# SAFETY DATA SHEET

Agilent Technologies

HaloPlex HS Prepack Reagents - ILM - 48 reactions, Part Number 5190-8630

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

### 1.1 Product identifier

**Product name** : HaloPlex HS Prepack Reagents - ILM - 48 reactions, Part Number 5190-8630

**Part no. (chemical kit)** : 5190-8630

**Part no.** :

| | |
|---|---|
| RE Buffer | 5190-7952 |
| BSA Solution | 5190-7953 |
| Enrichment Control DNA | 5190-7956 |
| Hybridization Solution | 5190-7957 |
| HS Hybridization Stop Solution | 5190-7958 |
| 10 mM rATP | 5190-7959 |
| HS Ligation Solution | 5190-7960 |
| HS DNA Ligase | 5190-7961 |
| HS Capture Solution | 5190-7962 |
| HS Wash 1 Solution | 5190-7963 |
| HS Wash 2 Solution | 5190-7964 |
| Primer 1 | 5190-7965 |
| Primer 2 | 5190-7966 |
| HS Elution Buffer | 5190-7967 |
| Herculase II Fusion DNA Polymerase | 5190-7968 |
| Herculase II Reaction Buffer | 5190-7969 |
| 100 mM dNTP Mix | 5190-7970 |
| HaloPlex HS ILM Indexing Plate | 5190-7971 |
| Enzyme Strip 1 | 5190-7954 |
| Enzyme Strip 2 | 5190-7955 |

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

**Identified uses** : Analytical reagent.

| | |
|---|---|
| RE Buffer | 1.7 ml (48 reactions) |
| BSA Solution | 0.04 ml (48 reactions) |
| Enrichment Control DNA | 0.31 ml (48 reactions) |
| Hybridization Solution | 2.5 ml (48 reactions) |
| HS Hybridization Stop Solution | 1.9 ml (48 reactions) |
| 10 mM rATP | 0.02 ml (48 reactions) |
| HS Ligation Solution | 0.72 ml (48 reactions) |
| HS DNA Ligase | 0.18 ml (48 reactions) |
| HS Capture Solution | 2.7 ml (48 reactions) |
| HS Wash 1 Solution | 6.7 ml (48 reactions) |
| HS Wash 2 Solution | 10.8 ml (48 reactions) |
| Primer 1 | 0.29 ml (48 reactions) |
| Primer 2 | 2 x 0.29 ml (48 reactions) |
| HS Elution Buffer | 15 ml (48 reactions) |
| Herculase II Fusion DNA Polymerase | 0.29 ml (48 reactions) |
| Herculase II Reaction Buffer | 2.2 ml (48 reactions) |
| 100 mM dNTP Mix | 0.06 ml (48 reactions) |
| HaloPlex HS ILM Indexing Plate | 48 x 0.0075 ml (48 reactions) |
| Enzyme Strip 1 | 0.2 ml (48 reactions) |
| Enzyme Strip 2 | 0.2 ml (48 reactions) |

**Uses advised against** : None known.

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

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

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

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| | |
|---|---|
| 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 | The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended. |
| Primer 2 | The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended. |
| 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 ILM 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. |

**Ingredients of unknown toxicity** :

| | |
|---|---|
| RE Buffer | Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10%<br>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%<br>Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%<br>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%<br>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%<br>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%<br>Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%<br>Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 1 - 10% |
| Enzyme Strip 1 | Percentage of the mixture consisting of ingredient(s) of |

## SECTION 2: Hazards identification

| | | |
|---|---|---|
| | | unknown acute inhalation toxicity: 30 - 60% |
| | Enzyme Strip 2 | 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 | No signal word. |
| | Primer 2 | 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 ILM Indexing Plate | No signal word. |
| | Enzyme Strip 1 | No signal word. |
| | Enzyme Strip 2 | No signal word. |
| **Hazard statements** : | RE Buffer | No known significant effects or critical hazards. |
| | 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.<br>H360D - May damage the unborn child.<br>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. |
| | HS Wash 2 Solution | No known significant effects or critical hazards. |
| | Primer 1 | No known significant effects or critical hazards. |
| | Primer 2 | No known significant effects or critical hazards. |
| | HS Elution Buffer | No known significant effects or critical hazards. |

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| | | |
|---|---|---|
| | 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 ILM 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. |

**Precautionary statements**

| | | | |
|---|---|---|---|
| **Prevention** | : | RE Buffer | Not applicable. |
| | | BSA Solution | Not applicable. |
| | | Enrichment Control DNA | Not applicable. |
| | | Hybridization Solution | P201 - Obtain special instructions before use.<br>P280 - Wear protective gloves, protective clothing and eye or face protection.<br>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 | Not applicable. |
| | | Primer 2 | 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 ILM Indexing Plate | Not applicable. |
| | | Enzyme Strip 1 | Not applicable. |
| | | Enzyme Strip 2 | Not applicable. |
| **Response** | : | RE Buffer | Not applicable. |
| | | BSA Solution | Not applicable. |
| | | Enrichment Control DNA | Not applicable. |
| | | Hybridization Solution | 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 | Not applicable. |
| | | Primer 2 | 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 ILM Indexing Plate | Not applicable. |
| | | Enzyme Strip 1 | Not applicable. |

## SECTION 2: Hazards identification

| | | | |
|---|---|---|---|
| | | Enzyme Strip 2 | 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 | Not applicable. |
| | | Primer 2 | 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 ILM Indexing Plate | Not applicable. |
| | | Enzyme Strip 1 | Not applicable. |
| | | Enzyme Strip 2 | 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 | Not applicable. |
| | | Primer 2 | 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 ILM Indexing Plate | Not applicable. |
| | | Enzyme Strip 1 | Not applicable. |
| | | Enzyme Strip 2 | Not applicable. |
| **Hazardous ingredients** | : | Hybridization Solution | - Formamide |
| **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. |

## SECTION 2: Hazards identification

| | | |
|---|---|---|
| | HS Wash 1 Solution | Not applicable. |
| | HS Wash 2 Solution | Not applicable. |
| | Primer 1 | Not applicable. |
| | Primer 2 | 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 ILM Indexing Plate | Not applicable. |
| | Enzyme Strip 1 | Not applicable. |
| | Enzyme Strip 2 | Not applicable. |
| **Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : | RE Buffer | Not applicable. |
| | 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 | Not applicable. |
| | Primer 2 | 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 ILM Indexing Plate | Not applicable. |
| | Enzyme Strip 1 | Not applicable. |
| | Enzyme Strip 2 | 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. |
| | HS Wash 2 Solution | Not applicable. |
| | Primer 1 | Not applicable. |
| | Primer 2 | 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 ILM Indexing Plate | Not applicable. |
| | Enzyme Strip 1 | Not applicable. |

## SECTION 2: Hazards identification

| | | |
|---|---|---|
| | Enzyme Strip 2 | Not applicable. |

### 2.3 Other hazards

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

| | |
|---|---|
| RE Buffer | This mixture does not contain any substances that are assessed to be a PBT or a vPvB. |
| 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 | This mixture does not contain any substances that are assessed to be a PBT or a vPvB. |
| Primer 2 | This mixture does not contain any substances that are assessed to be a PBT or a vPvB. |
| 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 ILM 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. |

**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 | None known. |
| Primer 2 | None known. |
| HS Elution Buffer | None known. |
| Herculase II Fusion DNA Polymerase | None known. |
| Herculase II Reaction | None known. |

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| | |
|---|---|
| Buffer | |
| 100 mM dNTP Mix | None known. |
| HaloPlex HS ILM | None known. |
| Indexing Plate | |
| Enzyme Strip 1 | None known. |
| Enzyme Strip 2 | 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 | Mixture |
| Primer 2 | Mixture |
| HS Elution Buffer | Mixture |
| Herculase II Fusion DNA Polymerase | Mixture |
| Herculase II Reaction Buffer | Mixture |
| 100 mM dNTP Mix | Mixture |
| HaloPlex HS ILM Indexing Plate | Mixture |
| Enzyme Strip 1 | Mixture |
| Enzyme Strip 2 | Mixture |

| Product/ingredient name | Identifiers | % | Classification | Specific Conc. Limits, M-factors and ATEs | Type |
|---|---|---|---|---|---|
| **BSA Solution** | | | | | |
| Glycerol | EC: 200-289-5<br>CAS: 56-81-5 | ≤10 | Not classified. | - | [1] |
| **Hybridization Solution** | | | | | |
| formamide | EC: 200-842-0<br>CAS: 75-12-7<br>Index: 616-052-00-8 | ≥25 - ≤50 | Carc. 2, H351<br>Repr. 1B, H360D<br>STOT RE 2, H373 (blood) (oral) | - | [1] [2] |
| **HS DNA Ligase** | | | | | |
| Glycerol | EC: 200-289-5<br>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<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Aquatic Acute 1, H400 | ATE [Oral] = 500 mg/kg<br>M [Acute] = 10<br>M [Chronic] = 1 | [1] [3] |

## SECTION 3: Composition/information on ingredients

| | | | | | |
|---|---|---|---|---|---|
| | | | Aquatic Chronic 1, H410 | | |
| **HS Capture Solution** | | | | | |
| Acetic acid, (ethylenedinitrilo)tetra-, disodium salt, dihydrate | EC: 205-358-3<br>CAS: 6381-92-6 | <10 | Acute Tox. 4, H332<br>STOT RE 2, H373 (respiratory tract) (inhalation) | ATE [Inhalation (vapours)] = 11 mg/l | [1] |
| **Herculase II Fusion DNA Polymerase** | | | | | |
| Glycerol | EC: 200-289-5<br>CAS: 56-81-5 | ≥50 - ≤75 | Not classified. | - | [1] |
| **Herculase II Reaction Buffer** | | | | | |
| Ammonium sulphate | EC: 231-984-1<br>CAS: 7783-20-2 | ≤3 | Eye Irrit. 2, H319 | - | [1] |
| Trometamol | EC: 201-064-4<br>CAS: 77-86-1 | ≤3 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319 | - | [1] |
| **Enzyme Strip 1** | | | | | |
| Glycerol | EC: 200-289-5<br>CAS: 56-81-5 | ≥50 - ≤75 | Not classified. | - | [1] |
| **Enzyme Strip 2** | | | | | |
| Glycerol | EC: 200-289-5<br>CAS: 56-81-5 | ≥50 - ≤75 | Not classified.<br><br>**See Section 16 for the full text of the H statements declared above.** | - | [1] |

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

Type

| | |
|---|---|
| BSA Solution | [1] Substance with a workplace exposure limit |
| Hybridization Solution | [1] Substance classified with a health or environmental hazard<br>[2] Substance with a workplace exposure limit |
| HS DNA Ligase | [1] Substance classified with a health or environmental hazard<br>[2] Substance with a workplace exposure limit<br>[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 | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs. |
| Primer 2 | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs. |
| 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 ILM 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. |

## SECTION 4: First aid measures

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

## SECTION 4: First aid measures

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| | | | 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 ILM 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. |
| **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 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 | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |
| | | Primer 2 | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |
| | | HS Elution Buffer | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |

## SECTION 4: First aid measures

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

## SECTION 4: First aid measures

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|---|---|
| | 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 | Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. |
| Primer 2 | Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. |
| HS Elution 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. |
| 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 ILM 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. |

## SECTION 4: First aid measures

**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 without suitable training. |
| HS Wash 2 Solution | No action shall be taken involving any personal risk or without suitable training. |
| Primer 1 | No action shall be taken involving any personal risk or without suitable training. |
| Primer 2 | No action shall be taken involving any personal risk or without suitable training. |
| 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 ILM 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. |

### 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 | 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 | No known significant effects or critical hazards. |
| Primer 2 | No known significant effects or critical hazards. |

## SECTION 4: First aid measures

| | | | |
|---|---|---|---|
| | | 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 ILM 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. |
| **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 | No known significant effects or critical hazards. |
| | | Primer 2 | 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 ILM 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. |
| **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 | No known significant effects or critical hazards. |
| | | Primer 2 | 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 ILM 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. |

## SECTION 4: First aid measures

**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 | No known significant effects or critical hazards. |
| Primer 2 | 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 ILM 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. |

**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 | No specific data. |
| Primer 2 | 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 ILM Indexing Plate | No specific data. |
| Enzyme Strip 1 | No specific data. |
| Enzyme Strip 2 | 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:<br>reduced foetal weight<br>increase in foetal deaths<br>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. |

## SECTION 4: First aid measures

| | | | |
|---|---|---|---|
| | | HS Wash 1 Solution | No specific data. |
| | | HS Wash 2 Solution | No specific data. |
| | | Primer 1 | No specific data. |
| | | Primer 2 | 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 ILM Indexing Plate | No specific data. |
| | | Enzyme Strip 1 | No specific data. |
| | | Enzyme Strip 2 | No specific data. |
| **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:<br>reduced foetal weight<br>increase in foetal deaths<br>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 | No specific data. |
| | | Primer 2 | 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 ILM Indexing Plate | No specific data. |
| | | Enzyme Strip 1 | No specific data. |
| | | Enzyme Strip 2 | No specific data. |
| **Ingestion** | : | RE Buffer | No specific data. |
| | | BSA Solution | No specific data. |
| | | Enrichment Control DNA | No specific data. |
| | | Hybridization Solution | Adverse symptoms may include the following:<br>reduced foetal weight<br>increase in foetal deaths<br>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 | No specific data. |
| | | Primer 2 | No specific data. |
| | | HS Elution Buffer | No specific data. |
| | | Herculase II Fusion DNA Polymerase | No specific data. |
| | | Herculase II Reaction Buffer | No specific data. |

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| | |
|---|---|
| 100 mM dNTP Mix | No specific data. |
| HaloPlex HS ILM Indexing Plate | No specific data. |
| Enzyme Strip 1 | No specific data. |
| Enzyme Strip 2 | No specific data. |

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

**Notes to physician** :

| | |
|---|---|
| RE Buffer | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| 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 | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| Primer 2 | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| 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 ILM 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. |

**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. |

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| | |
|---|---|
| HS Wash 1 Solution | No specific treatment. |
| HS Wash 2 Solution | No specific treatment. |
| Primer 1 | No specific treatment. |
| Primer 2 | No specific treatment. |
| HS Elution Buffer | No specific treatment. |
| Herculase II Fusion DNA Polymerase | No specific treatment. |
| Herculase II Reaction Buffer | No specific treatment. |
| 100 mM dNTP Mix | No specific treatment. |
| HaloPlex HS ILM Indexing Plate | No specific treatment. |
| Enzyme Strip 1 | No specific treatment. |
| Enzyme Strip 2 | No specific treatment. |

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** :

| | |
|---|---|
| RE Buffer | Use an extinguishing agent suitable for the surrounding fire. |
| 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 | Use an extinguishing agent suitable for the surrounding fire. |
| Primer 2 | 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 ILM Indexing Plate | Use an extinguishing agent suitable for the surrounding fire. |
| Enzyme Strip 1 | Use an extinguishing agent suitable for the surrounding fire. |
| Enzyme Strip 2 | Use an extinguishing agent suitable for the surrounding fire. |

**Unsuitable extinguishing media** :

| | |
|---|---|
| RE Buffer | None known. |
| 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 | None known. |
| Primer 2 | 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 ILM | None known. |

## SECTION 5: Firefighting measures

| | |
|---|---|
| Indexing Plate | |
| Enzyme Strip 1 | None known. |
| Enzyme Strip 2 | None known. |

### 5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture** :

| | |
|---|---|
| RE Buffer | In a fire or if heated, a pressure increase will occur and the container may burst. |
| 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 | In a fire or if heated, a pressure increase will occur and the container may burst. |
| Primer 2 | In a fire or if heated, a pressure increase will occur and the container may burst. |
| 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 ILM 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. |

**Hazardous combustion products** :

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

## SECTION 5: Firefighting measures

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

### 5.3 Advice for firefighters

| | | |
|---|---|---|
| **Special precautions for fire-fighters** : | RE Buffer | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |
| | 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 taken involving any personal risk or without suitable training. |
| | HS Hybridization Stop 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. |

## SECTION 5: Firefighting measures

| | | |
|---|---|---|
| | 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 | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |
| | Primer 2 | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |
| | 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 ILM 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. |
| **Special protective equipment for fire-fighters** : | RE Buffer | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. |
| | BSA Solution | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. |
| | Enrichment Control DNA | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a |

## SECTION 5: Firefighting measures

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| | 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 | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. |
| Primer 2 | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. |
| HS Elution Buffer | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full |

## SECTION 5: Firefighting measures

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| | 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 ILM 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. |

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** :

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

## SECTION 6: Accidental release measures

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|---|---|
| | 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 | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment. |
| Primer 2 | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment. |
| 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. |

## SECTION 6: Accidental release measures

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|---|---|---|
| | 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 ILM 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. |
| **For emergency responders** : | RE Buffer | If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |
| | 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-emergency personnel". |
| | 10 mM rATP | 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- |

## SECTION 6: Accidental release measures

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| | | emergency personnel". |
| | Primer 1 | If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |
| | Primer 2 | If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |
| | 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 ILM 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". |
| **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 |

## SECTION 6: Accidental release measures

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| | 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 | Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). |
| Primer 2 | Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). |
| 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 (sewers, waterways, soil or air). |
| Herculase II Reaction 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). |
| 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 ILM 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). |

### 6.3 Methods and material for containment and cleaning up

## SECTION 6: Accidental release measures

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

## SECTION 6: Accidental release measures

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| | 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 ILM 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, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |

**6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

| | | |
|---|---|---|
| **Protective measures** : | RE Buffer | Put on appropriate personal protective equipment (see Section 8). |
| | 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 |

## SECTION 7: Handling and storage

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| | | 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 | Put on appropriate personal protective equipment (see Section 8). |
| | Primer 2 | 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 ILM Indexing Plate | Put on appropriate personal protective equipment (see Section 8). |
| | Enzyme Strip 1 | Put on appropriate personal protective equipment (see Section 8). |
| | Enzyme Strip 2 | Put on appropriate personal protective equipment (see Section 8). |
| **Advice on general occupational hygiene** : | RE Buffer | Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. |
| | 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. |

## SECTION 7: Handling and storage

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

## SECTION 7: Handling and storage

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| | 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 ILM 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. |

### 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 7: Handling and storage

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

## SECTION 7: Handling and storage

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

## SECTION 7: Handling and storage

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

### 7.3 Specific end use(s)

| | | |
|---|---|---|
| **Recommendations** | : RE Buffer | Industrial applications, Professional applications. |
| | 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 | Industrial applications, Professional applications. |
| | Primer 2 | 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. |

## SECTION 7: Handling and storage

| | | |
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| | 100 mM dNTP Mix | Industrial applications, Professional applications. |
| | HaloPlex HS ILM Indexing Plate | Industrial applications, Professional applications. |
| | Enzyme Strip 1 | Industrial applications, Professional applications. |
| | Enzyme Strip 2 | Industrial applications, Professional applications. |
| **Industrial sector specific solutions** : | RE Buffer | Not available. |
| | 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 | Not available. |
| | Primer 2 | 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 ILM Indexing Plate | Not available. |
| | Enzyme Strip 1 | Not available. |
| | Enzyme Strip 2 | Not available. |

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**Occupational exposure limits**

| Product/ingredient name | Exposure limit values |
|---|---|
| **BSA Solution** | |
| Glycerol | **NAOSH (Ireland, 5/2021). Notes: Advisory Occupational Exposure Limit Values (OELVs)**<br>OELV-8hr: 10 mg/m³ 8 hours. Form: mist |
| **Hybridization Solution** | |
| formamide | **NAOSH (Ireland, 5/2021). Absorbed through skin. Notes: Advisory Occupational Exposure Limit Values (OELVs)**<br>OELV-8hr: 10 ppm 8 hours.<br>OELV-8hr: 18 mg/m³ 8 hours. |
| **HS DNA Ligase** | |
| Glycerol | **NAOSH (Ireland, 5/2021). Notes: Advisory Occupational Exposure Limit Values (OELVs)**<br>OELV-8hr: 10 mg/m³ 8 hours. Form: mist |
| **Herculase II Fusion DNA Polymerase** | |
| Glycerol | **NAOSH (Ireland, 5/2021). Notes: Advisory Occupational Exposure Limit Values (OELVs)**<br>OELV-8hr: 10 mg/m³ 8 hours. Form: mist |
| **Enzyme Strip 1** | |
| Glycerol | **NAOSH (Ireland, 5/2021). Notes: Advisory Occupational Exposure Limit Values (OELVs)**<br>OELV-8hr: 10 mg/m³ 8 hours. Form: mist |

## SECTION 8: Exposure controls/personal protection

| | |
|---|---|
| **Enzyme Strip 2**<br>Glycerol | **NAOSH (Ireland, 5/2021). Notes: Advisory Occupational Exposure Limit Values (OELVs)**<br>OELV-8hr: 10 mg/m³ 8 hours. Form: mist |

### 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/m³ | Workers | Systemic |
| **HS Capture Solution** | | | | | |
| Acetic acid, (ethylenedinitrilo)tetra-, disodium salt, dihydrate | DNEL | Long term Inhalation | 0.6 mg/m³ | General population | Local |
| | DNEL | Short term Inhalation | 1.2 mg/m³ | General population | Local |
| | DNEL | Long term Inhalation | 1.5 mg/m³ | Workers | Local |
| | DNEL | Long term Inhalation | 1.5 mg/m³ | Workers | Systemic |
| | DNEL | Short term Inhalation | 3 mg/m³ | Workers | Local |
| | DNEL | Short term Inhalation | 3 mg/m³ | 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/m³ | General population | Systemic |
| | DNEL | Long term Oral | 6.4 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Inhalation | 11.167 mg/m³ | 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/m³ | General population | Systemic |
| | DNEL | Long term Dermal | 83.3 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Inhalation | 117.5 mg/m³ | Workers | Systemic |
| | DNEL | Long term Dermal | 166.7 mg/ | Workers | Systemic |

## SECTION 8: Exposure controls/personal protection

| | | | | | |
|---|---|---|---|---|---|
| | | | kg bw/day | | |

**PNECs**

No PNECs available

### 8.2 Exposure controls

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

**Individual protection measures**

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

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

**Skin protection**

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

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

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

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

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

## SECTION 9: Physical and chemical properties

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

### 9.1 Information on basic physical and chemical properties

**Appearance**

**Physical state** :

| | |
|---|---|
| RE Buffer | Liquid. |
| 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. |

## SECTION 9: Physical and chemical properties

| | | | |
|---|---|---|---|
| | | HS Wash 1 Solution | Liquid. |
| | | HS Wash 2 Solution | Liquid. |
| | | Primer 1 | Liquid. |
| | | Primer 2 | Liquid. |
| | | HS Elution Buffer | Liquid. |
| | | Herculase II Fusion DNA Polymerase | Liquid. |
| | | Herculase II Reaction Buffer | Liquid. |
| | | 100 mM dNTP Mix | Liquid. |
| | | HaloPlex HS ILM Indexing Plate | Liquid. |
| | | Enzyme Strip 1 | Liquid. |
| | | Enzyme Strip 2 | 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 | Not available. |
| | | Primer 2 | 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 ILM Indexing Plate | Not available. |
| | | Enzyme Strip 1 | Not available. |
| | | Enzyme Strip 2 | 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 | Not available. |
| | | Primer 2 | 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 ILM Indexing Plate | Not available. |
| | | Enzyme Strip 1 | Not available. |
| | | Enzyme Strip 2 | Not available. |

## 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 | Not available. |
| | | Primer 2 | 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 ILM Indexing Plate | Not available. |
| | | Enzyme Strip 1 | Not available. |
| | | Enzyme Strip 2 | 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 | 0°C |
| | | Primer 2 | 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 ILM Indexing Plate | 0°C |
| | | Enzyme Strip 1 | Not available. |
| | | Enzyme Strip 2 | Not available. |
| **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 |
| | | Primer 1 | 100°C |
| | | Primer 2 | 100°C |

## SECTION 9: Physical and chemical properties

| | | | |
|---|---|---|---|
| | | HS Elution Buffer | 100°C |
| | | Herculase II Fusion DNA Polymerase | Not available. |
| | | Herculase II Reaction Buffer | Not available. |
| | | 100 mM dNTP Mix | Not available. |
| | | HaloPlex HS ILM Indexing Plate | 100°C |
| | | Enzyme Strip 1 | Not available. |
| | | Enzyme Strip 2 | Not available. |
| **Flammability** | : | 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 | Not applicable. |
| | | Primer 2 | 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 ILM Indexing Plate | Not applicable. |
| | | Enzyme Strip 1 | Not applicable. |
| | | Enzyme Strip 2 | Not applicable. |
| **Upper/lower flammability or explosive limits** | : | 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 | Not available. |
| | | Primer 2 | 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 ILM Indexing Plate | Not available. |
| | | Enzyme Strip 1 | Lower: 0.9% |
| | | Enzyme Strip 2 | Not available. |
| **Flash point** | : | | |

## SECTION 9: Physical and chemical properties

| Ingredient name | Closed cup °C | Closed cup Method | Open cup °C | Open cup 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 | |

## 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 | Not available. |
| Primer 2 | 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 ILM Indexing Plate | Not available. |
| Enzyme Strip 1 | Not available. |
| Enzyme Strip 2 | 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 | Not available. |
| Primer 2 | Not available. |
| HS Elution Buffer | 8.5 |
| Herculase II Fusion DNA Polymerase | 8.2 |
| Herculase II Reaction Buffer | 10 |
| 100 mM dNTP Mix | 7 to 8 |

## SECTION 9: Physical and chemical properties

| | | | |
|---|---|---|---|
| | | HaloPlex HS ILM Indexing Plate | Not available. |
| | | Enzyme Strip 1 | Not available. |
| | | Enzyme Strip 2 | 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 | Not available. |
| | | Primer 2 | 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 ILM Indexing Plate | Not available. |
| | | Enzyme Strip 1 | Not available. |
| | | Enzyme Strip 2 | 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** | |
| water | Soluble |
| **Primer 2** | |
| water | Soluble |
| **HS Elution Buffer** | |
| water | Soluble |
| **Herculase II Fusion DNA Polymerase** | |
| water | Soluble |

## SECTION 9: Physical and chemical properties

| | |
|---|---|
| **Herculase II Reaction Buffer** | |
| water | Soluble |
| **100 mM dNTP Mix** | |
| water | Soluble |
| **HaloPlex HS ILM Indexing Plate** | |
| water | Soluble |
| **Enzyme Strip 1** | |
| water | Soluble |
| **Enzyme Strip 2** | |
| water | Soluble |

**Partition coefficient: n-octanol/water** :

| | |
|---|---|
| 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 | Not applicable. |
| Primer 2 | 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 ILM Indexing Plate | Not applicable. |
| Enzyme Strip 1 | Not applicable. |
| Enzyme Strip 2 | 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 | 0.000000013 | 0.0000000017 | | | | |
| **BSA Solution** | | | | | | |
| water | 23.8 | 3.2 | | 92.258 | 12.3 | |
| Glycerol | 0.000075 | 0.00001 | | 0.0025 | 0.00033 | |
| **Enrichment Control DNA** | | | | | | |
| water | 23.8 | 3.2 | | 92.258 | 12.3 | |
| **Hybridization Solution** | | | | | | |

## SECTION 9: Physical and chemical properties

| | | | | | |
|---|---|---|---|---|---|
| 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** | | | | | |
| water | 23.8 | 3.2 | | 92.258 | 12.3 |
| **Primer 2** | | | | | |
| water | 23.8 | 3.2 | | 92.258 | 12.3 |
| **HS Elution Buffer** | | | | | |
| water | 23.8 | 3.2 | | 92.258 | 12.3 |
| **Herculase II** | | | | | |

## SECTION 9: Physical and chemical properties

| | | | | | |
|---|---|---|---|---|---|
| **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 ILM 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 |

**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. |
| Primer 1 | Not available. |
| Primer 2 | 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 ILM Indexing Plate | Not available. |
| Enzyme Strip 1 | Not available. |
| Enzyme Strip 2 | Not available. |

## SECTION 9: Physical and chemical properties

| | | | |
|---|---|---|---|
| **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 | Not available. |
| | | Primer 2 | 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 ILM Indexing Plate | Not available. |
| | | Enzyme Strip 1 | Not available. |
| | | Enzyme Strip 2 | 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 | Not available. |
| | | Primer 2 | 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 ILM Indexing Plate | Not available. |
| | | Enzyme Strip 1 | Not available. |
| | | Enzyme Strip 2 | 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 | Not available. |
| | | Primer 2 | Not available. |

## SECTION 9: Physical and chemical properties

| | | | |
|---|---|---|---|
| | | 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 ILM Indexing Plate | Not available. |
| | | Enzyme Strip 1 | Not available. |
| | | Enzyme Strip 2 | Not available. |
| **Oxidising 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 | Not available. |
| | | Primer 2 | 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 ILM Indexing Plate | Not available. |
| | | Enzyme Strip 1 | Not available. |
| | | Enzyme Strip 2 | 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. |
| | | HS Capture Solution | Not applicable. |
| | | HS Wash 1 Solution | Not applicable. |
| | | HS Wash 2 Solution | Not applicable. |
| | | Primer 1 | Not applicable. |
| | | Primer 2 | 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 ILM Indexing Plate | Not applicable. |
| | | Enzyme Strip 1 | Not applicable. |
| | | Enzyme Strip 2 | Not applicable. |

### 9.2 Other information

## SECTION 9: Physical and chemical properties

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 | No specific test data related to reactivity available for this product or its ingredients. |
| Primer 2 | No specific test data related to reactivity available for this product or its ingredients. |
| 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 ILM 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. |

**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 | The product is stable. |
| Primer 2 | The product is stable. |
| HS Elution Buffer | The product is stable. |
| Herculase II Fusion DNA Polymerase | The product is stable. |
| Herculase II Reaction | The product is stable. |

## SECTION 10: Stability and reactivity

| | | |
|---|---|---|
| | Buffer | |
| | 100 mM dNTP Mix | The product is stable. |
| | HaloPlex HS ILM Indexing Plate | The product is stable. |
| | Enzyme Strip 1 | The product is stable. |
| | Enzyme Strip 2 | The product is stable. |

**10.3 Possibility of hazardous reactions** :

| | |
|---|---|
| RE Buffer | Under normal conditions of storage and use, hazardous reactions will not occur. |
| 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 | Under normal conditions of storage and use, hazardous reactions will not occur. |
| Primer 2 | Under normal conditions of storage and use, hazardous reactions will not occur. |
| 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 ILM 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. |

**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 | No specific data. |
| Primer 2 | No specific data. |

## SECTION 10: Stability and reactivity

| | | |
|---|---|---|
| | 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 ILM Indexing Plate | No specific data. |
| | Enzyme Strip 1 | No specific data. |
| | Enzyme Strip 2 | No specific data. |

**10.5 Incompatible materials** :

| | |
|---|---|
| RE Buffer | May react or be incompatible with oxidising materials. |
| 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 | May react or be incompatible with oxidising materials. |
| Primer 2 | 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 ILM 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. |

**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 | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Primer 2 | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

## SECTION 10: Stability and reactivity

| | |
|---|---|
| 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 ILM 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. |

## 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 | Rat - Male | >21 mg/l | 4 hours |
| | LD50 Dermal | Rabbit | 17 g/kg | - |
| | LD50 Oral | Rat | 4000 mg/kg | - |
| **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 | - |
| Trometamol | LD50 Dermal | Rat | >5000 mg/kg | - |

#### 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

## SECTION 11: Toxicological information

| 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<br>Skin - Severe irritant | Rabbit<br>Rabbit | -<br>- | 25 %<br>500 mg | -<br>- |

**Sensitiser**

**Conclusion/Summary** : Not available.

**Mutagenicity**

**Conclusion/Summary** : Not available.

**Carcinogenicity**

**Conclusion/Summary** : Not available.

**Reproductive toxicity**

**Conclusion/Summary** : Not available.

**Teratogenicity**

**Conclusion/Summary** : Not available.

**Specific target organ toxicity (single exposure)**

Not available.

**Specific target organ toxicity (repeated exposure)**

| Product/ingredient name | Category | Route of exposure | Target organs |
|---|---|---|---|
| **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 | Not available. |
| Primer 2 | 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. |

## SECTION 11: Toxicological information

| | |
|---|---|
| 100 mM dNTP Mix | Not available. |
| HaloPlex HS ILM Indexing Plate | Not available. |
| Enzyme Strip 1 | Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes. |
| Enzyme Strip 2 | Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes. |

### Potential acute health effects

**Inhalation** :

| | |
|---|---|
| RE Buffer | No known significant effects or critical hazards. |
| 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 | No known significant effects or critical hazards. |
| Primer 2 | 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 ILM 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. |

**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 | No known significant effects or critical hazards. |
| Primer 2 | 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 ILM 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. |

**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. |

## SECTION 11: Toxicological information

| | | |
|---|---|---|
| | 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 | No known significant effects or critical hazards. |
| | Primer 2 | 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 ILM 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. |
| **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 | No known significant effects or critical hazards. |
| | Primer 2 | 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 ILM 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. |

**Symptoms related to the physical, chemical and toxicological characteristics**

| | | |
|---|---|---|
| **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:<br>reduced foetal weight<br>increase in foetal deaths<br>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 | No specific data. |
| | Primer 2 | No specific data. |
| | HS Elution Buffer | No specific data. |
| | Herculase II Fusion DNA Polymerase | No specific data. |
| | Herculase II Reaction | No specific data. |

## SECTION 11: Toxicological information

| | | | |
|---|---|---|---|
| | | Buffer | |
| | | 100 mM dNTP Mix | No specific data. |
| | | HaloPlex HS ILM Indexing Plate | No specific data. |
| | | Enzyme Strip 1 | No specific data. |
| | | Enzyme Strip 2 | No specific data. |
| **Ingestion** | : | RE Buffer | No specific data. |
| | | BSA Solution | No specific data. |
| | | Enrichment Control DNA | No specific data. |
| | | Hybridization Solution | Adverse symptoms may include the following:<br>reduced foetal weight<br>increase in foetal deaths<br>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 | No specific data. |
| | | Primer 2 | 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 ILM Indexing Plate | No specific data. |
| | | Enzyme Strip 1 | No specific data. |
| | | Enzyme Strip 2 | No specific data. |
| **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:<br>reduced foetal weight<br>increase in foetal deaths<br>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 | No specific data. |
| | | Primer 2 | 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 ILM Indexing Plate | No specific data. |
| | | Enzyme Strip 1 | No specific data. |
| | | Enzyme Strip 2 | No specific data. |

## SECTION 11: Toxicological information

**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 | No specific data. |
| Primer 2 | 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 ILM Indexing Plate | No specific data. |
| Enzyme Strip 1 | No specific data. |
| Enzyme Strip 2 | No specific data. |

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

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

**General** :

| | |
|---|---|
| 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 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. |
| HS Wash 2 Solution | No known significant effects or critical hazards. |
| Primer 1 | No known significant effects or critical hazards. |
| Primer 2 | No known significant effects or critical hazards. |
| 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 ILM Indexing Plate | No known significant effects or critical hazards. |
| Enzyme Strip 1 | No known significant effects or critical hazards. |

## SECTION 11: Toxicological information

| | | | |
|---|---|---|---|
| | | Enzyme Strip 2 | No known significant effects or critical hazards. |
| **Carcinogenicity** | : | 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 | Suspected of causing cancer. Risk of cancer depends on duration and level of 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. |
| | | HS Wash 2 Solution | No known significant effects or critical hazards. |
| | | Primer 1 | No known significant effects or critical hazards. |
| | | Primer 2 | No known significant effects or critical hazards. |
| | | 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 ILM 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. |
| **Mutagenicity** | : | 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 | No known significant effects or critical hazards. |
| | | Primer 2 | 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 ILM 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. |
| **Reproductive toxicity** | : | 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. |

## SECTION 11: Toxicological information

| | |
|---|---|
| Primer 1 | No known significant effects or critical hazards. |
| Primer 2 | 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 ILM 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. |

### 11.2 Information on other hazards

#### 11.2.1 Endocrine disrupting properties

Not available.

#### 11.2.2 Other information

Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| **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 | Daphnia | 48 hours |
| | Acute NOEC 520 mg/l Fresh water | Daphnia | 48 hours |

### 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 | 97.1 % - Readily - 28 days | 30 mg/l | - |

## SECTION 12: Ecological information

| | | | | |
|---|---|---|---|---|
| | Ready Biodegradability - Manometric Respirometry Test | | | |

| 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

| 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**

## SECTION 13: Disposal considerations

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

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

**Packaging**

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

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

## SECTION 14: Transport information

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

**Additional information**

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

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

## SECTION 15: Regulatory information

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

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

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

**Annex XIV**

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

## SECTION 15: Regulatory information

### Substances of very high concern

| Ingredient name | Intrinsic property | Status | Reference number | Date of revision |
|---|---|---|---|---|
| **Hybridization Solution**<br>Formamide | Toxic to reproduction | Candidate | ED/87/2012 | 6/18/2012 |
| **HS DNA Ligase**<br>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

| Ingredient name | CAS no. | Status |
|---|---|---|
| **Hybridization Solution**<br>Hybridization Solution | | 30 |
| **Herculase II Reaction Buffer**<br>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 | Not applicable. |
| Primer 2 | 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 ILM Indexing Plate | Not applicable. |
| Enzyme Strip 1 | Not applicable. |
| Enzyme Strip 2 | Not applicable. |

### Other EU regulations

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

Not listed.

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

Not listed.

#### Persistent Organic Pollutants

Not listed.

#### Seveso Directive

This product is not controlled under the Seveso Directive.

### National regulations

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

## SECTION 15: Regulatory information

### International regulations

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

Not listed.

### Montreal Protocol

Not listed.

### Stockholm Convention on Persistent Organic Pollutants

Not listed.

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

Not listed.

### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

| | | |
|---|---|---|
| **Australia** | : | Not determined. |
| **Canada** | : | Not determined. |
| **China** | : | Not determined. |
| **Eurasian Economic Union** | : | **Russian Federation inventory**: Not determined. |
| **Japan** | : | **Japan inventory (CSCL)**: Not determined.<br>**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 | Calculation method |
| Repr. 1B, H360D | Calculation method |
| STOT RE 2, H373 | Calculation method |

## SECTION 16: Other information

**Full text of abbreviated H statements**

| | |
|---|---|
| **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 DNA Ligase** | |
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| **HS Capture Solution** | |
| H332 | Harmful if inhaled. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| **Herculase II Reaction Buffer** | |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |

**Full text of classifications [CLP/GHS]**

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

**Date of issue/ Date of revision** : 09/12/2022

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

**Version** : 1

**Notice to reader**

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