

# SAFETY DATA SHEET

Beta SureSelect Max Enzymatic Fragmentation Library Preparation Module, 16 Reactions, Part Number 5280-0061

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

### 1.1 Product identifier

<b>Product name</b>	: Beta SureSelect Max Enzymatic Fragmentation Library Preparation Module, 16 Reactions, Part Number 5280-0061	
<b>Part no. (chemical kit)</b>	: 5280-0061	
<b>Part no.</b>	Frag/A-Tail Buffer	7W0004-3P
	Frag/A-Tail Enzyme Mix	7Z0006-1U
	Ligation Master Mix	7Z0007-1V
	SureSelect Max MBC-Free Adaptor Oligo Mix	52RD-0064
	SureSelect Max MBC Adaptor Oligo Mix, ILM	52RD-0065
	Amplification Master Mix	7K0014-384

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

<b>Identified uses</b>	: Analytical reagent. For research use only.	
	Frag/A-Tail Buffer	0.072 ml (16 reactions)
	Frag/A-Tail Enzyme Mix	0.108 ml (16 reactions)
	Ligation Master Mix	0.36 ml (16 reactions)
	SureSelect Max MBC-Free Adaptor Oligo Mix	0.08 ml (16 reactions)
	SureSelect Max MBC Adaptor Oligo Mix, ILM	0.08 ml (16 reactions)
	Amplification Master Mix	0.45 ml (16 reactions)
<b>Uses advised against</b>	: Not for use in diagnostic procedures.	

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

Agilent Technologies LDA UK Ltd.  
5500 Lakeside Cheadle Royal Business Park,  
Cheadle, Cheshire, SK8 3GR  
United Kingdom  
Tel: +44 (0) 345 712 5292

**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

### 1.4 Emergency telephone number

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

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

<b>Product definition</b>	Frag/A-Tail Buffer	Mixture
	Frag/A-Tail Enzyme Mix	Mixture
	Ligation Master Mix	Mixture
	SureSelect Max MBC-Free Adaptor Oligo Mix	Mixture
	SureSelect Max MBC Adaptor Oligo Mix, ILM	Mixture
	Amplification Master Mix	Mixture

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

**SECTION 2: Hazards identification**

**Frag/A-Tail Buffer**

H302	ACUTE TOXICITY (oral)	Category 4
H371	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	Category 2
H411	LONG-TERM (CHRONIC) AQUATIC HAZARD	Category 2

**Amplification Master Mix**

H302	ACUTE TOXICITY (oral)	Category 4
H315	SKIN CORROSION/IRRITATION	Category 2
H371	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	Category 2
H412	LONG-TERM (CHRONIC) AQUATIC HAZARD	Category 3

Frag/A-Tail Buffer	The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.
Frag/A-Tail Enzyme Mix	The product is not classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.
Ligation Master Mix	The product is not classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.
SureSelect Max MBC-Free Adaptor Oligo Mix	The product is not classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.
SureSelect Max MBC Adaptor Oligo Mix, ILM	The product is not classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.
Amplification Master Mix	The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

<b>Ingredients of unknown toxicity</b>	: Frag/A-Tail Buffer	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 10 - 30%
	: Frag/A-Tail Enzyme Mix	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: > 60%
	: Ligation Master Mix	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%
	: Amplification Master Mix	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%

See Section 16 for the full text of the H statements declared above.  
 See Section 11 for more detailed information on health effects and symptoms.

**2.2 Label elements**

**Hazard pictograms**

: Frag/A-Tail Buffer	
: Amplification Master Mix	

**Signal word**

: Frag/A-Tail Buffer	Warning
: Frag/A-Tail Enzyme Mix	No signal word.
: Ligation Master Mix	No signal word.
: SureSelect Max MBC-Free Adaptor Oligo Mix	No signal word.
: SureSelect Max MBC Adaptor Oligo Mix, ILM	No signal word.
: Amplification Master Mix	Warning

## SECTION 2: Hazards identification

<b>Hazard statements</b>	: Frag/A-Tail Buffer  Frag/A-Tail Enzyme Mix Ligation Master Mix SureSelect Max MBC- Free Adaptor Oligo Mix SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix	H302 - Harmful if swallowed. H371 - May cause damage to organs. H411 - Toxic to aquatic life with long lasting effects. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.  No known significant effects or critical hazards.  H302 - Harmful if swallowed. H315 - Causes skin irritation. H371 - May cause damage to organs. H412 - Harmful to aquatic life with long lasting effects.
 <b>Precautionary statements</b>		
<b>Prevention</b>	: Frag/A-Tail Buffer  Frag/A-Tail Enzyme Mix Ligation Master Mix SureSelect Max MBC- Free Adaptor Oligo Mix SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix	P273 - Avoid release to the environment. P260 - Do not breathe vapour. P270 - Do not eat, drink or smoke when using this product. P264 - Wash thoroughly after handling. Not applicable. Not applicable. Not applicable.  Not applicable.  P280 - Wear protective gloves. P273 - Avoid release to the environment. P260 - Do not breathe vapour. P270 - Do not eat, drink or smoke when using this product.
<b>Response</b>	: Frag/A-Tail Buffer Frag/A-Tail Enzyme Mix Ligation Master Mix SureSelect Max MBC- Free Adaptor Oligo Mix SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix	P391 - Collect spillage. Not applicable. Not applicable. Not applicable.  Not applicable.  P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor.
<b>Storage</b>	: Frag/A-Tail Buffer Frag/A-Tail Enzyme Mix Ligation Master Mix SureSelect Max MBC- Free Adaptor Oligo Mix SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix	Not applicable. Not applicable. Not applicable. Not applicable.  Not applicable.  Not applicable.
<b>Disposal</b>	: Frag/A-Tail Buffer  Frag/A-Tail Enzyme Mix Ligation Master Mix SureSelect Max MBC- Free Adaptor Oligo Mix SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. Not applicable. Not applicable. Not applicable.  Not applicable.  P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Hazardous ingredients</b>	: Frag/A-Tail Buffer Amplification Master Mix	tetramethylammonium chloride tetramethylammonium chloride

## SECTION 2: Hazards identification

<b>Supplemental label elements</b>	: Frag/A-Tail Buffer	Not applicable.
	Frag/A-Tail Enzyme Mix	Safety data sheet available on request.
	Ligation Master Mix	Safety data sheet available on request.
	SureSelect Max MBC-Free Adaptor Oligo Mix	Not applicable.
	SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix	Not applicable.
<b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>	: Frag/A-Tail Buffer	Not applicable.
	Frag/A-Tail Enzyme Mix	Not applicable.
	Ligation Master Mix	Not applicable.
	SureSelect Max MBC-Free Adaptor Oligo Mix	Not applicable.
	SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix	Not applicable.

### Special packaging requirements

<b>Containers to be fitted with child-resistant fastenings</b>	: Frag/A-Tail Buffer	Not applicable.
	Frag/A-Tail Enzyme Mix	Not applicable.
	Ligation Master Mix	Not applicable.
	SureSelect Max MBC-Free Adaptor Oligo Mix	Not applicable.
	SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix	Not applicable.

<b>Tactile warning of danger</b>	: Frag/A-Tail Buffer	Not applicable.
	Frag/A-Tail Enzyme Mix	Not applicable.
	Ligation Master Mix	Not applicable.
	SureSelect Max MBC-Free Adaptor Oligo Mix	Not applicable.
	SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix	Not applicable.

### 2.3 Other hazards

<b>Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII</b>	: Frag/A-Tail Buffer	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
	Frag/A-Tail Enzyme Mix	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
	Ligation Master Mix	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
	SureSelect Max MBC-Free Adaptor Oligo Mix	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
	SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

<b>Other hazards which do not result in classification</b>	: Frag/A-Tail Buffer	None known.
	Frag/A-Tail Enzyme Mix	None known.
	Ligation Master Mix	None known.
	SureSelect Max MBC-Free Adaptor Oligo Mix	None known.
	SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix	None known.

### SECTION 3: Composition/information on ingredients

<b>3.1 Substances</b>	:	Frag/A-Tail Buffer	Mixture
		Frag/A-Tail Enzyme Mix	Mixture
		Ligation Master Mix	Mixture
		SureSelect Max MBC-Free	Mixture
		Adaptor Oligo Mix	
		SureSelect Max MBC Adaptor	Mixture
		Oligo Mix, ILM	
		Amplification Master Mix	Mixture

Product/ingredient name	Identifiers	%	Classification	Type
<b>Frag/A-Tail Buffer</b>				
Magnesium chloride	EC: 232-094-6 CAS: 7786-30-3	≥10 - <25	Aquatic Chronic 1, H410 (M=1)	[1]
tetramethylammonium chloride	EC: 200-880-8 CAS: 75-57-0	<10	Acute Tox. 2, H300 Acute Tox. 3, H311 Skin Irrit. 2, H315 STOT SE 1, H370 (central nervous system (CNS)) (oral) Aquatic Chronic 2, H411	[1]
<b>Frag/A-Tail Enzyme Mix</b>				
Glycerol	UK (GB) REACH #: Annex V REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[1]
<b>Ligation Master Mix</b>				
Glycerol	UK (GB) REACH #: Annex V REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
2,2' -oxybisethanol	EC: 203-872-2 CAS: 111-46-6 Index: 603-140-00-6	≥25 - ≤37	Acute Tox. 4, H302	[1] [2]
<b>Amplification Master Mix</b>				
Glycerol	UK (GB) REACH #: Annex V REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥25 - ≤50	Not classified.	[2]
Trometamol	EC: 201-064-4 CAS: 77-86-1	<10	Skin Irrit. 2, H315 Eye Irrit. 2, H319	[1]
tetramethylammonium chloride	EC: 200-880-8 CAS: 75-57-0	<10	Acute Tox. 2, H300 Acute Tox. 3, H311 Skin Irrit. 2, H315 STOT SE 1, H370 (central nervous system (CNS)) (oral) Aquatic Chronic 2, H411  <b>See Section 16 for the full text of the H statements declared above.</b>	[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

### SECTION 3: Composition/information on ingredients

Frag/A-Tail Buffer	[1] Substance classified with a health or environmental hazard
Frag/A-Tail Enzyme Mix	[1] Substance with a workplace exposure limit
Ligation Master Mix	[1] Substance classified with a health or environmental hazard
	[2] Substance with a workplace exposure limit
Amplification Master Mix	[1] Substance classified with a health or environmental hazard
	[2] 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

<b>Eye contact</b>	: Frag/A-Tail Buffer	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 following exposure or if feeling unwell. If necessary, call a poison center or physician.
	Frag/A-Tail Enzyme 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.
	Ligation Master 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.
	SureSelect Max MBC-Free Adaptor Oligo 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.
	SureSelect Max MBC Adaptor Oligo Mix, ILM	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.
	Amplification Master Mix	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician.
<b>Inhalation</b>	: Frag/A-Tail Buffer	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 following exposure or if feeling unwell. If necessary, call a poison center or physician. 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.
	Frag/A-Tail Enzyme Mix	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Ligation Master Mix	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	SureSelect Max MBC-Free Adaptor Oligo Mix	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	SureSelect Max MBC Adaptor Oligo Mix, ILM	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Amplification Master Mix	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

**SECTION 4: First aid measures**

		dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention following exposure or if feeling unwell. If necessary, call a poison center or physician. 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.
<b>Skin contact</b>	: Frag/A-Tail Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Frag/A-Tail Enzyme Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Ligation Master Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	SureSelect Max MBC-Free Adaptor Oligo Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	SureSelect Max MBC Adaptor Oligo Mix, ILM	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Amplification Master Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
<b>Ingestion</b>	: Frag/A-Tail Buffer	Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. 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.
	Frag/A-Tail Enzyme 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.
	Ligation Master 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.
	SureSelect Max MBC-Free Adaptor Oligo 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.
	SureSelect Max MBC Adaptor Oligo Mix, ILM	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of

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	water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Amplification Master Mix	Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. 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.
<b>Protection of first-aiders</b> : Frag/A-Tail Buffer	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
Frag/A-Tail Enzyme Mix	No action shall be taken involving any personal risk or without suitable training.
Ligation Master Mix	No action shall be taken involving any personal risk or without suitable training.
SureSelect Max MBC-Free Adaptor Oligo Mix	No action shall be taken involving any personal risk or without suitable training.
SureSelect Max MBC Adaptor Oligo Mix, ILM	No action shall be taken involving any personal risk or without suitable training.
Amplification Master Mix	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

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

Over-exposure signs/symptoms

<b>Eye contact</b>	: Frag/A-Tail Buffer	No specific data.
	Frag/A-Tail Enzyme Mix	No specific data.
	Ligation Master Mix	No specific data.
	SureSelect Max MBC-Free Adaptor Oligo Mix	No specific data.
	SureSelect Max MBC Adaptor Oligo Mix, ILM	No specific data.
	Amplification Master Mix	Adverse symptoms may include the following: pain or irritation watering redness
<b>Inhalation</b>	: Frag/A-Tail Buffer	No specific data.
	Frag/A-Tail Enzyme Mix	No specific data.
	Ligation Master Mix	No specific data.
	SureSelect Max MBC-Free Adaptor Oligo Mix	No specific data.
	SureSelect Max MBC Adaptor Oligo Mix, ILM	No specific data.
	Amplification Master Mix	No specific data.
<b>Skin contact</b>	: Frag/A-Tail Buffer	No specific data.
	Frag/A-Tail Enzyme Mix	No specific data.
	Ligation Master Mix	No specific data.
	SureSelect Max MBC-Free Adaptor Oligo Mix	No specific data.
	SureSelect Max MBC Adaptor Oligo Mix, ILM	No specific data.
	Amplification Master Mix	Adverse symptoms may include the following: irritation redness

## SECTION 4: First aid measures

<b>Ingestion</b>	:	Frag/A-Tail Buffer	No specific data.
		Frag/A-Tail Enzyme Mix	No specific data.
		Ligation Master Mix	No specific data.
		SureSelect Max MBC-Free Adaptor Oligo Mix	No specific data.
		SureSelect Max MBC	No specific data.
		Adaptor Oligo Mix, ILM	No specific data.
		Amplification Master Mix	No specific data.

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

<b>Notes to physician</b>	:	Frag/A-Tail 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.
		Frag/A-Tail Enzyme Mix	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Ligation Master Mix	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		SureSelect Max MBC-Free Adaptor Oligo Mix	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		SureSelect Max MBC	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Adaptor Oligo Mix, ILM	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Amplification Master 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.

<b>Specific treatments</b>	:	Frag/A-Tail Buffer	No specific treatment.
		Frag/A-Tail Enzyme Mix	No specific treatment.
		Ligation Master Mix	No specific treatment.
		SureSelect Max MBC-Free Adaptor Oligo Mix	No specific treatment.
		SureSelect Max MBC	No specific treatment.
		Adaptor Oligo Mix, ILM	No specific treatment.
		Amplification Master Mix	No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	:	Frag/A-Tail Buffer	Use an extinguishing agent suitable for the surrounding fire.
		Frag/A-Tail Enzyme Mix	Use an extinguishing agent suitable for the surrounding fire.
		Ligation Master Mix	Use an extinguishing agent suitable for the surrounding fire.
		SureSelect Max MBC-Free Adaptor Oligo Mix	Use an extinguishing agent suitable for the surrounding fire.
		SureSelect Max MBC	Use an extinguishing agent suitable for the surrounding fire.
		Adaptor Oligo Mix, ILM	Use an extinguishing agent suitable for the surrounding fire.
		Amplification Master Mix	Use an extinguishing agent suitable for the surrounding fire.
	<b>Unsuitable extinguishing media</b>	:	Frag/A-Tail Buffer
		Frag/A-Tail Enzyme Mix	None known.
		Ligation Master Mix	None known.
		SureSelect Max MBC-Free Adaptor Oligo Mix	None known.
		SureSelect Max MBC	None known.
		Adaptor Oligo Mix, ILM	None known.
		Amplification Master Mix	None known.

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

## SECTION 5: Firefighting measures

### Hazards from the substance or mixture

: Frag/A-Tail Buffer	In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Frag/A-Tail Enzyme Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
Ligation Master Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
SureSelect Max MBC-Free Adaptor Oligo Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
SureSelect Max MBC Adaptor Oligo Mix, ILM	In a fire or if heated, a pressure increase will occur and the container may burst.
Amplification Master Mix	In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

### Hazardous combustion products

: Frag/A-Tail Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
Frag/A-Tail Enzyme Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide
Ligation Master Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide
SureSelect Max MBC-Free Adaptor Oligo Mix	No specific data.
SureSelect Max MBC Adaptor Oligo Mix, ILM	No specific data.
Amplification Master Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds

### 5.3 Advice for firefighters

#### Special protective actions for fire-fighters

: Frag/A-Tail 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.
Frag/A-Tail Enzyme 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.
Ligation Master 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.
SureSelect Max MBC-Free Adaptor Oligo 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.
SureSelect Max MBC Adaptor Oligo Mix, ILM	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.
Amplification Master 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.

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<b>Special protective equipment for fire-fighters</b>	: Frag/A-Tail Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Frag/A-Tail Enzyme Mix	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Ligation Master Mix	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	SureSelect Max MBC-Free Adaptor Oligo Mix	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	SureSelect Max MBC Adaptor Oligo Mix, ILM	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Amplification Master Mix	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## SECTION 6: Accidental release measures

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

<b>For non-emergency personnel</b>	: Frag/A-Tail 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. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	Frag/A-Tail Enzyme 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.
	Ligation Master 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.
	SureSelect Max MBC-Free Adaptor Oligo 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.
	SureSelect Max MBC Adaptor Oligo Mix, ILM	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.
	Amplification Master 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. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

## SECTION 6: Accidental release measures

### For emergency responders

: Frag/A-Tail 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".
Frag/A-Tail Enzyme 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".
Ligation Master 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".
SureSelect Max MBC-Free Adaptor Oligo 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".
SureSelect Max MBC Adaptor Oligo Mix, ILM	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".
Amplification Master 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".

### 6.2 Environmental precautions

: Frag/A-Tail 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.
Frag/A-Tail Enzyme 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).
Ligation Master 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).
SureSelect Max MBC-Free Adaptor Oligo 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).
SureSelect Max MBC Adaptor Oligo Mix, ILM	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).
Amplification Master 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). Water polluting material. May be harmful to the environment if released in large quantities.

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

## SECTION 6: Accidental release measures

<b>Methods for cleaning up</b>	: Frag/A-Tail 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.
	Frag/A-Tail Enzyme 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.
	Ligation Master 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.
	SureSelect Max MBC-Free Adaptor Oligo 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.
	SureSelect Max MBC Adaptor Oligo Mix, ILM	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.
	Amplification Master 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.

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

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

<b>Protective measures</b>	: Frag/A-Tail Buffer	Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	Frag/A-Tail Enzyme Mix	Put on appropriate personal protective equipment (see Section 8).
	Ligation Master Mix	Put on appropriate personal protective equipment (see Section 8).
	SureSelect Max MBC-Free Adaptor Oligo Mix	Put on appropriate personal protective equipment (see Section 8).
	SureSelect Max MBC Adaptor Oligo Mix, ILM	Put on appropriate personal protective equipment (see Section 8).
	Amplification Master Mix	Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. 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,

## SECTION 7: Handling and storage

### Advice on general occupational hygiene

: Frag/A-Tail Buffer	kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Frag/A-Tail Enzyme 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.
Ligation Master 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.
SureSelect Max MBC-Free Adaptor Oligo 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.
SureSelect Max MBC Adaptor Oligo Mix, ILM	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.
Amplification Master 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.

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

#### Storage

: Frag/A-Tail 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. 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.
Frag/A-Tail Enzyme 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.
Ligation Master Mix	Store in accordance with local regulations. Store in original

## SECTION 7: Handling and storage

SureSelect Max MBC-Free Adaptor Oligo Mix	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.
SureSelect Max MBC Adaptor Oligo Mix, ILM	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.
Amplification Master 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. 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.

### Seveso Directive - Reporting thresholds

#### Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
Frag/A-Tail Buffer E2	200 tonne	500 tonne

### 7.3 Specific end use(s)

#### Recommendations

: Frag/A-Tail Buffer	Industrial applications, Professional applications.
Frag/A-Tail Enzyme Mix	Industrial applications, Professional applications.
Ligation Master Mix	Industrial applications, Professional applications.
SureSelect Max MBC-Free Adaptor Oligo Mix	Industrial applications, Professional applications.
SureSelect Max MBC Adaptor Oligo Mix, ILM	Industrial applications, Professional applications.
Amplification Master Mix	Industrial applications, Professional applications.

## SECTION 7: Handling and storage

<b>Industrial sector specific solutions</b>	<b>:</b> Frag/A-Tail Buffer	Not available.
	Frag/A-Tail Enzyme Mix	Not available.
	Ligation Master Mix	Not available.
	SureSelect Max MBC-	Not available.
	Free Adaptor Oligo Mix	
	SureSelect Max MBC	Not available.
	Adaptor Oligo Mix, ILM	
	Amplification Master Mix	Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
<b>Frag/A-Tail Enzyme Mix</b> Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist
<b>Ligation Master Mix</b> Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist
2,2' -oxybisethanol	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> TWA: 101 mg/m <sup>3</sup> 8 hours. TWA: 23 ppm 8 hours.
<b>Amplification Master Mix</b> Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist

#### Biological exposure indices

No exposure indices known.

**Recommended monitoring procedures** : Reference should be made to appropriate monitoring standards. 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
<b>Frag/A-Tail Buffer</b> Magnesium chloride  tetramethylammonium chloride	DNEL	Long term Oral	7 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	0.25 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.25 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.4 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	1.76 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	2.9 mg/m <sup>3</sup>	Workers	Systemic
<b>Ligation Master Mix</b> 2,2' -oxybisethanol	DNEL	Long term Inhalation	44 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	12 mg/m <sup>3</sup>	General population	Local
	DNEL	Long term Inhalation	12 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Dermal	21 mg/kg bw/day	General population	Systemic

## SECTION 8: Exposure controls/personal protection

Amplification Master Mix Trometamol  tetramethylammonium chloride	DNEL	Long term Dermal	43 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	60 mg/m <sup>3</sup>	Workers	Local
	DNEL	Long term Oral	8.3 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	29 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Dermal	83.3 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	117.5 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	166.7 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Oral	0.25 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.25 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.4 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	1.76 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	2.9 mg/m <sup>3</sup>	Workers	Systemic

### 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.

## SECTION 8: Exposure controls/personal protection

- 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

<b>Physical state</b>	: Frag/A-Tail Buffer	Liquid.
	Frag/A-Tail Enzyme Mix	Liquid.
	Ligation Master Mix	Liquid.
	SureSelect Max MBC-Free Adaptor Oligo Mix	Liquid.
	SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix	Liquid.
<b>Colour</b>	: Frag/A-Tail Buffer	Not available.
	Frag/A-Tail Enzyme Mix	Not available.
	Ligation Master Mix	Not available.
	SureSelect Max MBC-Free Adaptor Oligo Mix	Not available.
	SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix	Not available.
<b>Odour</b>	: Frag/A-Tail Buffer	Not available.
	Frag/A-Tail Enzyme Mix	Not available.
	Ligation Master Mix	Not available.
	SureSelect Max MBC-Free Adaptor Oligo Mix	Not available.
	SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix	Not available.
<b>Odour threshold</b>	: Frag/A-Tail Buffer	Not available.
	Frag/A-Tail Enzyme Mix	Not available.
	Ligation Master Mix	Not available.
	SureSelect Max MBC-Free Adaptor Oligo Mix	Not available.
	SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix	Not available.
<b>Melting point/freezing point</b>	: Frag/A-Tail Buffer	Not available.
	Frag/A-Tail Enzyme Mix	Not available.
	Ligation Master Mix	Not available.
	SureSelect Max MBC-Free Adaptor Oligo Mix	0°C
	SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix	0°C

Beta SureSelect Max Enzymatic Fragmentation Library Preparation Module, 16 Reactions, Part Number 5280-0061

**SECTION 9: Physical and chemical properties**

- Initial boiling point and boiling range** : Frag/A-Tail Buffer Not available.  
 Frag/A-Tail Enzyme Mix Not available.  
 Ligation Master Mix Not available.  
 SureSelect Max MBC-Free Adaptor Oligo Mix 100°C  
 SureSelect Max MBC Adaptor Oligo Mix, ILM 100°C  
 Amplification Master Mix Not available.
- Flammability** : Frag/A-Tail Buffer Not applicable.  
 Frag/A-Tail Enzyme Mix Not applicable.  
 Ligation Master Mix Not applicable.  
 SureSelect Max MBC-Free Adaptor Oligo Mix Not applicable.  
 SureSelect Max MBC Adaptor Oligo Mix, ILM Not applicable.  
 Amplification Master Mix Not applicable.
- Upper/lower flammability or explosive limits** : Frag/A-Tail Buffer Not available.  
 Frag/A-Tail Enzyme Mix Not available.  
 Ligation Master Mix Not available.  
 SureSelect Max MBC-Free Adaptor Oligo Mix Not available.  
 SureSelect Max MBC Adaptor Oligo Mix, ILM Not available.  
 Amplification Master Mix Not available.

**Flash point** :

Ingredient name	Closed cup		Open cup	
	°C	Method	°C	Method
<b>Frag/A-Tail Enzyme Mix</b>				
glycerol	-	-	177	-
<b>Ligation Master Mix</b>				
2,2' -oxybisethanol	-	-	138	-
glycerol	-	-	177	-
<b>Amplification Master Mix</b>				
glycerol	-	-	177	-

**Auto-ignition temperature** :

Ingredient name	°C	Method
<b>Frag/A-Tail Enzyme Mix</b>		
glycerol	370	-
<b>Ligation Master Mix</b>		
2,2' -oxybisethanol	229	DIN EN 14522-S
glycerol	370	-
<b>Amplification Master Mix</b>		
glycerol	370	-

**SECTION 9: Physical and chemical properties**

**Decomposition temperature** : Frag/A-Tail Buffer Not available.  
 Frag/A-Tail Enzyme Mix Not available.  
 Ligation Master Mix Not available.  
 SureSelect Max MBC-Free Adaptor Oligo Mix Not available.  
 SureSelect Max MBC Adaptor Oligo Mix, ILM Not available.  
 Amplification Master Mix Not available.

**pH** : Frag/A-Tail Buffer 8.3  
 Frag/A-Tail Enzyme Mix 7  
 Ligation Master Mix 7.8  
 SureSelect Max MBC-Free Adaptor Oligo Mix 7.5  
 SureSelect Max MBC Adaptor Oligo Mix, ILM 7.5  
 Amplification Master Mix 8.5

**Viscosity** : Frag/A-Tail Buffer Not available.  
 Frag/A-Tail Enzyme Mix Not available.  
 Ligation Master Mix Not available.  
 SureSelect Max MBC-Free Adaptor Oligo Mix Not available.  
 SureSelect Max MBC Adaptor Oligo Mix, ILM Not available.  
 Amplification Master Mix Not available.

<b>Solubility(ies)</b>	<b>Media</b>	<b>Result</b>
	<b>Frag/A-Tail Buffer</b> water	Soluble
	<b>Frag/A-Tail Enzyme Mix</b> water	Soluble
	<b>Ligation Master Mix</b> water	Soluble
	<b>SureSelect Max MBC-Free Adaptor Oligo Mix</b> water	Soluble
	<b>SureSelect Max MBC Adaptor Oligo Mix, ILM</b> water	Soluble
	<b>Amplification Master Mix</b> water	Soluble

**Partition coefficient: n-octanol/water** : Frag/A-Tail Buffer Not applicable.  
 Frag/A-Tail Enzyme Mix Not applicable.  
 Ligation Master Mix Not applicable.  
 SureSelect Max MBC-Free Adaptor Oligo Mix Not applicable.  
 SureSelect Max MBC Adaptor Oligo Mix, ILM Not applicable.  
 Amplification Master Mix Not applicable.

<b>Vapour pressure</b>	<b>Ingredient name</b>	<b>Vapour Pressure at 20°C</b>			<b>Vapour pressure at 50°C</b>		
		<b>mm Hg</b>	<b>kPa</b>	<b>Method</b>	<b>mm Hg</b>	<b>kPa</b>	<b>Method</b>
	<b>Frag/A-Tail Buffer</b> water	17.5	2.3	-	92.258	12.3	-
	tetramethylammonium chloride	0.000000001	0.0000000013	EU A.4	-	-	-
	<b>Frag/A-Tail Enzyme Mix</b>						

**SECTION 9: Physical and chemical properties**

water	17.5	2.3	-	92.258	12.3	-
glycerol	0.000075	0.00001	-	0.0025	0.00033	-
<b>Ligation Master Mix</b>						
water	17.5	2.3	-	92.258	12.3	-
2,2' -oxybisethanol	0.006	0.0008	-	-	-	-
<b>SureSelect Max MBC-Free Adaptor Oligo Mix</b>						
water	17.5	2.3	-	92.258	12.3	-
<b>SureSelect Max MBC Adaptor Oligo Mix, ILM</b>						
water	17.5	2.3	-	92.258	12.3	-
<b>Amplification Master Mix</b>						
water	17.5	2.3	-	92.258	12.3	-
trometamol	<0.00075006	<0.0001	-	-	-	-

<b>Evaporation rate</b>	:	Frag/A-Tail Buffer	Not available.
	:	Frag/A-Tail Enzyme Mix	Not available.
	:	Ligation Master Mix	Not available.
	:	SureSelect Max MBC-Free Adaptor Oligo Mix	Not available.
	:	SureSelect Max MBC Adaptor Oligo Mix, ILM	Not available.
	:	Amplification Master Mix	Not available.
	<b>Relative density</b>	:	Frag/A-Tail Buffer
:		Frag/A-Tail Enzyme Mix	Not available.
:		Ligation Master Mix	Not available.
:		SureSelect Max MBC-Free Adaptor Oligo Mix	Not available.
:		SureSelect Max MBC Adaptor Oligo Mix, ILM	Not available.
:		Amplification Master Mix	Not available.
<b>Vapour density</b>		:	Frag/A-Tail Buffer
	:	Frag/A-Tail Enzyme Mix	Not available.
	:	Ligation Master Mix	Not available.
	:	SureSelect Max MBC-Free Adaptor Oligo Mix	Not available.
	:	SureSelect Max MBC Adaptor Oligo Mix, ILM	Not available.
	:	Amplification Master Mix	Not available.

## SECTION 9: Physical and chemical properties

<b>Explosive properties</b>	:	Frag/A-Tail Buffer	Not available.	
		Frag/A-Tail Enzyme Mix	Not available.	
		Ligation Master Mix	Not available.	
		SureSelect Max MBC-Free Adaptor Oligo Mix	Not available.	
		SureSelect Max MBC Adaptor Oligo Mix, ILM	Not available.	
		Amplification Master Mix	Not available.	
	<b>Oxidising properties</b>	:	Frag/A-Tail Buffer	Not available.
			Frag/A-Tail Enzyme Mix	Not available.
		Ligation Master Mix	Not available.	
		SureSelect Max MBC-Free Adaptor Oligo Mix	Not available.	
		SureSelect Max MBC Adaptor Oligo Mix, ILM	Not available.	
		Amplification Master Mix	Not available.	

### Particle characteristics

<b>Median particle size</b>	:	Frag/A-Tail Buffer	Not applicable.
		Frag/A-Tail Enzyme Mix	Not applicable.
		Ligation Master Mix	Not applicable.
		SureSelect Max MBC-Free Adaptor Oligo Mix	Not applicable.
		SureSelect Max MBC Adaptor Oligo Mix, ILM	Not applicable.
		Amplification Master Mix	Not applicable.

### 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	:	Frag/A-Tail Buffer	No specific test data related to reactivity available for this product or its ingredients.	
		Frag/A-Tail Enzyme Mix	No specific test data related to reactivity available for this product or its ingredients.	
		Ligation Master Mix	No specific test data related to reactivity available for this product or its ingredients.	
		SureSelect Max MBC-Free Adaptor Oligo Mix	No specific test data related to reactivity available for this product or its ingredients.	
		SureSelect Max MBC Adaptor Oligo Mix, ILM	No specific test data related to reactivity available for this product or its ingredients.	
		Amplification Master Mix	No specific test data related to reactivity available for this product or its ingredients.	
	<b>10.2 Chemical stability</b>	:	Frag/A-Tail Buffer	The product is stable.
			Frag/A-Tail Enzyme Mix	The product is stable.
		Ligation Master Mix	The product is stable.	
		SureSelect Max MBC-Free Adaptor Oligo Mix	The product is stable.	
		SureSelect Max MBC Adaptor Oligo Mix, ILM	The product is stable.	
		Amplification Master Mix	The product is stable.	
<b>10.3 Possibility of hazardous reactions</b>		:	Frag/A-Tail Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
			Frag/A-Tail Enzyme Mix	Under normal conditions of storage and use, hazardous reactions will not occur.
		Ligation Master Mix	Under normal conditions of storage and use, hazardous reactions will not occur.	
		SureSelect Max MBC-Free Adaptor Oligo Mix	Under normal conditions of storage and use, hazardous reactions will not occur.	

## SECTION 10: Stability and reactivity

SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix Under normal conditions of storage and use, hazardous reactions will not occur.  
Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid** : Frag/A-Tail Buffer No specific data.  
Frag/A-Tail Enzyme Mix No specific data.  
Ligation Master Mix No specific data.  
SureSelect Max MBC-Free Adaptor Oligo Mix No specific data.  
SureSelect Max MBC Adaptor Oligo Mix, ILM No specific data.  
Amplification Master Mix No specific data.

**10.5 Incompatible materials** : Frag/A-Tail Buffer May react or be incompatible with oxidising materials.  
Frag/A-Tail Enzyme Mix May react or be incompatible with oxidising materials.  
Ligation Master Mix May react or be incompatible with oxidising materials.  
SureSelect Max MBC-Free Adaptor Oligo Mix May react or be incompatible with oxidising materials.  
SureSelect Max MBC Adaptor Oligo Mix, ILM May react or be incompatible with oxidising materials.  
Amplification Master Mix May react or be incompatible with oxidising materials.

**10.6 Hazardous decomposition products** : Frag/A-Tail Buffer Under normal conditions of storage and use, hazardous decomposition products should not be produced.  
Frag/A-Tail Enzyme Mix Under normal conditions of storage and use, hazardous decomposition products should not be produced.  
Ligation Master Mix Under normal conditions of storage and use, hazardous decomposition products should not be produced.  
SureSelect Max MBC-Free Adaptor Oligo Mix Under normal conditions of storage and use, hazardous decomposition products should not be produced.  
SureSelect Max MBC Adaptor Oligo Mix, ILM Under normal conditions of storage and use, hazardous decomposition products should not be produced.  
Amplification Master Mix Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
<b>Frag/A-Tail Buffer</b> Magnesium chloride	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
tetramethylammonium chloride	LD50 Oral	Rat	2800 mg/kg	-
	LD50 Dermal	Rabbit - Male, Female	200 to 500 mg/kg	-
<b>Frag/A-Tail Enzyme Mix</b> Glycerol	LD50 Oral	Rat	50 mg/kg	-
	LD50 Oral	Rat	12600 mg/kg	-
<b>Ligation Master Mix</b> Glycerol 2,2' -oxybisethanol	LD50 Oral	Rat	12600 mg/kg	-
	LD50 Dermal	Rabbit	11890 mg/kg	-
	LD50 Oral	Rat	12000 mg/kg	-
<b>Amplification Master Mix</b> Glycerol Trometamol tetramethylammonium	LD50 Oral	Rat	12600 mg/kg	-
	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Dermal	Rabbit - Male,	200 to 500 mg/kg	-

## SECTION 11: Toxicological information

chloride	LD50 Oral	Female Rat	50 mg/kg	-
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### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
<b>Frag/A-Tail Buffer</b>					
Frag/A-Tail Buffer	1000	6000.0	N/A	N/A	N/A
Magnesium chloride	2800	N/A	N/A	N/A	N/A
tetramethylammonium chloride	50	300	N/A	N/A	N/A
<b>Frag/A-Tail Enzyme Mix</b>					
Glycerol	12600	N/A	N/A	N/A	N/A
<b>Ligation Master Mix</b>					
Ligation Master Mix	2975.4	N/A	N/A	N/A	N/A
Glycerol	12600	N/A	N/A	N/A	N/A
2,2' -oxybisethanol	500	11890	N/A	N/A	N/A
<b>Amplification Master Mix</b>					
Amplification Master Mix	1279.5	7677.0	N/A	N/A	N/A
Glycerol	12600	N/A	N/A	N/A	N/A
tetramethylammonium chloride	50	300	N/A	N/A	N/A

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>Frag/A-Tail Enzyme Mix</b>					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
<b>Ligation Master Mix</b>					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
2,2' -oxybisethanol	Eyes - Mild irritant	Rabbit	-	50 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
<b>Amplification Master Mix</b>					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Trometamol	Skin - Moderate irritant	Rabbit	-	25 %	-
	Skin - Severe irritant	Rabbit	-	500 mg	-

### Sensitiser

Conclusion/Summary : Not available.

### Mutagenicity

Conclusion/Summary : Not available.

### Carcinogenicity

Conclusion/Summary : Not available.

### Reproductive toxicity

Conclusion/Summary : Not available.

### Teratogenicity

## SECTION 11: Toxicological information

**Conclusion/Summary** : Not available.

### Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
<b>Frag/A-Tail Buffer</b> tetramethylammonium chloride	Category 1	oral	central nervous system (CNS)
<b>Amplification Master Mix</b> tetramethylammonium chloride	Category 1	oral	central nervous system (CNS)

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

### Information on likely routes of exposure

: Frag/A-Tail Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Frag/A-Tail Enzyme Mix	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Ligation Master Mix	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
SureSelect Max MBC-Free Adaptor Oligo Mix	Not available.
SureSelect Max MBC Adaptor Oligo Mix, ILM	Not available.
Amplification Master Mix	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

#### **Inhalation**

: Frag/A-Tail Buffer	May cause damage to organs following a single exposure if inhaled.
Frag/A-Tail Enzyme Mix	No known significant effects or critical hazards.
Ligation Master Mix	No known significant effects or critical hazards.
SureSelect Max MBC-Free Adaptor Oligo Mix	No known significant effects or critical hazards.
SureSelect Max MBC Adaptor Oligo Mix, ILM	No known significant effects or critical hazards.
Amplification Master Mix	May cause damage to organs following a single exposure if inhaled.

#### **Ingestion**

: Frag/A-Tail Buffer	Harmful if swallowed. May cause damage to organs following a single exposure if swallowed.
Frag/A-Tail Enzyme Mix	No known significant effects or critical hazards.
Ligation Master Mix	No known significant effects or critical hazards.
SureSelect Max MBC-Free Adaptor Oligo Mix	No known significant effects or critical hazards.
SureSelect Max MBC Adaptor Oligo Mix, ILM	No known significant effects or critical hazards.
Amplification Master Mix	Harmful if swallowed. May cause damage to organs following a single exposure if swallowed.

#### **Skin contact**

: Frag/A-Tail Buffer	May cause damage to organs following a single exposure in contact with skin.
Frag/A-Tail Enzyme Mix	No known significant effects or critical hazards.
Ligation Master Mix	No known significant effects or critical hazards.
SureSelect Max MBC-Free Adaptor Oligo Mix	No known significant effects or critical hazards.
SureSelect Max MBC Adaptor Oligo Mix, ILM	No known significant effects or critical hazards.
Amplification Master Mix	May cause damage to organs following a single exposure in contact with skin. Causes skin irritation.

## SECTION 11: Toxicological information

<b>Eye contact</b>	: Frag/A-Tail Buffer	No known significant effects or critical hazards.
	Frag/A-Tail Enzyme Mix	No known significant effects or critical hazards.
	Ligation Master Mix	No known significant effects or critical hazards.
	SureSelect Max MBC-Free Adaptor Oligo Mix	No known significant effects or critical hazards.
	SureSelect Max MBC Adaptor Oligo Mix, ILM	No known significant effects or critical hazards.
	Amplification Master Mix	No known significant effects or critical hazards.

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

<b>Inhalation</b>	: Frag/A-Tail Buffer	No specific data.
	Frag/A-Tail Enzyme Mix	No specific data.
	Ligation Master Mix	No specific data.
	SureSelect Max MBC-Free Adaptor Oligo Mix	No specific data.
	SureSelect Max MBC Adaptor Oligo Mix, ILM	No specific data.
	Amplification Master Mix	No specific data.

<b>Ingestion</b>	: Frag/A-Tail Buffer	No specific data.
	Frag/A-Tail Enzyme Mix	No specific data.
	Ligation Master Mix	No specific data.
	SureSelect Max MBC-Free Adaptor Oligo Mix	No specific data.
	SureSelect Max MBC Adaptor Oligo Mix, ILM	No specific data.
	Amplification Master Mix	No specific data.

<b>Skin contact</b>	: Frag/A-Tail Buffer	No specific data.
	Frag/A-Tail Enzyme Mix	No specific data.
	Ligation Master Mix	No specific data.
	SureSelect Max MBC-Free Adaptor Oligo Mix	No specific data.
	SureSelect Max MBC Adaptor Oligo Mix, ILM	No specific data.
	Amplification Master Mix	Adverse symptoms may include the following: irritation redness

<b>Eye contact</b>	: Frag/A-Tail Buffer	No specific data.
	Frag/A-Tail Enzyme Mix	No specific data.
	Ligation Master Mix	No specific data.
	SureSelect Max MBC-Free Adaptor Oligo Mix	No specific data.
	SureSelect Max MBC Adaptor Oligo Mix, ILM	No specific data.
	Amplification Master Mix	Adverse symptoms may include the following: pain or irritation watering redness

### 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

## SECTION 11: Toxicological information

<b>Conclusion/Summary</b>	: Not available.
<b>General</b>	: Frag/A-Tail Buffer No known significant effects or critical hazards. Frag/A-Tail Enzyme Mix No known significant effects or critical hazards. Ligation Master Mix No known significant effects or critical hazards. SureSelect Max MBC-Free Adaptor Oligo Mix No known significant effects or critical hazards. SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: Frag/A-Tail Buffer No known significant effects or critical hazards. Frag/A-Tail Enzyme Mix No known significant effects or critical hazards. Ligation Master Mix No known significant effects or critical hazards. SureSelect Max MBC-Free Adaptor Oligo Mix No known significant effects or critical hazards. SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix No known significant effects or critical hazards.
<b>Mutagenicity</b>	: Frag/A-Tail Buffer No known significant effects or critical hazards. Frag/A-Tail Enzyme Mix No known significant effects or critical hazards. Ligation Master Mix No known significant effects or critical hazards. SureSelect Max MBC-Free Adaptor Oligo Mix No known significant effects or critical hazards. SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix No known significant effects or critical hazards.
<b>Reproductive toxicity</b>	: Frag/A-Tail Buffer No known significant effects or critical hazards. Frag/A-Tail Enzyme Mix No known significant effects or critical hazards. Ligation Master Mix No known significant effects or critical hazards. SureSelect Max MBC-Free Adaptor Oligo Mix No known significant effects or critical hazards. SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix No known significant effects or critical hazards.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<b>Frag/A-Tail Buffer</b> Magnesium chloride	Acute EC50 >100 mg/l Fresh water	Algae - <i>Desmodesmus subspicatus</i>	72 hours
	Acute EC50 180000 µg/l Fresh water	Crustaceans - Calanoid copepod - <i>Eudiaptomus padanus</i> ssp. <i>padanus</i> - Adult	48 hours
	Acute IC50 6.8 mg/l Fresh water	Aquatic plants - Lesser Duckweed - <i>Lemna aequinoctialis</i>	96 hours
	Acute LC50 32000 µg/l Fresh water	Daphnia - Water flea - <i>Daphnia hyalina</i> - Adult	48 hours
	Acute LC50 2120 mg/l Fresh water	Fish - Fathead minnow - <i>Pimephales promelas</i>	96 hours
	Acute NOEC 100 mg/l Fresh water	Algae - <i>Desmodesmus subspicatus</i>	72 hours
	Chronic NOEC 0.1 mg/l Fresh water	Fish - common carp - <i>Cyprinus carpio</i>	35 days
tetramethylammonium chloride	Acute LC50 462 mg/l Fresh water	Fish - Fathead minnow - <i>Pimephales promelas</i>	96 hours
<b>Frag/A-Tail Enzyme Mix</b> Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Trout - <i>Oncorhynchus mykiss</i>	96 hours

## SECTION 12: Ecological information

<b>Ligation Master Mix</b> Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Trout - <i>Oncorhynchus mykiss</i>	96 hours
2,2' -oxybisethanol	Acute LC50 75200000 µg/l Fresh water	Fish - Fathead minnow - <i>Pimephales promelas</i>	96 hours
<b>Amplification Master Mix</b> Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Trout - <i>Oncorhynchus mykiss</i>	96 hours
Trometamol	Acute EC50 >980 mg/l Fresh water	Daphnia	48 hours
tetramethylammonium chloride	Acute NOEC 520 mg/l Fresh water Acute LC50 462 mg/l Fresh water	Daphnia Fish - Fathead minnow - <i>Pimephales promelas</i>	48 hours 96 hours

**Conclusion/Summary** : Not available.

### 12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
<b>Frag/A-Tail Enzyme Mix</b> Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
<b>Ligation Master Mix</b> Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
<b>Amplification Master Mix</b> Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
Trometamol	OECD 301F Ready Biodegradability - Manometric Respirometry Test	97.1 % - Readily - 28 days	30 mg/l	-

**Conclusion/Summary** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
<b>Frag/A-Tail Buffer</b> tetramethylammonium chloride	-	-	Readily
<b>Amplification Master Mix</b> Trometamol	-	-	Readily
tetramethylammonium chloride	-	-	Readily

### 12.3 Bioaccumulative potential

**SECTION 12: Ecological information**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>Frag/A-Tail Buffer</b> tetramethylammonium chloride	<-1.6	-	Low
<b>Frag/A-Tail Enzyme Mix</b> Glycerol	-1.76	-	Low
<b>Ligation Master Mix</b> Glycerol	-1.76	-	Low
2,2' -oxybisethanol	-1.98	100	Low
<b>Amplification Master Mix</b> Glycerol	-1.76	-	Low
Trometamol	-2.31	-	Low
tetramethylammonium chloride	<-1.6	-	Low

**12.4 Mobility in soil**

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

**Mobility** : Not available.

**12.5 Results of PBT and vPvB assessment**

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

**12.6 Other adverse effects** : No known significant effects or critical hazards.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

Product

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

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

Packaging

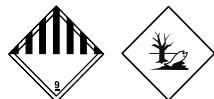
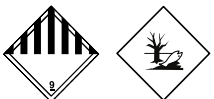
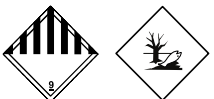
**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

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

**SECTION 14: Transport information**

Beta SureSelect Max Enzymatic Fragmentation Library Preparation Module, 16 Reactions, Part Number 5280-0061

**SECTION 14: Transport information**

	ADR/RID	IMDG	IATA
14.1 UN number	UN3082	UN3082	UN3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Magnesium chloride, tetramethylammonium chloride)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Magnesium chloride, tetramethylammonium chloride)	Environmentally hazardous substance, liquid, n.o.s. (Magnesium chloride, tetramethylammonium chloride)
14.3 Transport hazard class(es)	9 	9 	9 
14.4 Packing group	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes.

**Additional information**

**Remarks** : De minimis quantities

**ADR/RID** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.  
**Hazard identification number** 90  
**Limited quantity** 5 L  
**Special provisions** 274, 335, 601, 375  
**Tunnel code** (-)

**IMDG** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.  
**Emergency schedules** F-A, S-F  
**Special provisions** 274, 335, 969

**IATA** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.  
**Quantity limitation** Passenger and Cargo Aircraft: 450 L. Packaging instructions: 964. Cargo Aircraft Only: 450 L. Packaging instructions: 964. Limited Quantities - Passenger Aircraft: 30 kg. Packaging instructions: Y964.  
**Special provisions** A97, A158, A197, A215

**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.

Beta SureSelect Max Enzymatic Fragmentation Library Preparation Module, 16 Reactions, Part Number 5280-0061

**SECTION 15: Regulatory information**

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

UK (GB)/REACH

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Ozone depleting substances

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants

Not listed.

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

Product / Ingredient name	Identifiers	Status
<b>Frag/A-Tail Buffer</b> Frag/A-Tail Buffer		3
<b>Amplification Master Mix</b> Amplification Master Mix		3

<b>Label</b>	: Frag/A-Tail Buffer	Not applicable.
	Frag/A-Tail Enzyme Mix	Not applicable.
	Ligation Master Mix	Not applicable.
	SureSelect Max MBC-Free	Not applicable.
	Adaptor Oligo Mix	
	SureSelect Max MBC Adaptor	Not applicable.
	Oligo Mix, ILM	
	Amplification Master Mix	Not applicable.

Seveso Directive

This product is not controlled under the Seveso Directive.

Danger criteria

<b>Category</b>
<b>Frag/A-Tail Buffer</b> E2

EU regulations

**Industrial emissions (integrated pollution prevention and control) - Air** : Not listed

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

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

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Beta SureSelect Max Enzymatic Fragmentation Library Preparation Module, 16 Reactions, Part Number 5280-0061

## SECTION 15: Regulatory information

### 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

**United States** : Not determined.

## 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

Classification	Justification
<b>Frag/A-Tail Buffer</b> Acute Tox. 4, H302 STOT SE 2, H371 Aquatic Chronic 2, H411	Calculation method Calculation method Calculation method
<b>Amplification Master Mix</b> Acute Tox. 4, H302 Skin Irrit. 2, H315 STOT SE 2, H371 Aquatic Chronic 3, H412	Calculation method Calculation method Calculation method Calculation method

### Full text of abbreviated H statements

<b>Frag/A-Tail Buffer</b>	
H300	Fatal if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H370	Causes damage to organs.
H371	May cause damage to organs.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
<b>Ligation Master Mix</b>	
H302	Harmful if swallowed.
<b>Amplification Master Mix</b>	
H300	Fatal if swallowed.

**SECTION 16: Other information**

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H370	Causes damage to organs.
H371	May cause damage to organs.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

**Full text of classifications**

<b>Frag/A-Tail Buffer</b>	
Acute Tox. 2	ACUTE TOXICITY - Category 2
Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
STOT SE 1	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 1
STOT SE 2	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 2
<b>Ligation Master Mix</b>	
Acute Tox. 4	ACUTE TOXICITY - Category 4
<b>Amplification Master Mix</b>	
Acute Tox. 2	ACUTE TOXICITY - Category 2
Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
STOT SE 1	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 1
STOT SE 2	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 2

**Date of issue/ Date of revision** : 15/01/2024

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

**Version** : 1

**Notice to reader**

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