effects

<b>General</b>	: RE Buffer	No known significant effects or critical hazards.
	SSC Buffer	No known significant effects or critical hazards.
	BSA Solution	No known significant effects or critical hazards.
	DNA Ligase	No known significant effects or critical hazards.
	Ligation Solution	No known significant effects or critical hazards.
	Wash Solution	No known significant effects or critical hazards.
	Capture Solution	No known significant effects or critical hazards.
	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 - H06	No known significant effects or critical hazards.
	Hybridization Solution	No known significant effects or critical hazards.
	Enrichment Control DNA	No known significant effects or critical hazards.
	Enzyme Strip 1	No known significant effects or critical hazards.
	Enzyme Strip 2	No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: RE Buffer	No known significant effects or critical hazards.
	SSC Buffer	No known significant effects or critical hazards.
	BSA Solution	No known significant effects or critical hazards.
	DNA Ligase	No known significant effects or critical hazards.
	Ligation Solution	No known significant effects or critical hazards.
	Wash Solution	No known significant effects or critical hazards.
	Capture Solution	No known significant effects or critical hazards.
	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 - H06	No known significant effects or critical hazards.
	Hybridization Solution	No known significant effects or critical hazards.
	Enrichment Control DNA	No known significant effects or critical hazards.
	Enzyme Strip 1	No known significant effects or critical hazards.
	Enzyme Strip 2	No known significant effects or critical hazards.
<b>Mutagenicity</b>	: RE Buffer	No known significant effects or critical hazards.
	SSC Buffer	No known significant effects or critical hazards.
	BSA Solution	No known significant effects or critical hazards.
	DNA Ligase	No known significant effects or critical hazards.
	Ligation Solution	No known significant effects or critical hazards.
	Wash Solution	No known significant effects or critical hazards.
	Capture Solution	No known significant effects or critical hazards.
	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 - H06	No known significant effects or critical hazards.
	Hybridization Solution	No known significant effects or critical hazards.
	Enrichment Control DNA	No known significant effects or critical hazards.
	Enzyme Strip 1	No known significant effects or critical hazards.
	Enzyme Strip 2	No known significant effects or critical hazards.



## SECTION 11: Toxicological information

<b>Teratogenicity</b>	:	RE Buffer	No known significant effects or critical hazards.
		SSC Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		DNA Ligase	No known significant effects or critical hazards.
		Ligation Solution	No known significant effects or critical hazards.
		Wash Solution	May damage 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 - H06	
		Hybridization Solution	May damage 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.
<b>Developmental effects</b>	:	RE Buffer	No known significant effects or critical hazards.
		SSC Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		DNA Ligase	No known significant effects or critical hazards.
		Ligation Solution	No known significant effects or critical hazards.
		Wash Solution	No known significant effects or critical hazards.
		Capture Solution	No known significant effects or critical hazards.
		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 - H06	
		Hybridization Solution	No known significant effects or critical hazards.
		Enrichment Control DNA	No known significant effects or critical hazards.
		Enzyme Strip 1	No known significant effects or critical hazards.
		Enzyme Strip 2	No known significant effects or critical hazards.
<b>Fertility effects</b>	:	RE Buffer	No known significant effects or critical hazards.
		SSC Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		DNA Ligase	No known significant effects or critical hazards.
		Ligation Solution	No known significant effects or critical hazards.
		Wash Solution	No known significant effects or critical hazards.
		Capture Solution	No known significant effects or critical hazards.
		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 - H06	
		Hybridization Solution	No known significant effects or critical hazards.
		Enrichment Control DNA	No known significant effects or critical hazards.
		Enzyme Strip 1	No known significant effects or critical hazards.
		Enzyme Strip 2	No known significant effects or critical hazards.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<b>Wash Solution</b> Sodium chloride	Acute EC50 2430000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1661 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki -	8 weeks

## SECTION 12: Ecological information

		Adult	
<b>Capture Solution</b> Sodium chloride	Acute EC50 2430000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1661 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks
<b>Hybridization Solution</b> Sodium chloride	Acute EC50 2430000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1661 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks

### 12.2 Persistence and degradability

Not available.

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>Wash Solution</b> Formamide	-0.82	-	low
<b>Hybridization Solution</b> Formamide	-0.82	-	low

### 12.4 Mobility in soil

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

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

**PBT** : Not applicable.

**vPvB** : Not applicable.

**12.6 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** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

### Regulatory information

**ADR/RID / IMDG / IATA** : Not regulated.

**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 Annex II of Marpol and the IBC Code** : Not available.

## SECTION 15: Regulatory information

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

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

#### Annex XIV - List of substances subject to authorisation

##### Annex XIV

None of the components are listed.

#### Substances of very high concern

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
<b>Wash Solution</b> Formamide	Toxic to reproduction	Candidate	ED/87/2012	6/18/2012
<b>Hybridization Solution</b> 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** :

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 - H06	Not applicable.
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

**Europe inventory** : All components are listed or exempted.

### Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

### Seveso Directive

This product is not controlled under the Seveso Directive.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol (Annexes A, B, C, E)

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### International lists

#### National inventory

**Australia** : Not determined.

**Canada** : At least one component is not listed in DSL but all such components are listed in NDSL.

**China** : Not determined.

**Japan** : **Japan inventory (ENCS)**: All components are listed or exempted.  
**Japan inventory (ISHL)**: Not determined.

**Malaysia** : Not determined.

**New Zealand** : All components are listed or exempted.

**Philippines** : All components are listed or exempted.

**Republic of Korea** : Not determined.

**Taiwan** : All components are listed or exempted.

**Turkey** : Not determined.

**United States** : All components are listed or exempted.

**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]  
DNEL = Derived No Effect Level  
EUH statement = CLP-specific Hazard statement  
PNEC = Predicted No Effect Concentration  
RRN = REACH Registration Number

**Date of issue/Date of revision** : 21/10/2016

## SECTION 16: Other information

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

Classification	Justification
<b>Wash Solution</b> Repr. 1B, H360D (Unborn child)	Calculation method
<b>Hybridization Solution</b> Eye Irrit. 2, H319 Repr. 1B, H360D (Unborn child)	Calculation method Calculation method

### [Full text of abbreviated H statements](#)

<b>Wash Solution</b> H319 H360D	Causes serious eye irritation. May damage the unborn child.
<b>Capture Solution</b> H319	Causes serious eye irritation.
<b>Hybridization Solution</b> H319 H360D	Causes serious eye irritation. May damage the unborn child.

### [Full text of classifications \[CLP/GHS\]](#)

<b>Wash Solution</b> Eye Irrit. 2, H319 Repr. 1B, H360D	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 REPRODUCTIVE TOXICITY (Unborn child) - Category 1B
<b>Capture Solution</b> Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
<b>Hybridization Solution</b> Eye Irrit. 2, H319 Repr. 1B, H360D	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 REPRODUCTIVE TOXICITY (Unborn child) - Category 1B

**Date of issue/ Date of revision** : 21/10/2016

**Date of previous issue** : No previous validation.

**Version** : 1

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