

SAFETY DATA SHEET



HaloPlex HS Target Enrichment Kits - ION - 96 reactions

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

1.1 Product identifier

Product name	: HaloPlex HS Target Enrichment Kits - ION - 96 reactions
Part no. (chemical kit)	: G9932B, G9942B
Part no.	: RE Buffer 5190-7972 BSA Solution 5190-7973 Enrichment Control DNA 5190-7976 Hybridization Solution 5190-7977 HS Hybridization Stop Solution 5190-7978 10 mM rATP 5190-7979 HS Ligation Solution 5190-7980 HS DNA Ligase 5190-7981 HS Capture Solution 5190-7982 HS Wash 1 Solution 5190-7983 HS Wash 2 Solution 5190-7986 Primer 1 ION 5190-7813 Primer 2 ION 5190-7814 HS Elution Buffer 5190-7989 Herculase II Fusion DNA Polymerase 5190-7990 Herculase II Reaction Buffer 5190-7991 100 mM dNTP Mix 5190-7992 HaloPlex HS ION Indexing Plate 5190-8834 Enzyme Strip 1 5190-7974 Enzyme Strip 2 5190-7975 HaloPlex HS Probe ION 5190-7871 / 5190-7873 / 5190-7875 / 5190-7877

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

Identified uses	: Analytical reagent.
	RE Buffer 3.3 ml (96 reactions)
	BSA Solution 0.07 ml (96 reactions)
	Enrichment Control DNA 0.615 ml (96 reactions)
	Hybridization Solution 4.9 ml (96 reactions)
	HS Hybridization Stop Solution 4 ml (96 reactions)
	10 mM rATP 0.04 ml (96 reactions)
	HS Ligation Solution 1.5 ml (96 reactions)
	HS DNA Ligase 0.36 ml (96 reactions)
	HS Capture Solution 5.4 ml (96 reactions)
	HS Wash 1 Solution 13.4 ml (96 reactions)
	HS Wash 2 Solution 2 x 11 ml (96 reactions)
	Primer 1 ION 0.575 ml (96 reactions)
	Primer 2 ION 1.15 ml (96 reactions)
	HS Elution Buffer 6.1 ml (96 reactions)
	Herculase II Fusion DNA Polymerase 0.575 ml (96 reactions)
	Herculase II Reaction Buffer 4.3 ml (96 reactions)
	100 mM dNTP Mix 0.115 ml (96 reactions)
	HaloPlex HS ION Indexing Plate 48 x 0.015 ml
	Enzyme Strip 1 0.05 ml (96 reactions)
	Enzyme Strip 2 0.05 ml (96 reactions)
	HaloPlex HS Probe ION 0.714 ml (96 reactions)
Uses advised against	: None known.

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1.3 Details of the supplier of the safety data sheet

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

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

1.4 Emergency telephone number

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition	:	RE Buffer	Mixture
		BSA Solution	Mixture
		Enrichment Control DNA	Mixture
		Hybridization Solution	Mixture
		HS Hybridization Stop Solution	Mixture
		10 mM rATP	Mixture
		HS Ligation Solution	Mixture
		HS DNA Ligase	Mixture
		HS Capture Solution	Mixture
		HS Wash 1 Solution	Mixture
		HS Wash 2 Solution	Mixture
		Primer 1 ION	Mixture
		Primer 2 ION	Mixture
		HS Elution Buffer	Mixture
		Herculase II Fusion DNA Polymerase	Mixture
		Herculase II Reaction Buffer	Mixture
		100 mM dNTP Mix	Mixture
		HaloPlex HS ION	Mixture
		Indexing Plate	
		Enzyme Strip 1	Mixture
		Enzyme Strip 2	Mixture
		HaloPlex HS Probe ION	Mixture

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

Hybridization Solution

H351	CARCINOGENICITY	Category 2
H360D	REPRODUCTIVE TOXICITY	Category 1B
H373	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	Category 2

RE Buffer	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
BSA Solution	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Enrichment Control DNA	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Hybridization Solution	The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.
HS Hybridization Stop Solution	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

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10 mM rATP	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
HS Ligation Solution	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
HS DNA Ligase	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
HS Capture Solution	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
HS Wash 1 Solution	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
HS Wash 2 Solution	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Primer 1 ION	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Primer 2 ION	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
HS Elution Buffer	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Herculase II Fusion DNA Polymerase	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Herculase II Reaction Buffer	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
100 mM dNTP Mix	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
HaloPlex HS ION Indexing Plate	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Enzyme Strip 1	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Enzyme Strip 2	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.
HaloPlex HS Probe ION	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Ingredients of unknown toxicity	: RE Buffer	Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10%
		Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%
	BSA Solution	Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10%
		Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%
		Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 1 - 10%
	Hybridization Solution	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 10 - 30%
	HS Hybridization Stop Solution	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%
	HS Ligation Solution	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%
	HS DNA Ligase	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%
	HS Capture Solution	Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10%
		Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%
	Herculase II Fusion DNA Polymerase	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%
	Herculase II Reaction Buffer	Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10%
		Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%
100 mM dNTP Mix	Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10%	
	Percentage of the mixture consisting of ingredient(s) of	

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	Enzyme Strip 1	unknown acute inhalation toxicity: 1 - 10% Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 1 - 10%
	Enzyme Strip 2	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60% Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%
Ingredients of unknown ecotoxicity	: BSA Solution	Contains 1% of components with unknown hazards to the aquatic environment
	HS Ligation Solution	Contains 1.1% of components with unknown hazards to the aquatic environment
	100 mM dNTP Mix	Contains 5.4% of components with unknown hazards to the aquatic environment

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 : Hybridization Solution



Signal word	: RE Buffer	No signal word.
	BSA Solution	No signal word.
	Enrichment Control DNA	No signal word.
	Hybridization Solution	Danger
	HS Hybridization Stop Solution	No signal word.
	10 mM rATP	No signal word.
	HS Ligation Solution	No signal word.
	HS DNA Ligase	No signal word.
	HS Capture Solution	No signal word.
	HS Wash 1 Solution	No signal word.
	HS Wash 2 Solution	No signal word.
	Primer 1 ION	No signal word.
	Primer 2 ION	No signal word.
	HS Elution Buffer	No signal word.
	Herculase II Fusion DNA Polymerase	No signal word.
	Herculase II Reaction Buffer	No signal word.
	100 mM dNTP Mix	No signal word.
	HaloPlex HS ION	No signal word.
	Indexing Plate	
	Enzyme Strip 1	No signal word.
	Enzyme Strip 2	No signal word.
	HaloPlex HS Probe ION	No signal word.

Hazard statements	: RE Buffer	No known significant effects or critical hazards.
	BSA Solution	No known significant effects or critical hazards.
	Enrichment Control DNA	No known significant effects or critical hazards.
	Hybridization Solution	H351 - Suspected of causing cancer. H360D - May damage the unborn child. H373 - May cause damage to organs through prolonged or repeated exposure.
	HS Hybridization Stop Solution	No known significant effects or critical hazards.
	10 mM rATP	No known significant effects or critical hazards.
	HS Ligation Solution	No known significant effects or critical hazards.
	HS DNA Ligase	No known significant effects or critical hazards.
	HS Capture Solution	No known significant effects or critical hazards.
	HS Wash 1 Solution	No known significant effects or critical hazards.

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HS Wash 2 Solution	No known significant effects or critical hazards.
Primer 1 ION	No known significant effects or critical hazards.
Primer 2 ION	No known significant effects or critical hazards.
HS Elution Buffer	No known significant effects or critical hazards.
Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
Herculase II Reaction Buffer	No known significant effects or critical hazards.
100 mM dNTP Mix	No known significant effects or critical hazards.
HaloPlex HS ION Indexing Plate	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.
HaloPlex HS Probe ION	No known significant effects or critical hazards.

Precautionary statements

Prevention

: RE Buffer	Not applicable.
BSA Solution	Not applicable.
Enrichment Control DNA Hybridization Solution	P201 - Obtain special instructions before use. P280 - Wear protective gloves, protective clothing and eye or face protection. P260 - Do not breathe vapour.
HS Hybridization Stop Solution	Not applicable.
10 mM rATP	Not applicable.
HS Ligation Solution	Not applicable.
HS DNA Ligase	Not applicable.
HS Capture Solution	Not applicable.
HS Wash 1 Solution	Not applicable.
HS Wash 2 Solution	Not applicable.
Primer 1 ION	Not applicable.
Primer 2 ION	Not applicable.
HS Elution Buffer	Not applicable.
Herculase II Fusion DNA Polymerase	Not applicable.
Herculase II Reaction Buffer	Not applicable.
100 mM dNTP Mix	Not applicable.
HaloPlex HS ION Indexing Plate	Not applicable.
Enzyme Strip 1	Not applicable.
Enzyme Strip 2	Not applicable.
HaloPlex HS Probe ION	Not applicable.

Response

: RE Buffer	Not applicable.
BSA Solution	Not applicable.
Enrichment Control DNA Hybridization Solution	Not applicable. P308 + P313 - IF exposed or concerned: Get medical advice or attention.
HS Hybridization Stop Solution	Not applicable.
10 mM rATP	Not applicable.
HS Ligation Solution	Not applicable.
HS DNA Ligase	Not applicable.
HS Capture Solution	Not applicable.
HS Wash 1 Solution	Not applicable.
HS Wash 2 Solution	Not applicable.
Primer 1 ION	Not applicable.
Primer 2 ION	Not applicable.
HS Elution Buffer	Not applicable.
Herculase II Fusion DNA Polymerase	Not applicable.
Herculase II Reaction Buffer	Not applicable.

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	Buffer	
	100 mM dNTP Mix	Not applicable.
	HaloPlex HS ION	Not applicable.
	Indexing Plate	
	Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.
	HaloPlex HS Probe ION	Not applicable.
Storage	: RE Buffer	Not applicable.
	BSA Solution	Not applicable.
	Enrichment Control DNA	Not applicable.
	Hybridization Solution	Not applicable.
	HS Hybridization Stop Solution	Not applicable.
	10 mM rATP	Not applicable.
	HS Ligation Solution	Not applicable.
	HS DNA Ligase	Not applicable.
	HS Capture Solution	Not applicable.
	HS Wash 1 Solution	Not applicable.
	HS Wash 2 Solution	Not applicable.
	Primer 1 ION	Not applicable.
	Primer 2 ION	Not applicable.
	HS Elution Buffer	Not applicable.
	Herculase II Fusion DNA Polymerase	Not applicable.
	Herculase II Reaction Buffer	Not applicable.
	100 mM dNTP Mix	Not applicable.
	HaloPlex HS ION	Not applicable.
	Indexing Plate	
	Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.
	HaloPlex HS Probe ION	Not applicable.
Disposal	: RE Buffer	Not applicable.
	BSA Solution	Not applicable.
	Enrichment Control DNA	Not applicable.
	Hybridization Solution	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	HS Hybridization Stop Solution	Not applicable.
	10 mM rATP	Not applicable.
	HS Ligation Solution	Not applicable.
	HS DNA Ligase	Not applicable.
	HS Capture Solution	Not applicable.
	HS Wash 1 Solution	Not applicable.
	HS Wash 2 Solution	Not applicable.
	Primer 1 ION	Not applicable.
	Primer 2 ION	Not applicable.
	HS Elution Buffer	Not applicable.
	Herculase II Fusion DNA Polymerase	Not applicable.
	Herculase II Reaction Buffer	Not applicable.
	100 mM dNTP Mix	Not applicable.
	HaloPlex HS ION	Not applicable.
	Indexing Plate	
	Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.
	HaloPlex HS Probe ION	Not applicable.
Hazardous ingredients	: Hybridization Solution	- Formamide

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Supplemental label elements	:	RE Buffer	Not applicable.
		BSA Solution	Not applicable.
		Enrichment Control DNA	Not applicable.
		Hybridization Solution	Not applicable.
		HS Hybridization Stop Solution	Not applicable.
		10 mM rATP	Not applicable.
		HS Ligation Solution	Not applicable.
		HS DNA Ligase	Not applicable.
		HS Capture Solution	Safety data sheet available on request.
		HS Wash 1 Solution	Not applicable.
		HS Wash 2 Solution	Not applicable.
		Primer 1 ION	Not applicable.
		Primer 2 ION	Not applicable.
		HS Elution Buffer	Not applicable.
		Herculase II Fusion DNA Polymerase	Not applicable.
		Herculase II Reaction Buffer	Safety data sheet available on request.
		100 mM dNTP Mix	Not applicable.
		HaloPlex HS ION	Not applicable.
		Indexing Plate	
		Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.	
	HaloPlex HS Probe ION	Not applicable.	

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	:	RE Buffer	Not applicable.
		BSA Solution	Not applicable.
		Enrichment Control DNA	Not applicable.
		Hybridization Solution	Restricted to professional users.
		HS Hybridization Stop Solution	Not applicable.
		10 mM rATP	Not applicable.
		HS Ligation Solution	Not applicable.
		HS DNA Ligase	Not applicable.
		HS Capture Solution	Not applicable.
		HS Wash 1 Solution	Not applicable.
		HS Wash 2 Solution	Not applicable.
		Primer 1 ION	Not applicable.
		Primer 2 ION	Not applicable.
		HS Elution Buffer	Not applicable.
		Herculase II Fusion DNA Polymerase	Not applicable.
		Herculase II Reaction Buffer	Not applicable.
		100 mM dNTP Mix	Not applicable.
		HaloPlex HS ION	Not applicable.
		Indexing Plate	
		Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.	
	HaloPlex HS Probe ION	Not applicable.	

Special packaging requirements

Tactile warning of danger	:	RE Buffer	Not applicable.
		BSA Solution	Not applicable.
		Enrichment Control DNA	Not applicable.
		Hybridization Solution	Not applicable.
		HS Hybridization Stop Solution	Not applicable.
		10 mM rATP	Not applicable.
		HS Ligation Solution	Not applicable.
		HS DNA Ligase	Not applicable.
		HS Capture Solution	Not applicable.
		HS Wash 1 Solution	Not applicable.

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HS Wash 2 Solution	Not applicable.
Primer 1 ION	Not applicable.
Primer 2 ION	Not applicable.
HS Elution Buffer	Not applicable.
Herculase II Fusion DNA Polymerase	Not applicable.
Herculase II Reaction Buffer	Not applicable.
100 mM dNTP Mix	Not applicable.
HaloPlex HS ION Indexing Plate	Not applicable.
Enzyme Strip 1	Not applicable.
Enzyme Strip 2	Not applicable.
HaloPlex HS Probe ION	Not applicable.

2.3 Other hazards

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

: RE Buffer	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
BSA Solution	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Enrichment Control DNA	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Hybridization Solution	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
HS Hybridization Stop Solution	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
10 mM rATP	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
HS Ligation Solution	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
HS DNA Ligase	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
HS Capture Solution	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
HS Wash 1 Solution	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
HS Wash 2 Solution	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Primer 1 ION	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Primer 2 ION	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
HS Elution Buffer	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Herculase II Fusion DNA Polymerase	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Herculase II Reaction Buffer	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
100 mM dNTP Mix	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
HaloPlex HS ION Indexing Plate	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Enzyme Strip 1	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Enzyme Strip 2	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
HaloPlex HS Probe ION	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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Other hazards which do not result in classification	:	RE Buffer	None known.
		BSA Solution	None known.
		Enrichment Control DNA	None known.
		Hybridization Solution	None known.
		HS Hybridization Stop Solution	None known.
		10 mM rATP	None known.
		HS Ligation Solution	None known.
		HS DNA Ligase	Contains one or more substances considered to have endocrine-disrupting properties.
		HS Capture Solution	None known.
		HS Wash 1 Solution	None known.
		HS Wash 2 Solution	None known.
		Primer 1 ION	None known.
		Primer 2 ION	None known.
		HS Elution Buffer	None known.
		Herculase II Fusion DNA Polymerase	None known.
		Herculase II Reaction Buffer	None known.
		100 mM dNTP Mix	None known.
		HaloPlex HS ION	None known.
		Indexing Plate	
		Enzyme Strip 1	None known.
		Enzyme Strip 2	None known.
		HaloPlex HS Probe ION	None known.

Substances identified as having endocrine disruptor properties

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

SECTION 3: Composition/information on ingredients

3.1 Substances	:	RE Buffer	Mixture
		BSA Solution	Mixture
		Enrichment Control DNA	Mixture
		Hybridization Solution	Mixture
		HS Hybridization Stop Solution	Mixture
		10 mM rATP	Mixture
		HS Ligation Solution	Mixture
		HS DNA Ligase	Mixture
		HS Capture Solution	Mixture
		HS Wash 1 Solution	Mixture
		HS Wash 2 Solution	Mixture
		Primer 1 ION	Mixture
		Primer 2 ION	Mixture
		HS Elution Buffer	Mixture
		Herculase II Fusion DNA Polymerase	Mixture
		Herculase II Reaction Buffer	Mixture
		100 mM dNTP Mix	Mixture
		HaloPlex HS ION Indexing Plate	Mixture
		Enzyme Strip 1	Mixture
		Enzyme Strip 2	Mixture
		HaloPlex HS Probe ION	Mixture

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SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
BSA Solution					
Glycerol	EC: 200-289-5 CAS: 56-81-5	≤10	Not classified.	-	[1]
Hybridization Solution					
formamide	EC: 200-842-0 CAS: 75-12-7 Index: 616-052-00-8	≥25 - ≤50	Carc. 2, H351 Repr. 1B, H360D STOT RE 2, H373 (blood) (oral)	-	[1] [2]
HS DNA Ligase					
Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	-	[2]
Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	CAS: 9036-19-5	<0.25	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 500 mg/kg M [Acute] = 10 M [Chronic] = 1	[1] [3]
HS Capture Solution					
Acetic acid, (ethylenedinitrilo)tetra-, disodium salt, dihydrate	EC: 205-358-3 CAS: 6381-92-6	<10	Acute Tox. 4, H332 STOT RE 2, H373 (respiratory tract) (inhalation)	ATE [Inhalation (vapours)] = 11 mg/l	[1]
Herculase II Fusion DNA Polymerase					
Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	-	[1]
Herculase II Reaction Buffer					
Ammonium sulphate	EC: 231-984-1 CAS: 7783-20-2	≤3	Eye Irrit. 2, H319	-	[1]
Trometamol	EC: 201-064-4 CAS: 77-86-1	≤3	Skin Irrit. 2, H315 Eye Irrit. 2, H319	-	[1]
Enzyme Strip 1					
Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	-	[1]
Enzyme Strip 2					
Glycerol	EC: 200-289-5	≥50 - ≤75	Not classified.	-	[1]

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SECTION 3: Composition/information on ingredients

	CAS: 56-81-5		See Section 16 for the full text of the H statements declared above.		
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There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

<u>Type</u>	
BSA Solution	[1] Substance with a workplace exposure limit
Hybridization Solution	[1] Substance classified with a health or environmental hazard
	[2] Substance with a workplace exposure limit
HS DNA Ligase	[1] Substance classified with a health or environmental hazard
	[2] Substance with a workplace exposure limit
	[3] Substance of equivalent concern
HS Capture Solution	[1] Substance classified with a health or environmental hazard
Herculase II Fusion DNA Polymerase	[1] Substance with a workplace exposure limit
Herculase II Reaction Buffer	[1] Substance classified with a health or environmental hazard
Enzyme Strip 1	[1] Substance with a workplace exposure limit
Enzyme Strip 2	[1] Substance with a workplace exposure limit

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	: RE Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	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.
	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.
	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.
	HS Hybridization Stop 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.
	10 mM rATP	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.
	HS 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.
	HS 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.
	HS 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.
	HS Wash 1 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.
	HS Wash 2 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 ION	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.

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SECTION 4: First aid measures

Primer 2 ION	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.
HS Elution 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.
Herculase II Fusion DNA Polymerase	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.
Herculase II Reaction 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.
100 mM dNTP Mix	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 HS ION Indexing Plate	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.
HaloPlex HS Probe ION	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation : RE Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
BSA Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Enrichment Control DNA	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
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.
HS Hybridization Stop Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
10 mM rATP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
HS Ligation Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
HS DNA Ligase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if

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	symptoms occur.
HS Capture Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. 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.
HS Wash 1 Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
HS Wash 2 Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Primer 1 ION	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Primer 2 ION	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
HS Elution Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Herculase II Fusion DNA Polymerase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Herculase II Reaction Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. 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.
100 mM dNTP Mix	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. 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.
HaloPlex HS ION Indexing Plate	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.
HaloPlex HS Probe ION	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	
: RE Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
BSA Solution	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Enrichment Control DNA	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

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		medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
HS Hybridization Stop Solution		Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
10 mM rATP		Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
HS Ligation Solution		Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
HS DNA Ligase		Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
HS Capture Solution		Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
HS Wash 1 Solution		Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
HS Wash 2 Solution		Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Primer 1 ION		Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Primer 2 ION		Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
HS Elution Buffer		Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Herculase II Fusion DNA Polymerase		Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Herculase II Reaction Buffer		Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
100 mM dNTP Mix		Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
HaloPlex HS ION Indexing Plate		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.
HaloPlex HS Probe ION		Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	:	
	RE Buffer	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	BSA Solution	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if

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

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	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.
Herculase II Fusion DNA Polymerase	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Herculase II Reaction Buffer	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
100 mM dNTP Mix	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
HaloPlex HS ION Indexing Plate	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Enzyme Strip 1	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Enzyme Strip 2	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
HaloPlex HS Probe ION	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Protection of first-aiders : RE Buffer	No action shall be taken involving any personal risk or without suitable training.
BSA Solution	No action shall be taken involving any personal risk or without suitable training.
Enrichment Control DNA	No action shall be taken involving any personal risk or without suitable training.
Hybridization Solution	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
HS Hybridization Stop Solution	No action shall be taken involving any personal risk or without suitable training.
10 mM rATP	No action shall be taken involving any personal risk or without suitable training.
HS Ligation Solution	No action shall be taken involving any personal risk or without suitable training.
HS DNA Ligase	No action shall be taken involving any personal risk or without suitable training.
HS Capture Solution	No action shall be taken involving any personal risk or without suitable training.
HS Wash 1 Solution	No action shall be taken involving any personal risk or

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HS Wash 2 Solution	without suitable training. No action shall be taken involving any personal risk or without suitable training.
Primer 1 ION	No action shall be taken involving any personal risk or without suitable training.
Primer 2 ION	No action shall be taken involving any personal risk or without suitable training.
HS Elution Buffer	No action shall be taken involving any personal risk or without suitable training.
Herculase II Fusion DNA Polymerase	No action shall be taken involving any personal risk or without suitable training.
Herculase II Reaction Buffer	No action shall be taken involving any personal risk or without suitable training.
100 mM dNTP Mix	No action shall be taken involving any personal risk or without suitable training.
HaloPlex HS ION Indexing Plate	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.
HaloPlex HS Probe ION	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

Eye contact

: RE Buffer	No known significant effects or critical hazards.
BSA Solution	No known significant effects or critical hazards.
Enrichment Control DNA Hybridization Solution	No known significant effects or critical hazards.
HS Hybridization Stop Solution	No known significant effects or critical hazards.
10 mM rATP	No known significant effects or critical hazards.
HS Ligation Solution	No known significant effects or critical hazards.
HS DNA Ligase	No known significant effects or critical hazards.
HS Capture Solution	No known significant effects or critical hazards.
HS Wash 1 Solution	No known significant effects or critical hazards.
HS Wash 2 Solution	No known significant effects or critical hazards.
Primer 1 ION	No known significant effects or critical hazards.
Primer 2 ION	No known significant effects or critical hazards.
HS Elution Buffer	No known significant effects or critical hazards.
Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
Herculase II Reaction Buffer	No known significant effects or critical hazards.
100 mM dNTP Mix	No known significant effects or critical hazards.
HaloPlex HS ION Indexing Plate	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.
HaloPlex HS Probe ION	No known significant effects or critical hazards.

Inhalation

: RE Buffer	No known significant effects or critical hazards.
BSA Solution	No known significant effects or critical hazards.
Enrichment Control DNA Hybridization Solution	No known significant effects or critical hazards.
HS Hybridization Stop Solution	No known significant effects or critical hazards.
10 mM rATP	No known significant effects or critical hazards.
HS Ligation Solution	No known significant effects or critical hazards.
HS DNA Ligase	No known significant effects or critical hazards.
HS Capture Solution	No known significant effects or critical hazards.

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	HS Wash 1 Solution	No known significant effects or critical hazards.
	HS Wash 2 Solution	No known significant effects or critical hazards.
	Primer 1 ION	No known significant effects or critical hazards.
	Primer 2 ION	No known significant effects or critical hazards.
	HS Elution Buffer	No known significant effects or critical hazards.
	Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
	Herculase II Reaction Buffer	No known significant effects or critical hazards.
	100 mM dNTP Mix	No known significant effects or critical hazards.
	HaloPlex HS ION	No known significant effects or critical hazards.
	Indexing Plate	
	Enzyme Strip 1	No known significant effects or critical hazards.
	Enzyme Strip 2	No known significant effects or critical hazards.
	HaloPlex HS Probe ION	No known significant effects or critical hazards.
Skin contact	: RE Buffer	No known significant effects or critical hazards.
	BSA Solution	No known significant effects or critical hazards.
	Enrichment Control DNA	No known significant effects or critical hazards.
	Hybridization Solution	No known significant effects or critical hazards.
	HS Hybridization Stop Solution	No known significant effects or critical hazards.
	10 mM rATP	No known significant effects or critical hazards.
	HS Ligation Solution	No known significant effects or critical hazards.
	HS DNA Ligase	No known significant effects or critical hazards.
	HS Capture Solution	No known significant effects or critical hazards.
	HS Wash 1 Solution	No known significant effects or critical hazards.
	HS Wash 2 Solution	No known significant effects or critical hazards.
	Primer 1 ION	No known significant effects or critical hazards.
	Primer 2 ION	No known significant effects or critical hazards.
	HS Elution Buffer	No known significant effects or critical hazards.
	Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
	Herculase II Reaction Buffer	No known significant effects or critical hazards.
	100 mM dNTP Mix	No known significant effects or critical hazards.
	HaloPlex HS ION	No known significant effects or critical hazards.
	Indexing Plate	
	Enzyme Strip 1	No known significant effects or critical hazards.
	Enzyme Strip 2	No known significant effects or critical hazards.
	HaloPlex HS Probe ION	No known significant effects or critical hazards.
Ingestion	: RE Buffer	No known significant effects or critical hazards.
	BSA Solution	No known significant effects or critical hazards.
	Enrichment Control DNA	No known significant effects or critical hazards.
	Hybridization Solution	No known significant effects or critical hazards.
	HS Hybridization Stop Solution	No known significant effects or critical hazards.
	10 mM rATP	No known significant effects or critical hazards.
	HS Ligation Solution	No known significant effects or critical hazards.
	HS DNA Ligase	No known significant effects or critical hazards.
	HS Capture Solution	No known significant effects or critical hazards.
	HS Wash 1 Solution	No known significant effects or critical hazards.
	HS Wash 2 Solution	No known significant effects or critical hazards.
	Primer 1 ION	No known significant effects or critical hazards.
	Primer 2 ION	No known significant effects or critical hazards.
	HS Elution Buffer	No known significant effects or critical hazards.
	Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
	Herculase II Reaction Buffer	No known significant effects or critical hazards.
	100 mM dNTP Mix	No known significant effects or critical hazards.
	HaloPlex HS ION	No known significant effects or critical hazards.
	Indexing Plate	

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Enzyme Strip 1	No known significant effects or critical hazards.
Enzyme Strip 2	No known significant effects or critical hazards.
HaloPlex HS Probe ION	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact

: RE Buffer	No specific data.
BSA Solution	No specific data.
Enrichment Control DNA	No specific data.
Hybridization Solution	No specific data.
HS Hybridization Stop Solution	No specific data.
10 mM rATP	No specific data.
HS Ligation Solution	No specific data.
HS DNA Ligase	No specific data.
HS Capture Solution	No specific data.
HS Wash 1 Solution	No specific data.
HS Wash 2 Solution	No specific data.
Primer 1 ION	No specific data.
Primer 2 ION	No specific data.
HS Elution Buffer	No specific data.
Herculase II Fusion DNA Polymerase	No specific data.
Herculase II Reaction Buffer	No specific data.
100 mM dNTP Mix	No specific data.
HaloPlex HS ION	No specific data.
Indexing Plate	
Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.
HaloPlex HS Probe ION	No specific data.

Inhalation

: RE Buffer	No specific data.
BSA Solution	No specific data.
Enrichment Control DNA	No specific data.
Hybridization Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
HS Hybridization Stop Solution	No specific data.
10 mM rATP	No specific data.
HS Ligation Solution	No specific data.
HS DNA Ligase	No specific data.
HS Capture Solution	No specific data.
HS Wash 1 Solution	No specific data.
HS Wash 2 Solution	No specific data.
Primer 1 ION	No specific data.
Primer 2 ION	No specific data.
HS Elution Buffer	No specific data.
Herculase II Fusion DNA Polymerase	No specific data.
Herculase II Reaction Buffer	No specific data.
100 mM dNTP Mix	No specific data.
HaloPlex HS ION	No specific data.
Indexing Plate	
Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.
HaloPlex HS Probe ION	No specific data.

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Skin contact	:	RE Buffer	No specific data.
		BSA Solution	No specific data.
		Enrichment Control DNA	No specific data.
		Hybridization Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
		HS Hybridization Stop Solution	No specific data.
		10 mM rATP	No specific data.
		HS Ligation Solution	No specific data.
		HS DNA Ligase	No specific data.
		HS Capture Solution	No specific data.
		HS Wash 1 Solution	No specific data.
		HS Wash 2 Solution	No specific data.
		Primer 1 ION	No specific data.
		Primer 2 ION	No specific data.
		HS Elution Buffer	No specific data.
		Herculase II Fusion DNA Polymerase	No specific data.
		Herculase II Reaction Buffer	No specific data.
		100 mM dNTP Mix	No specific data.
		HaloPlex HS ION	No specific data.
		Indexing Plate	
		Enzyme Strip 1	No specific data.
		Enzyme Strip 2	No specific data.
		HaloPlex HS Probe ION	No specific data.
	Ingestion	:	RE Buffer
		BSA Solution	No specific data.
		Enrichment Control DNA	No specific data.
		Hybridization Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
		HS Hybridization Stop Solution	No specific data.
		10 mM rATP	No specific data.
		HS Ligation Solution	No specific data.
		HS DNA Ligase	No specific data.
		HS Capture Solution	No specific data.
		HS Wash 1 Solution	No specific data.
		HS Wash 2 Solution	No specific data.
		Primer 1 ION	No specific data.
		Primer 2 ION	No specific data.
		HS Elution Buffer	No specific data.
		Herculase II Fusion DNA Polymerase	No specific data.
		Herculase II Reaction Buffer	No specific data.
		100 mM dNTP Mix	No specific data.
		HaloPlex HS ION	No specific data.
		Indexing Plate	
		Enzyme Strip 1	No specific data.
		Enzyme Strip 2	No specific data.
		HaloPlex HS Probe ION	No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

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Notes to physician	: RE Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	BSA 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.
	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.
	HS Hybridization Stop Solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	10 mM rATP	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	HS Ligation Solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	HS DNA Ligase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	HS Capture 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.
	HS Wash 1 Solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	HS Wash 2 Solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Primer 1 ION	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Primer 2 ION	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	HS Elution Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Herculase II Fusion DNA Polymerase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Herculase II Reaction Buffer	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.
	100 mM dNTP Mix	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.
	HaloPlex HS ION Indexing Plate	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Enzyme Strip 1	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Enzyme Strip 2	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	HaloPlex HS Probe ION	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: RE Buffer	No specific treatment.
	BSA Solution	No specific treatment.
	Enrichment Control DNA	No specific treatment.
	Hybridization Solution	No specific treatment.
	HS Hybridization Stop Solution	No specific treatment.
	10 mM rATP	No specific treatment.
	HS Ligation Solution	No specific treatment.
	HS DNA Ligase	No specific treatment.
	HS Capture Solution	No specific treatment.
	HS Wash 1 Solution	No specific treatment.
	HS Wash 2 Solution	No specific treatment.
	Primer 1 ION	No specific treatment.
	Primer 2 ION	No specific treatment.
	HS Elution Buffer	No specific treatment.

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Herculase II Fusion DNA Polymerase	No specific treatment.
Herculase II Reaction Buffer	No specific treatment.
100 mM dNTP Mix	No specific treatment.
HaloPlex HS ION	No specific treatment.
Indexing Plate	
Enzyme Strip 1	No specific treatment.
Enzyme Strip 2	No specific treatment.
HaloPlex HS Probe ION	No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

: RE Buffer	Use an extinguishing agent suitable for the surrounding fire.
BSA Solution	Use an extinguishing agent suitable for the surrounding fire.
Enrichment Control DNA	Use an extinguishing agent suitable for the surrounding fire.
Hybridization Solution	Use an extinguishing agent suitable for the surrounding fire.
HS Hybridization Stop Solution	Use an extinguishing agent suitable for the surrounding fire.
10 mM rATP	Use an extinguishing agent suitable for the surrounding fire.
HS Ligation Solution	Use an extinguishing agent suitable for the surrounding fire.
HS DNA Ligase	Use an extinguishing agent suitable for the surrounding fire.
HS Capture Solution	Use an extinguishing agent suitable for the surrounding fire.
HS Wash 1 Solution	Use an extinguishing agent suitable for the surrounding fire.
HS Wash 2 Solution	Use an extinguishing agent suitable for the surrounding fire.
Primer 1 ION	Use an extinguishing agent suitable for the surrounding fire.
Primer 2 ION	Use an extinguishing agent suitable for the surrounding fire.
HS Elution Buffer	Use an extinguishing agent suitable for the surrounding fire.
Herculase II Fusion DNA Polymerase	Use an extinguishing agent suitable for the surrounding fire.
Herculase II Reaction Buffer	Use an extinguishing agent suitable for the surrounding fire.
100 mM dNTP Mix	Use an extinguishing agent suitable for the surrounding fire.
HaloPlex HS ION	Use an extinguishing agent suitable for the surrounding fire.
Indexing Plate	
Enzyme Strip 1	Use an extinguishing agent suitable for the surrounding fire.
Enzyme Strip 2	Use an extinguishing agent suitable for the surrounding fire.
HaloPlex HS Probe ION	Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media

: RE Buffer	None known.
BSA Solution	None known.
Enrichment Control DNA	None known.
Hybridization Solution	None known.
HS Hybridization Stop Solution	None known.
10 mM rATP	None known.
HS Ligation Solution	None known.
HS DNA Ligase	None known.
HS Capture Solution	None known.
HS Wash 1 Solution	None known.
HS Wash 2 Solution	None known.
Primer 1 ION	None known.
Primer 2 ION	None known.
HS Elution Buffer	None known.
Herculase II Fusion DNA Polymerase	None known.
Herculase II Reaction Buffer	None known.
100 mM dNTP Mix	None known.
HaloPlex HS ION	None known.
Indexing Plate	
Enzyme Strip 1	None known.

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Enzyme Strip 2	None known.
HaloPlex HS Probe ION	None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture

: RE Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
BSA 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.
Hybridization Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
HS Hybridization Stop Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
10 mM rATP	In a fire or if heated, a pressure increase will occur and the container may burst.
HS Ligation Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
HS DNA Ligase	In a fire or if heated, a pressure increase will occur and the container may burst.
HS Capture Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
HS Wash 1 Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
HS Wash 2 Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
Primer 1 ION	In a fire or if heated, a pressure increase will occur and the container may burst.
Primer 2 ION	In a fire or if heated, a pressure increase will occur and the container may burst.
HS Elution Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
Herculase II Fusion DNA Polymerase	In a fire or if heated, a pressure increase will occur and the container may burst.
Herculase II Reaction Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
100 mM dNTP Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
HaloPlex HS ION Indexing Plate	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.
HaloPlex HS Probe ION	In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products

: RE Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide metal oxide/oxides
BSA Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides
Enrichment Control DNA	No specific data.
Hybridization Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds

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HS Hybridization Stop Solution	metal oxide/oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide
10 mM rATP HS Ligation Solution	No specific data. Decomposition products may include the following materials: halogenated compounds metal oxide/oxides
HS DNA Ligase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
HS Capture Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
HS Wash 1 Solution	No specific data.
HS Wash 2 Solution	No specific data.
Primer 1 ION	No specific data.
Primer 2 ION	No specific data.
HS Elution Buffer	No specific data.
Herculase II Fusion DNA Polymerase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
Herculase II Reaction Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides
100 mM dNTP Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
HaloPlex HS ION Indexing Plate Enzyme Strip 1	No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide
Enzyme Strip 2	Decomposition products may include the following materials: carbon dioxide carbon monoxide
HaloPlex HS Probe ION	No specific data.

5.3 Advice for firefighters

Special precautions for fire-fighters

: RE Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
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.
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.
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

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HS Hybridization Stop Solution	taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
10 mM rATP	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.
HS 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.
HS 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.
HS 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.
HS Wash 1 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.
HS Wash 2 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 ION	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 ION	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.
HS Elution 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.
Herculase II Fusion DNA Polymerase	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.
Herculase II Reaction 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.
100 mM dNTP Mix	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 HS ION Indexing Plate	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.
HaloPlex HS Probe ION	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.
: RE Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
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)

Special protective equipment for fire-fighters

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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.
Hybridization Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
HS Hybridization Stop 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.
10 mM rATP	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.
HS Ligation Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
HS DNA Ligase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
HS Capture Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
HS Wash 1 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.
HS Wash 2 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.
Primer 1 ION	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 ION	Fire-fighters should wear appropriate protective equipment

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HS Elution Buffer	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. 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.
Herculase II Fusion DNA Polymerase	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.
Herculase II Reaction 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.
100 mM dNTP Mix	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 HS ION Indexing Plate	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
Enzyme Strip 1	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
Enzyme Strip 2	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
HaloPlex HS Probe ION	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

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For non-emergency personnel	: RE Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	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.
	Enrichment Control DNA	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	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.
	HS Hybridization Stop 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.
	10 mM rATP	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.
	HS 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.
	HS 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.
	HS 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.
	HS Wash 1 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.
	HS Wash 2 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 ION	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 ION	No action shall be taken involving any personal risk or

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	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.
HS Elution 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.
Herculase II Fusion DNA Polymerase	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.
Herculase II Reaction 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.
100 mM dNTP Mix	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 HS ION Indexing Plate	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Enzyme Strip 1	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Enzyme Strip 2	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
HaloPlex HS Probe ION	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.
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".
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".
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".
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".
HS Hybridization Stop 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-

For emergency responders

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10 mM rATP	emergency personnel". If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
HS 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".
HS 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".
HS 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".
HS Wash 1 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".
HS Wash 2 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 ION	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 ION	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".
HS Elution 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".
Herculase II Fusion DNA Polymerase	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".
Herculase II Reaction 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".
100 mM dNTP Mix	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 HS ION Indexing Plate	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Enzyme Strip 1	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Enzyme Strip 2	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
HaloPlex HS Probe ION	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and

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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).
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).
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).
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).
HS Hybridization Stop 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).
10 mM rATP	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).
HS 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).
HS 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).
HS 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).
HS Wash 1 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).
HS Wash 2 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 ION	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 ION	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).
HS Elution 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).
Herculase II Fusion DNA Polymerase	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

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Herculase II Reaction Buffer	(sewers, waterways, soil or air). 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).
100 mM dNTP Mix	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 HS ION Indexing Plate	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).
HaloPlex HS Probe ION	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : RE Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
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.
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.
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.
HS Hybridization Stop 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.
10 mM rATP	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.
HS 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.

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HS DNA Ligase	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. May be harmful to the environment if released. Dispose of spillages under controlled conditions.
HS 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.
HS Wash 1 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.
HS Wash 2 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 ION	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 ION	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.
HS Elution 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.
Herculase II Fusion DNA Polymerase	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.
Herculase II Reaction 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.
100 mM dNTP Mix	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 HS ION Indexing Plate	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Enzyme Strip 1	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Enzyme Strip 2	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively,

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SECTION 6: Accidental release measures

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

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

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SECTION 7: Handling and storage

Advice on general occupational hygiene

	Enzyme Strip 2	Section 8). Put on appropriate personal protective equipment (see Section 8).
	HaloPlex HS Probe ION	Put on appropriate personal protective equipment (see Section 8).
	: 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.
	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.
	Enrichment Control DNA	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	Hybridization Solution	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	HS Hybridization Stop 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.
	10 mM rATP	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.
	HS 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.
	HS 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.
	HS 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.
	HS Wash 1 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

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HS Wash 2 Solution	protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Primer 1 ION	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 ION	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.
HS Elution 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.
Herculase II Fusion DNA Polymerase	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.
Herculase II Reaction 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.
100 mM dNTP Mix	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 HS ION Indexing Plate	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.
HaloPlex HS Probe ION	Eating, drinking and smoking should be prohibited in areas

SECTION 7: Handling and storage

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

7.2 Conditions for safe storage, including any incompatibilities

Storage	: RE Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	BSA Solution	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	Enrichment Control DNA	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	Hybridization Solution	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	HS Hybridization Stop Solution	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	10 mM rATP	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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	<p>been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
HS Ligation Solution	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
HS DNA Ligase	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
HS Capture Solution	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
HS Wash 1 Solution	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
HS Wash 2 Solution	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
Primer 1 ION	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental</p>

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

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

7.3 Specific end use(s)

Recommendations

: RE Buffer	Industrial applications, Professional applications.
BSA Solution	Industrial applications, Professional applications.
Enrichment Control DNA	Industrial applications, Professional applications.
Hybridization Solution	Industrial applications, Professional applications.
HS Hybridization Stop Solution	Industrial applications, Professional applications.
10 mM rATP	Industrial applications, Professional applications.
HS Ligation Solution	Industrial applications, Professional applications.
HS DNA Ligase	Industrial applications, Professional applications.
HS Capture Solution	Industrial applications, Professional applications.
HS Wash 1 Solution	Industrial applications, Professional applications.
HS Wash 2 Solution	Industrial applications, Professional applications.
Primer 1 ION	Industrial applications, Professional applications.
Primer 2 ION	Industrial applications, Professional applications.
HS Elution Buffer	Industrial applications, Professional applications.
Herculase II Fusion DNA Polymerase	Industrial applications, Professional applications.
Herculase II Reaction Buffer	Industrial applications, Professional applications.
100 mM dNTP Mix	Industrial applications, Professional applications.
HaloPlex HS ION	Industrial applications, Professional applications.
Indexing Plate	
Enzyme Strip 1	Industrial applications, Professional applications.
Enzyme Strip 2	Industrial applications, Professional applications.
HaloPlex HS Probe ION	Industrial applications, Professional applications.

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SECTION 7: Handling and storage

Industrial sector specific solutions	RE Buffer	Not available.
	BSA Solution	Not available.
	Enrichment Control DNA	Not available.
	Hybridization Solution	Not available.
	HS Hybridization Stop Solution	Not available.
	10 mM rATP	Not available.
	HS Ligation Solution	Not available.
	HS DNA Ligase	Not available.
	HS Capture Solution	Not available.
	HS Wash 1 Solution	Not available.
	HS Wash 2 Solution	Not available.
	Primer 1 ION	Not available.
	Primer 2 ION	Not available.
	HS Elution Buffer	Not available.
	Herculase II Fusion DNA Polymerase	Not available.
	Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix	Not available.
	HaloPlex HS ION	Not available.
	Indexing Plate	
	Enzyme Strip 1	Not available.
Enzyme Strip 2	Not available.	
HaloPlex HS Probe ION	Not available.	

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

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

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SECTION 8: Exposure controls/personal protection

Biological exposure indices

None known.

Recommended monitoring procedures

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

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
Hybridization Solution formamide	DNEL	Long term Dermal	0.952 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	6.6 mg/m ³	Workers	Systemic
HS Capture Solution Acetic acid, (ethylenedinitrilo)tetra-, disodium salt, dihydrate	DNEL	Long term Inhalation	0.6 mg/m ³	General population	Local
	DNEL	Short term Inhalation	1.2 mg/m ³	General population	Local
	DNEL	Long term Inhalation	1.5 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	1.5 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	3 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	3 mg/m ³	Workers	Systemic
	DNEL	Long term Oral	25 mg/kg bw/day	General population	Systemic
Herculase II Reaction Buffer Ammonium sulphate	DNEL	Long term Inhalation	1.667 mg/m ³	General population	Systemic
	DNEL	Long term Oral	6.4 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	11.167 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	12.8 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	42.667 mg/kg bw/day	Workers	Systemic
Trometamol	DNEL	Long term Oral	8.3 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	29 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	83.3 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	117.5 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	166.7 mg/kg bw/day	Workers	Systemic

PNECs

No PNECs available

SECTION 8: Exposure controls/personal protection

8.2 Exposure controls

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

Individual protection measures

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

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

Skin protection

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

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

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

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

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

SECTION 9: Physical and chemical properties

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

9.1 Information on basic physical and chemical properties

Appearance

Physical state	:	RE Buffer	Liquid.
		BSA Solution	Liquid.
		Enrichment Control DNA	Liquid.
		Hybridization Solution	Liquid.
		HS Hybridization Stop Solution	Liquid.
		10 mM rATP	Liquid.
		HS Ligation Solution	Liquid.
		HS DNA Ligase	Liquid.
		HS Capture Solution	Liquid.
		HS Wash 1 Solution	Liquid.
		HS Wash 2 Solution	Liquid.
		Primer 1 ION	Liquid.
		Primer 2 ION	Liquid.
		HS Elution Buffer	Liquid.

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	Herculase II Fusion DNA Polymerase	Liquid.
	Herculase II Reaction Buffer	Liquid.
	100 mM dNTP Mix	Liquid.
	HaloPlex HS ION	Liquid.
	Indexing Plate	
	Enzyme Strip 1	Liquid.
	Enzyme Strip 2	Liquid.
	HaloPlex HS Probe ION	Liquid.
Colour	: RE Buffer	Not available.
	BSA Solution	Not available.
	Enrichment Control DNA	Not available.
	Hybridization Solution	Not available.
	HS Hybridization Stop Solution	Not available.
	10 mM rATP	Not available.
	HS Ligation Solution	Not available.
	HS DNA Ligase	Not available.
	HS Capture Solution	Not available.
	HS Wash 1 Solution	Not available.
	HS Wash 2 Solution	Not available.
	Primer 1 ION	Not available.
	Primer 2 ION	Not available.
	HS Elution Buffer	Not available.
	Herculase II Fusion DNA Polymerase	Not available.
	Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix	Not available.
	HaloPlex HS ION	Not available.
	Indexing Plate	
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
	HaloPlex HS Probe ION	Not available.
Odour	: RE Buffer	Not available.
	BSA Solution	Not available.
	Enrichment Control DNA	Not available.
	Hybridization Solution	Not available.
	HS Hybridization Stop Solution	Not available.
	10 mM rATP	Not available.
	HS Ligation Solution	Not available.
	HS DNA Ligase	Not available.
	HS Capture Solution	Not available.
	HS Wash 1 Solution	Not available.
	HS Wash 2 Solution	Not available.
	Primer 1 ION	Not available.
	Primer 2 ION	Not available.
	HS Elution Buffer	Not available.
	Herculase II Fusion DNA Polymerase	Not available.
	Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix	Not available.
	HaloPlex HS ION	Not available.
	Indexing Plate	
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
	HaloPlex HS Probe ION	Not available.

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SECTION 9: Physical and chemical properties

Odour threshold	:	RE Buffer	Not available.
		BSA Solution	Not available.
		Enrichment Control DNA	Not available.
		Hybridization Solution	Not available.
		HS Hybridization Stop Solution	Not available.
		10 mM rATP	Not available.
		HS Ligation Solution	Not available.
		HS DNA Ligase	Not available.
		HS Capture Solution	Not available.
		HS Wash 1 Solution	Not available.
		HS Wash 2 Solution	Not available.
		Primer 1 ION	Not available.
		Primer 2 ION	Not available.
		HS Elution Buffer	Not available.
		Herculase II Fusion DNA Polymerase	Not available.
		Herculase II Reaction Buffer	Not available.
		100 mM dNTP Mix	Not available.
		HaloPlex HS ION Indexing Plate	Not available.
		Enzyme Strip 1	Not available.
		Enzyme Strip 2	Not available.
		HaloPlex HS Probe ION	Not available.
Melting point/freezing point	:	RE Buffer	0°C
		BSA Solution	Not available.
		Enrichment Control DNA	0°C
		Hybridization Solution	Not available.
		HS Hybridization Stop Solution	Not available.
		10 mM rATP	0°C
		HS Ligation Solution	0°C
		HS DNA Ligase	Not available.
		HS Capture Solution	Not available.
		HS Wash 1 Solution	0°C
		HS Wash 2 Solution	0°C
		Primer 1 ION	0°C
		Primer 2 ION	0°C
		HS Elution Buffer	0°C
		Herculase II Fusion DNA Polymerase	Not available.
		Herculase II Reaction Buffer	Not available.
		100 mM dNTP Mix	Not available.
		HaloPlex HS ION Indexing Plate	0°C
		Enzyme Strip 1	Not available.
		Enzyme Strip 2	Not available.
		HaloPlex HS Probe ION	0°C
Initial boiling point and boiling range	:	RE Buffer	100°C
		BSA Solution	Not available.
		Enrichment Control DNA	100°C
		Hybridization Solution	Not available.
		HS Hybridization Stop Solution	Not available.
		10 mM rATP	100°C
		HS Ligation Solution	100°C
		HS DNA Ligase	Not available.
		HS Capture Solution	Not available.
		HS Wash 1 Solution	100°C
		HS Wash 2 Solution	100°C

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 9: Physical and chemical properties

Primer 1 ION	100°C
Primer 2 ION	100°C
HS Elution Buffer	100°C
Herculase II Fusion DNA	Not available.
Polymerase	
Herculase II Reaction Buffer	Not available.
100 mM dNTP Mix	Not available.
HaloPlex HS ION	100°C
Indexing Plate	
Enzyme Strip 1	Not available.
Enzyme Strip 2	Not available.
HaloPlex HS Probe ION	100°C
RE Buffer	Not applicable.
BSA Solution	Not applicable.
Enrichment Control DNA	Not applicable.
Hybridization Solution	Not applicable.
HS Hybridization Stop Solution	Not applicable.
10 mM rATP	Not applicable.
HS Ligation Solution	Not applicable.
HS DNA Ligase	Not applicable.
HS Capture Solution	Not applicable.
HS Wash 1 Solution	Not applicable.
HS Wash 2 Solution	Not applicable.
Primer 1 ION	Not applicable.
Primer 2 ION	Not applicable.
HS Elution Buffer	Not applicable.
Herculase II Fusion DNA	Not applicable.
Polymerase	
Herculase II Reaction Buffer	Not applicable.
100 mM dNTP Mix	Not applicable.
HaloPlex HS ION	Not applicable.
Indexing Plate	
Enzyme Strip 1	Not applicable.
Enzyme Strip 2	Not applicable.
HaloPlex HS Probe ION	Not applicable.
RE Buffer	Not available.
BSA Solution	Not available.
Enrichment Control DNA	Not available.
Hybridization Solution	Not available.
HS Hybridization Stop Solution	Not available.
10 mM rATP	Not available.
HS Ligation Solution	Not available.
HS DNA Ligase	Not available.
HS Capture Solution	Not available.
HS Wash 1 Solution	Not available.
HS Wash 2 Solution	Not available.
Primer 1 ION	Not available.
Primer 2 ION	Not available.
HS Elution Buffer	Not available.
Herculase II Fusion DNA	Not available.
Polymerase	
Herculase II Reaction Buffer	Not available.
100 mM dNTP Mix	Not available.
HaloPlex HS ION	Not available.
Indexing Plate	
Enzyme Strip 1	Not available.
Enzyme Strip 2	Not available.

Flammability

Upper/lower flammability or explosive limits

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 9: Physical and chemical properties

HaloPlex HS Probe ION Not available.

Flash point :

Ingredient name	Closed cup		Open cup	
	°C	Method	°C	Method
BSA Solution				
Glycerol			177	
Hybridization Solution				
Formamide			152	DIN EN ISO 2592
HS Hybridization Stop Solution				
Polyethylene glycol	171 to 235		199 to 238	
HS DNA Ligase				
Glycerol			177	
HS Capture Solution				
Acetic acid, (ethylenedinitrilo)tetra-, disodium salt, dihydrate	>100			
Herculase II Fusion DNA Polymerase				
Glycerol			177	
Enzyme Strip 1				
Glycerol			177	
Enzyme Strip 2				
Glycerol			177	

Auto-ignition temperature :

Ingredient name	°C	Method
RE Buffer		
potassium acetate	>410	EU A.16
BSA Solution		
Glycerol	370	
Hybridization Solution		
Formamide	>500	ASTM D 2155-66
HS Hybridization Stop Solution		
Polyethylene glycol	360	

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 9: Physical and chemical properties

HS DNA Ligase		
Glycerol		370
Herculase II Fusion DNA Polymerase		
Glycerol		370
Enzyme Strip 1		
Glycerol		370
Enzyme Strip 2		
Glycerol		370

Decomposition temperature

: RE Buffer	Not available.
BSA Solution	Not available.
Enrichment Control DNA	Not available.
Hybridization Solution	Not available.
HS Hybridization Stop Solution	Not available.
10 mM rATP	Not available.
HS Ligation Solution	Not available.
HS DNA Ligase	Not available.
HS Capture Solution	Not available.
HS Wash 1 Solution	Not available.
HS Wash 2 Solution	Not available.
Primer 1 ION	Not available.
Primer 2 ION	Not available.
HS Elution Buffer	Not available.
Herculase II Fusion DNA Polymerase	Not available.
Herculase II Reaction Buffer	Not available.
100 mM dNTP Mix	Not available.
HaloPlex HS ION Indexing Plate	Not available.
Enzyme Strip 1	Not available.
Enzyme Strip 2	Not available.
HaloPlex HS Probe ION	Not available.

pH

: RE Buffer	7.9
BSA Solution	7
Enrichment Control DNA	Not available.
Hybridization Solution	7.5
HS Hybridization Stop Solution	Not available.
10 mM rATP	7
HS Ligation Solution	8
HS DNA Ligase	7.5
HS Capture Solution	7.5
HS Wash 1 Solution	Not available.
HS Wash 2 Solution	8.5
Primer 1 ION	Not available.
Primer 2 ION	Not available.
HS Elution Buffer	8.5
Herculase II Fusion DNA Polymerase	8.2
Herculase II Reaction	10

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 9: Physical and chemical properties

	Buffer	
	100 mM dNTP Mix	7.5
	HaloPlex HS ION	Not available.
	Indexing Plate	
	Enzyme Strip 1	7.4
	Enzyme Strip 2	Not available.
	HaloPlex HS Probe ION	Not available.
Viscosity	: RE Buffer	Not available.
	BSA Solution	Not available.
	Enrichment Control DNA	Not available.
	Hybridization Solution	Not available.
	HS Hybridization Stop Solution	Not available.
	10 mM rATP	Not available.
	HS Ligation Solution	Not available.
	HS DNA Ligase	Not available.
	HS Capture Solution	Not available.
	HS Wash 1 Solution	Not available.
	HS Wash 2 Solution	Not available.
	Primer 1 ION	Not available.
	Primer 2 ION	Not available.
	HS Elution Buffer	Not available.
	Herculase II Fusion DNA Polymerase	Not available.
	Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix	Not available.
	HaloPlex HS ION	Not available.
	Indexing Plate	
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
	HaloPlex HS Probe ION	Not available.

Solubility(ies)	Media	Result
	RE Buffer	
	water	Soluble
	BSA Solution	
	water	Soluble
	Enrichment Control DNA	
	water	Soluble
	Hybridization Solution	
	water	Soluble
	HS Hybridization Stop Solution	
	water	Soluble
	10 mM rATP	
	water	Soluble
	HS Ligation Solution	
	water	Soluble
	HS DNA Ligase	
	water	Soluble
	HS Capture Solution	
	water	Soluble
	HS Wash 1 Solution	
	water	Soluble
	HS Wash 2 Solution	
	water	Soluble
	Primer 1 ION	
	water	Soluble
	Primer 2 ION	
	water	Soluble
	HS Elution Buffer	

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 9: Physical and chemical properties

water	Soluble
Herculase II Fusion DNA Polymerase	
water	Soluble
Herculase II Reaction Buffer	
water	Soluble
100 mM dNTP Mix	
water	Soluble
HaloPlex HS ION Indexing Plate	
water	Soluble
Enzyme Strip 1	
water	Soluble
Enzyme Strip 2	
water	Soluble
HaloPlex HS Probe ION	
water	Soluble

Partition coefficient: n-octanol/water

RE Buffer	Not applicable.
BSA Solution	Not applicable.
Enrichment Control DNA Hybridization Solution	Not applicable.
HS Hybridization Stop Solution	Not applicable.
10 mM rATP	Not applicable.
HS Ligation Solution	Not applicable.
HS DNA Ligase	Not applicable.
HS Capture Solution	Not applicable.
HS Wash 1 Solution	Not applicable.
HS Wash 2 Solution	Not applicable.
Primer 1 ION	Not applicable.
Primer 2 ION	Not applicable.
HS Elution Buffer	Not applicable.
Herculase II Fusion DNA Polymerase	Not applicable.
Herculase II Reaction Buffer	Not applicable.
100 mM dNTP Mix	Not applicable.
HaloPlex HS ION Indexing Plate	Not applicable.
Enzyme Strip 1	Not applicable.
Enzyme Strip 2	Not applicable.
HaloPlex HS Probe ION	Not applicable.

Vapour pressure

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
RE Buffer						
water	23.8	3.2		92.258	12.3	
potassium acetate	0.00000013	0.000000017				
BSA Solution						
water	23.8	3.2		92.258	12.3	
Glycerol	0.000075	0.00001		0.0025	0.00033	
Enrichment						

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 9: Physical and chemical properties

Control DNA					
water	23.8	3.2		92.258	12.3
Hybridization Solution					
water	23.8	3.2		92.258	12.3
Formamide	0.05	0.0067			
HS Hybridization Stop Solution					
water	23.8	3.2		92.258	12.3
Polyethylene glycol	0	0			
10 mM rATP					
water	23.8	3.2		92.258	12.3
HS Ligation Solution					
water	23.8	3.2		92.258	12.3
HS DNA Ligase					
water	23.8	3.2		92.258	12.3
Glycerol	0.000075	0.00001		0.0025	0.00033
HS Capture Solution					
water	23.8	3.2		92.258	12.3
HS Wash 1 Solution					
water	23.8	3.2		92.258	12.3
HS Wash 2 Solution					
water	23.8	3.2		92.258	12.3
Primer 1 ION					
water	23.8	3.2		92.258	12.3
Primer 2 ION					
water	23.8	3.2		92.258	12.3

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 9: Physical and chemical properties

HS Elution Buffer						
water	23.8	3.2			92.258	12.3
Herculase II Fusion DNA Polymerase						
water	23.8	3.2			92.258	12.3
Glycerol	0.000075	0.00001			0.0025	0.00033
Herculase II Reaction Buffer						
water	23.8	3.2			92.258	12.3
Trometamol	<0.00075006	<0.0001				
100 mM dNTP Mix						
water	23.8	3.2			92.258	12.3
HaloPlex HS ION Indexing Plate						
water	23.8	3.2			92.258	12.3
Enzyme Strip 1						
water	23.8	3.2			92.258	12.3
Glycerol	0.000075	0.00001			0.0025	0.00033
Enzyme Strip 2						
water	23.8	3.2			92.258	12.3
Glycerol	0.000075	0.00001			0.0025	0.00033
HaloPlex HS Probe ION						
water	23.8	3.2			92.258	12.3

Evaporation rate

: RE Buffer	Not available.
: BSA Solution	Not available.
: Enrichment Control DNA	Not available.
: Hybridization Solution	Not available.
: HS Hybridization Stop Solution	Not available.
: 10 mM rATP	Not available.
: HS Ligation Solution	Not available.
: HS DNA Ligase	Not available.
: HS Capture Solution	Not available.
: HS Wash 1 Solution	Not available.
: HS Wash 2 Solution	Not available.

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 9: Physical and chemical properties

	Primer 1 ION	Not available.
	Primer 2 ION	Not available.
	HS Elution Buffer	Not available.
	Herculase II Fusion DNA Polymerase	Not available.
	Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix	Not available.
	HaloPlex HS ION Indexing Plate	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
	HaloPlex HS Probe ION	Not available.
Relative density	:	RE Buffer
		Not available.
		BSA Solution
		Not available.
		Enrichment Control DNA
		Not available.
		Hybridization Solution
		Not available.
		HS Hybridization Stop Solution
		Not available.
		10 mM rATP
		Not available.
		HS Ligation Solution
		Not available.
		HS DNA Ligase
		Not available.
		HS Capture Solution
		Not available.
		HS Wash 1 Solution
		Not available.
		HS Wash 2 Solution
		Not available.
		Primer 1 ION
		Not available.
		Primer 2 ION
		Not available.
		HS Elution Buffer
		Not available.
		Herculase II Fusion DNA Polymerase
		Not available.
		Herculase II Reaction Buffer
		Not available.
		100 mM dNTP Mix
		Not available.
		HaloPlex HS ION Indexing Plate
		Not available.
		Enzyme Strip 1
		Not available.
		Enzyme Strip 2
		Not available.
		HaloPlex HS Probe ION
		Not available.
Vapour density	:	RE Buffer
		Not available.
		BSA Solution
		Not available.
		Enrichment Control DNA
		Not available.
		Hybridization Solution
		Not available.
		HS Hybridization Stop Solution
		Not available.
		10 mM rATP
		Not available.
		HS Ligation Solution
		Not available.
		HS DNA Ligase
		Not available.
		HS Capture Solution
		Not available.
		HS Wash 1 Solution
		Not available.
		HS Wash 2 Solution
		Not available.
		Primer 1 ION
		Not available.
		Primer 2 ION
		Not available.
		HS Elution Buffer
		Not available.
		Herculase II Fusion DNA Polymerase
		Not available.
		Herculase II Reaction Buffer
		Not available.
		100 mM dNTP Mix
		Not available.
		HaloPlex HS ION Indexing Plate
		Not available.
		Enzyme Strip 1
		Not available.
		Enzyme Strip 2
		Not available.

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 9: Physical and chemical properties

	HaloPlex HS Probe ION	Not available.
Explosive properties	: RE Buffer	Not available.
	BSA Solution	Not available.
	Enrichment Control DNA	Not available.
	Hybridization Solution	Not available.
	HS Hybridization Stop Solution	Not available.
	10 mM rATP	Not available.
	HS Ligation Solution	Not available.
	HS DNA Ligase	Not available.
	HS Capture Solution	Not available.
	HS Wash 1 Solution	Not available.
	HS Wash 2 Solution	Not available.
	Primer 1 ION	Not available.
	Primer 2 ION	Not available.
	HS Elution Buffer	Not available.
	Herculase II Fusion DNA Polymerase	Not available.
	Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix	Not available.
	HaloPlex HS ION Indexing Plate	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
Oxidising properties	: HaloPlex HS Probe ION	Not available.
	: RE Buffer	Not available.
	BSA Solution	Not available.
	Enrichment Control DNA	Not available.
	Hybridization Solution	Not available.
	HS Hybridization Stop Solution	Not available.
	10 mM rATP	Not available.
	HS Ligation Solution	Not available.
	HS DNA Ligase	Not available.
	HS Capture Solution	Not available.
	HS Wash 1 Solution	Not available.
	HS Wash 2 Solution	Not available.
	Primer 1 ION	Not available.
	Primer 2 ION	Not available.
	HS Elution Buffer	Not available.
	Herculase II Fusion DNA Polymerase	Not available.
	Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix	Not available.
	HaloPlex HS ION Indexing Plate	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
	HaloPlex HS Probe ION	Not available.
Particle characteristics		
Median particle size	: RE Buffer	Not applicable.
	BSA Solution	Not applicable.
	Enrichment Control DNA	Not applicable.
	Hybridization Solution	Not applicable.
	HS Hybridization Stop Solution	Not applicable.
	10 mM rATP	Not applicable.
	HS Ligation Solution	Not applicable.
	HS DNA Ligase	Not applicable.

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 9: Physical and chemical properties

HS Capture Solution	Not applicable.
HS Wash 1 Solution	Not applicable.
HS Wash 2 Solution	Not applicable.
Primer 1 ION	Not applicable.
Primer 2 ION	Not applicable.
HS Elution Buffer	Not applicable.
Herculase II Fusion DNA Polymerase	Not applicable.
Herculase II Reaction Buffer	Not applicable.
100 mM dNTP Mix	Not applicable.
HaloPlex HS ION Indexing Plate	Not applicable.
Enzyme Strip 1	Not applicable.
Enzyme Strip 2	Not applicable.
HaloPlex HS Probe ION	Not applicable.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

: RE Buffer	No specific test data related to reactivity available for this product or its ingredients.
BSA 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.
Hybridization Solution	No specific test data related to reactivity available for this product or its ingredients.
HS Hybridization Stop Solution	No specific test data related to reactivity available for this product or its ingredients.
10 mM rATP	No specific test data related to reactivity available for this product or its ingredients.
HS Ligation Solution	No specific test data related to reactivity available for this product or its ingredients.
HS DNA Ligase	No specific test data related to reactivity available for this product or its ingredients.
HS Capture Solution	No specific test data related to reactivity available for this product or its ingredients.
HS Wash 1 Solution	No specific test data related to reactivity available for this product or its ingredients.
HS Wash 2 Solution	No specific test data related to reactivity available for this product or its ingredients.
Primer 1 ION	No specific test data related to reactivity available for this product or its ingredients.
Primer 2 ION	No specific test data related to reactivity available for this product or its ingredients.
HS Elution Buffer	No specific test data related to reactivity available for this product or its ingredients.
Herculase II Fusion DNA Polymerase	No specific test data related to reactivity available for this product or its ingredients.
Herculase II Reaction Buffer	No specific test data related to reactivity available for this product or its ingredients.
100 mM dNTP Mix	No specific test data related to reactivity available for this product or its ingredients.
HaloPlex HS ION Indexing Plate	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.
HaloPlex HS Probe ION	No specific test data related to reactivity available for this product or its ingredients.

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 10: Stability and reactivity

product or its ingredients.

10.2 Chemical stability	:	RE Buffer	The product is stable.
		BSA Solution	The product is stable.
		Enrichment Control DNA	The product is stable.
		Hybridization Solution	The product is stable.
		HS Hybridization Stop Solution	The product is stable.
		10 mM rATP	The product is stable.
		HS Ligation Solution	The product is stable.
		HS DNA Ligase	The product is stable.
		HS Capture Solution	The product is stable.
		HS Wash 1 Solution	The product is stable.
		HS Wash 2 Solution	The product is stable.
		Primer 1 ION	The product is stable.
		Primer 2 ION	The product is stable.
		HS Elution Buffer	The product is stable.
		Herculase II Fusion DNA Polymerase	The product is stable.
		Herculase II Reaction Buffer	The product is stable.
		100 mM dNTP Mix	The product is stable.
		HaloPlex HS ION Indexing Plate	The product is stable.
		Enzyme Strip 1	The product is stable.
		Enzyme Strip 2	The product is stable.
		HaloPlex HS Probe ION	The product is stable.

10.3 Possibility of hazardous reactions	:	RE 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.
		Enrichment Control DNA	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.
		HS Hybridization Stop Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
		10 mM rATP	Under normal conditions of storage and use, hazardous reactions will not occur.
		HS Ligation Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
		HS DNA Ligase	Under normal conditions of storage and use, hazardous reactions will not occur.
		HS Capture Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
		HS Wash 1 Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
		HS Wash 2 Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
		Primer 1 ION	Under normal conditions of storage and use, hazardous reactions will not occur.
		Primer 2 ION	Under normal conditions of storage and use, hazardous reactions will not occur.
		HS Elution Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
		Herculase II Fusion DNA Polymerase	Under normal conditions of storage and use, hazardous reactions will not occur.
		Herculase II Reaction Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
		100 mM dNTP Mix	Under normal conditions of storage and use, hazardous reactions will not occur.

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 10: Stability and reactivity

HaloPlex HS ION Indexing Plate	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.
HaloPlex HS Probe ION	Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid :

RE Buffer	No specific data.
BSA Solution	No specific data.
Enrichment Control DNA	No specific data.
Hybridization Solution	No specific data.
HS Hybridization Stop Solution	No specific data.
10 mM rATP	No specific data.
HS Ligation Solution	No specific data.
HS DNA Ligase	No specific data.
HS Capture Solution	No specific data.
HS Wash 1 Solution	No specific data.
HS Wash 2 Solution	No specific data.
Primer 1 ION	No specific data.
Primer 2 ION	No specific data.
HS Elution Buffer	No specific data.
Herculase II Fusion DNA Polymerase	No specific data.
Herculase II Reaction Buffer	No specific data.
100 mM dNTP Mix	No specific data.
HaloPlex HS ION Indexing Plate	No specific data.
Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.
HaloPlex HS Probe ION	No specific data.

10.5 Incompatible materials :

RE Buffer	May react or be incompatible with oxidising materials.
BSA Solution	May react or be incompatible with oxidising materials.
Enrichment Control DNA	May react or be incompatible with oxidising materials.
Hybridization Solution	May react or be incompatible with oxidising materials.
HS Hybridization Stop Solution	May react or be incompatible with oxidising materials.
10 mM rATP	May react or be incompatible with oxidising materials.
HS Ligation Solution	May react or be incompatible with oxidising materials.
HS DNA Ligase	May react or be incompatible with oxidising materials.
HS Capture Solution	May react or be incompatible with oxidising materials.
HS Wash 1 Solution	May react or be incompatible with oxidising materials.
HS Wash 2 Solution	May react or be incompatible with oxidising materials.
Primer 1 ION	May react or be incompatible with oxidising materials.
Primer 2 ION	May react or be incompatible with oxidising materials.
HS Elution Buffer	May react or be incompatible with oxidising materials.
Herculase II Fusion DNA Polymerase	May react or be incompatible with oxidising materials.
Herculase II Reaction Buffer	May react or be incompatible with oxidising materials.
100 mM dNTP Mix	May react or be incompatible with oxidising materials.
HaloPlex HS ION Indexing Plate	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.
HaloPlex HS Probe ION	May react or be incompatible with oxidising materials.

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 10: Stability and reactivity

10.6 Hazardous decomposition products	: RE 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.
	Enrichment Control DNA	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.
	HS Hybridization Stop Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	10 mM rATP	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	HS Ligation Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	HS DNA Ligase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	HS Capture Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	HS Wash 1 Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	HS Wash 2 Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Primer 1 ION	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Primer 2 ION	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	HS Elution Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Herculase II Fusion DNA Polymerase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Herculase II Reaction Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	100 mM dNTP Mix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
HaloPlex HS ION Indexing Plate	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.	
HaloPlex HS Probe ION	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
Hybridization Solution formamide	LC50 Inhalation Dusts and mists LD50 Dermal LD50 Oral	Rat - Male Rabbit Rat	>21 mg/l 17 g/kg 4000 mg/kg	4 hours - -
HS DNA Ligase Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	LD50 Oral	Rat	2800 mg/kg	-
Herculase II Reaction Buffer Ammonium sulphate	LD50 Oral	Rat	2840 mg/kg	-

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 11: Toxicological information

Trometamol	LD50 Dermal	Rat	>5000 mg/kg	-
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Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Hybridization Solution formamide	4000	17000	N/A	N/A	N/A
HS DNA Ligase Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	500	N/A	N/A	N/A	N/A
HS Capture Solution HS Capture Solution	N/A	N/A	N/A	117.0	N/A
Acetic acid, (ethylenedinitrilo)tetra-, disodium salt, dihydrate	2214.37	N/A	N/A	11	N/A
Herculase II Reaction Buffer Ammonium sulphate	2840	N/A	N/A	N/A	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Hybridization Solution formamide	Eyes - Severe irritant	Rabbit	-	100 mg	-
HS DNA Ligase Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Eyes - Severe irritant	Rabbit	-	1 %	-
Herculase II Reaction Buffer Trometamol	Skin - Moderate irritant Skin - Severe irritant	Rabbit Rabbit	- -	25 % 500 mg	- -

Sensitiser

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 11: Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
Hybridization Solution formamide	Category 2	oral	blood
HS Capture Solution Acetic acid, (ethylenedinitrilo)tetra-, disodium salt, dihydrate	Category 2	inhalation	respiratory tract

Aspiration hazard

Not available.

Information on likely routes of exposure

: RE Buffer	Not available.
BSA Solution	Not available.
Enrichment Control DNA	Not available.
Hybridization Solution	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
HS Hybridization Stop Solution	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
10 mM rATP	Not available.
HS Ligation Solution	Not available.
HS DNA Ligase	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
HS Capture Solution	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
HS Wash 1 Solution	Not available.
HS Wash 2 Solution	Not available.
Primer 1 ION	Not available.
Primer 2 ION	Not available.
HS Elution Buffer	Not available.
Herculase II Fusion DNA Polymerase	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Herculase II Reaction Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
100 mM dNTP Mix	Not available.
HaloPlex HS ION	Not available.
Indexing Plate	
Enzyme Strip 1	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Enzyme Strip 2	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
HaloPlex HS Probe ION	Not available.

Potential acute health effects

Inhalation

: RE Buffer	No known significant effects or critical hazards.
BSA Solution	No known significant effects or critical hazards.
Enrichment Control DNA	No known significant effects or critical hazards.
Hybridization Solution	No known significant effects or critical hazards.
HS Hybridization Stop Solution	No known significant effects or critical hazards.
10 mM rATP	No known significant effects or critical hazards.
HS Ligation Solution	No known significant effects or critical hazards.
HS DNA Ligase	No known significant effects or critical hazards.
HS Capture Solution	No known significant effects or critical hazards.
HS Wash 1 Solution	No known significant effects or critical hazards.
HS Wash 2 Solution	No known significant effects or critical hazards.
Primer 1 ION	No known significant effects or critical hazards.
Primer 2 ION	No known significant effects or critical hazards.
HS Elution Buffer	No known significant effects or critical hazards.
Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
Herculase II Reaction Buffer	No known significant effects or critical hazards.
100 mM dNTP Mix	No known significant effects or critical hazards.
HaloPlex HS ION	No known significant effects or critical hazards.
Indexing Plate	
Enzyme Strip 1	No known significant effects or critical hazards.
Enzyme Strip 2	No known significant effects or critical hazards.
HaloPlex HS Probe ION	No known significant effects or critical hazards.

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 11: Toxicological information

Ingestion	:	RE Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		Enrichment Control DNA	No known significant effects or critical hazards.
		Hybridization Solution	No known significant effects or critical hazards.
		HS Hybridization Stop Solution	No known significant effects or critical hazards.
		10 mM rATP	No known significant effects or critical hazards.
		HS Ligation Solution	No known significant effects or critical hazards.
		HS DNA Ligase	No known significant effects or critical hazards.
		HS Capture Solution	No known significant effects or critical hazards.
		HS Wash 1 Solution	No known significant effects or critical hazards.
		HS Wash 2 Solution	No known significant effects or critical hazards.
		Primer 1 ION	No known significant effects or critical hazards.
		Primer 2 ION	No known significant effects or critical hazards.
		HS Elution Buffer	No known significant effects or critical hazards.
		Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
		Herculase II Reaction Buffer	No known significant effects or critical hazards.
		100 mM dNTP Mix	No known significant effects or critical hazards.
		HaloPlex HS ION Indexing Plate	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.
		HaloPlex HS Probe ION	No known significant effects or critical hazards.
Skin contact	:	RE Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		Enrichment Control DNA	No known significant effects or critical hazards.
		Hybridization Solution	No known significant effects or critical hazards.
		HS Hybridization Stop Solution	No known significant effects or critical hazards.
		10 mM rATP	No known significant effects or critical hazards.
		HS Ligation Solution	No known significant effects or critical hazards.
		HS DNA Ligase	No known significant effects or critical hazards.
		HS Capture Solution	No known significant effects or critical hazards.
		HS Wash 1 Solution	No known significant effects or critical hazards.
		HS Wash 2 Solution	No known significant effects or critical hazards.
		Primer 1 ION	No known significant effects or critical hazards.
		Primer 2 ION	No known significant effects or critical hazards.
		HS Elution Buffer	No known significant effects or critical hazards.
		Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
		Herculase II Reaction Buffer	No known significant effects or critical hazards.
		100 mM dNTP Mix	No known significant effects or critical hazards.
		HaloPlex HS ION Indexing Plate	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.
		HaloPlex HS Probe ION	No known significant effects or critical hazards.
Eye contact	:	RE Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		Enrichment Control DNA	No known significant effects or critical hazards.
		Hybridization Solution	No known significant effects or critical hazards.
		HS Hybridization Stop Solution	No known significant effects or critical hazards.
		10 mM rATP	No known significant effects or critical hazards.
		HS Ligation Solution	No known significant effects or critical hazards.
		HS DNA Ligase	No known significant effects or critical hazards.
		HS Capture Solution	No known significant effects or critical hazards.
		HS Wash 1 Solution	No known significant effects or critical hazards.
		HS Wash 2 Solution	No known significant effects or critical hazards.
		Primer 1 ION	No known significant effects or critical hazards.

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 11: Toxicological information

Primer 2 ION	No known significant effects or critical hazards.
HS Elution Buffer	No known significant effects or critical hazards.
Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
Herculase II Reaction Buffer	No known significant effects or critical hazards.
100 mM dNTP Mix	No known significant effects or critical hazards.
HaloPlex HS ION Indexing Plate	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.
HaloPlex HS Probe ION	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation

: RE Buffer	No specific data.
BSA Solution	No specific data.
Enrichment Control DNA Hybridization Solution	No specific data.
	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
HS Hybridization Stop Solution	No specific data.
10 mM rATP	No specific data.
HS Ligation Solution	No specific data.
HS DNA Ligase	No specific data.
HS Capture Solution	No specific data.
HS Wash 1 Solution	No specific data.
HS Wash 2 Solution	No specific data.
Primer 1 ION	No specific data.
Primer 2 ION	No specific data.
HS Elution Buffer	No specific data.
Herculase II Fusion DNA Polymerase	No specific data.
Herculase II Reaction Buffer	No specific data.
100 mM dNTP Mix	No specific data.
HaloPlex HS ION Indexing Plate	No specific data.
Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.
HaloPlex HS Probe ION	No specific data.

Ingestion

: RE Buffer	No specific data.
BSA Solution	No specific data.
Enrichment Control DNA Hybridization Solution	No specific data.
	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
HS Hybridization Stop Solution	No specific data.
10 mM rATP	No specific data.
HS Ligation Solution	No specific data.
HS DNA Ligase	No specific data.
HS Capture Solution	No specific data.
HS Wash 1 Solution	No specific data.
HS Wash 2 Solution	No specific data.
Primer 1 ION	No specific data.
Primer 2 ION	No specific data.
HS Elution Buffer	No specific data.
Herculase II Fusion DNA Polymerase	No specific data.
Herculase II Reaction	No specific data.

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 11: Toxicological information

	Buffer	
	100 mM dNTP Mix	No specific data.
	HaloPlex HS ION	No specific data.
	Indexing Plate	
	Enzyme Strip 1	No specific data.
	Enzyme Strip 2	No specific data.
	HaloPlex HS Probe ION	No specific data.
Skin contact	:	RE Buffer
		BSA Solution
		Enrichment Control DNA
		Hybridization Solution
		Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
		HS Hybridization Stop Solution
		10 mM rATP
		HS Ligation Solution
		HS DNA Ligase
		HS Capture Solution
		HS Wash 1 Solution
		HS Wash 2 Solution
		Primer 1 ION
		Primer 2 ION
		HS Elution Buffer
		Herculase II Fusion DNA Polymerase
		Herculase II Reaction Buffer
		100 mM dNTP Mix
		HaloPlex HS ION
		Indexing Plate
		Enzyme Strip 1
		Enzyme Strip 2
		HaloPlex HS Probe ION
Eye contact	:	RE Buffer
		BSA Solution
		Enrichment Control DNA
		Hybridization Solution
		HS Hybridization Stop Solution
		10 mM rATP
		HS Ligation Solution
		HS DNA Ligase
		HS Capture Solution
		HS Wash 1 Solution
		HS Wash 2 Solution
		Primer 1 ION
		Primer 2 ION
		HS Elution Buffer
		Herculase II Fusion DNA Polymerase
		Herculase II Reaction Buffer
		100 mM dNTP Mix
		HaloPlex HS ION
		Indexing Plate
		Enzyme Strip 1
		Enzyme Strip 2
		HaloPlex HS Probe ION

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

Short term exposure

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 11: Toxicological information

Mutagenicity	:	Enzyme Strip 2	No known significant effects or critical hazards.
		HaloPlex HS Probe ION	No known significant effects or critical hazards.
		RE Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		Enrichment Control DNA	No known significant effects or critical hazards.
		Hybridization Solution	No known significant effects or critical hazards.
		HS Hybridization Stop Solution	No known significant effects or critical hazards.
		10 mM rATP	No known significant effects or critical hazards.
		HS Ligation Solution	No known significant effects or critical hazards.
		HS DNA Ligase	No known significant effects or critical hazards.
		HS Capture Solution	No known significant effects or critical hazards.
		HS Wash 1 Solution	No known significant effects or critical hazards.
		HS Wash 2 Solution	No known significant effects or critical hazards.
		Primer 1 ION	No known significant effects or critical hazards.
		Primer 2 ION	No known significant effects or critical hazards.
		HS Elution Buffer	No known significant effects or critical hazards.
	Reproductive toxicity	:	Herculase II Fusion DNA Polymerase
		Herculase II Reaction Buffer	No known significant effects or critical hazards.
		100 mM dNTP Mix	No known significant effects or critical hazards.
		HaloPlex HS ION Indexing Plate	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.
		HaloPlex HS Probe ION	No known significant effects or critical hazards.
		RE Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		Enrichment Control DNA	No known significant effects or critical hazards.
		Hybridization Solution	May damage the unborn child.
		HS Hybridization Stop Solution	No known significant effects or critical hazards.
		10 mM rATP	No known significant effects or critical hazards.
		HS Ligation Solution	No known significant effects or critical hazards.
		HS DNA Ligase	No known significant effects or critical hazards.
		HS Capture Solution	No known significant effects or critical hazards.
		HS Wash 1 Solution	No known significant effects or critical hazards.
		HS Wash 2 Solution	No known significant effects or critical hazards.
		Primer 1 ION	No known significant effects or critical hazards.
		Primer 2 ION	No known significant effects or critical hazards.
		HS Elution Buffer	No known significant effects or critical hazards.
		Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
		Herculase II Reaction Buffer	No known significant effects or critical hazards.
	100 mM dNTP Mix	No known significant effects or critical hazards.	
	HaloPlex HS ION Indexing Plate	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.	
	HaloPlex HS Probe ION	No known significant effects or critical hazards.	

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
HS DNA Ligase Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	Acute EC50 210 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 10800 µg/l Marine water	Crustaceans - Pandalus montagui - Adult	48 hours
	Acute LC50 8600 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 7200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
HS Capture Solution Acetic acid, (ethylenedinitrilo) tetra-, disodium salt, dihydrate	Chronic NOEC 25 mg/l Fresh water	Daphnia	21 days
Herculase II Reaction Buffer Ammonium sulphate	Chronic NOEC 7.5 mg/l Marine water	Algae - Phaeodactylum tricornutum - Exponential growth phase	96 hours
	Trometamol	Acute EC50 >980 mg/l Fresh water Acute NOEC 520 mg/l Fresh water	Daphnia Daphnia

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Hybridization Solution formamide	OECD 301A Ready Biodegradability - DOC Die-Away Test	99 % - Readily - 28 days	-	-
Herculase II Reaction Buffer Trometamol	OECD 301F Ready Biodegradability - Manometric Respirometry Test	97.1 % - Readily - 28 days	30 mg/l	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Hybridization Solution formamide	-	-	Readily
Herculase II Reaction Buffer Ammonium sulphate	-	-	Readily
Trometamol	-	-	Readily

12.3 Bioaccumulative potential

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 12: Ecological information

Product/ingredient name	LogP _{ow}	BCF	Potential
Hybridization Solution formamide	-0.82	-	low
HS DNA Ligase Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	2.7	78.67	low
Herculase II Reaction Buffer Ammonium sulphate	-5.1	-	low
Trometamol	-2.31	-	low

12.4 Mobility in soil

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

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

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

12.6 Endocrine disrupting properties

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

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

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

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

Packaging

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

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

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 14: Transport information

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

Additional information

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

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

SECTION 15: Regulatory information

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

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

Annex XIV - List of substances subject to authorisation

Annex XIV

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

Substances of very high concern

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

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

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 15: Regulatory information

Ingredient name	CAS no.	Status
Hybridization Solution Hybridization Solution		30
Herculase II Reaction Buffer Ammonium sulphate	7783-20-2	65

Label	: RE Buffer	Not applicable.
	BSA Solution	Not applicable.
	Enrichment Control DNA	Not applicable.
	Hybridization Solution	Restricted to professional users.
	HS Hybridization Stop Solution	Not applicable.
	10 mM rATP	Not applicable.
	HS Ligation Solution	Not applicable.
	HS DNA Ligase	Not applicable.
	HS Capture Solution	Not applicable.
	HS Wash 1 Solution	Not applicable.
	HS Wash 2 Solution	Not applicable.
	Primer 1 ION	Not applicable.
	Primer 2 ION	Not applicable.
	HS Elution Buffer	Not applicable.
	Herculase II Fusion DNA Polymerase	Not applicable.
	Herculase II Reaction Buffer	Not applicable.
	100 mM dNTP Mix	Not applicable.
	HaloPlex HS ION Indexing Plate	Not applicable.
	Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.
	HaloPlex HS Probe ION	Not applicable.

Other EU regulations

Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

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

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 15: Regulatory information

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

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

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

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms :

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

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

Classification	Justification
Hybridization Solution Carc. 2, H351 Repr. 1B, H360D STOT RE 2, H373	Calculation method Calculation method Calculation method

Full text of abbreviated H statements

Hybridization Solution H351 H360D H373	Suspected of causing cancer. May damage the unborn child. May cause damage to organs through prolonged or repeated exposure.
HS DNA Ligase H302 H315 H318 H400	Harmful if swallowed. Causes skin irritation. Causes serious eye damage. Very toxic to aquatic life.

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 16: Other information

H410	Very toxic to aquatic life with long lasting effects.
HS Capture Solution H332 H373	Harmful if inhaled. May cause damage to organs through prolonged or repeated exposure.
Herculase II Reaction Buffer H315 H319	Causes skin irritation. Causes serious eye irritation.

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

Hybridization Solution Carc. 2 Repr. 1B STOT RE 2	CARCINOGENICITY - Category 2 REPRODUCTIVE TOXICITY - Category 1B SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
HS DNA Ligase Acute Tox. 4 Aquatic Acute 1 Aquatic Chronic 1 Eye Dam. 1 Skin Irrit. 2	ACUTE TOXICITY - Category 4 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SKIN CORROSION/IRRITATION - Category 2
HS Capture Solution Acute Tox. 4 STOT RE 2	ACUTE TOXICITY - Category 4 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
Herculase II Reaction Buffer Eye Irrit. 2 Skin Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 SKIN CORROSION/IRRITATION - Category 2

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Date of previous issue : No previous validation

Version : 1

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