

# SAFETY DATA SHEET

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

## Section 1. Identification

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

**Part no. (chemical kit)** : 5280-0061

**Part no.** :

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

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

**Identified uses** : 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)

**Uses advised against** : Not for use in diagnostic procedures.

**Supplier/Manufacturer** : Agilent Technologies, Inc.  
5301 Stevens Creek Blvd  
Santa Clara, CA 95051, USA  
800-227-9770

**Emergency telephone number (with hours of operation)** : CHEMTREC®: 1-800-424-9300

## Section 2. Hazard identification

### Classification of the substance or mixture

#### Frag/A-Tail Buffer

H302 ACUTE TOXICITY (oral) - Category 4  
H370 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1  
H411 AQUATIC HAZARD (LONG-TERM) - Category 2

#### Frag/A-Tail Enzyme Mix

H320 EYE IRRITATION - Category 2B

#### Ligation Master Mix

H320 EYE IRRITATION - Category 2B

#### Amplification Master Mix

H302 ACUTE TOXICITY (oral) - Category 4  
H315 SKIN IRRITATION - Category 2  
H319 EYE IRRITATION - Category 2A  
H370 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1  
H412 AQUATIC HAZARD (LONG-TERM) - Category 3

## Section 2. Hazard identification

### GHS label elements

#### Hazard pictograms

: Frag/A-Tail Buffer



Amplification Master Mix



#### Signal word

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

#### Hazard statements

: Frag/A-Tail Buffer      H302 - Harmful if swallowed.  
    H370 - Causes damage to organs.  
    H411 - Toxic to aquatic life with long lasting effects.  
 Frag/A-Tail Enzyme Mix      H320 - Causes eye irritation.  
 Ligation Master Mix      H320 - Causes eye irritation.  
 SureSelect Max MBC-Free      No known significant effects or critical hazards.  
 Adaptor Oligo Mix  
 SureSelect Max MBC      No known significant effects or critical hazards.  
 Adaptor Oligo Mix, ILM  
 Amplification Master Mix      H302 - Harmful if swallowed.  
    H315 - Causes skin irritation.  
    H319 - Causes serious eye irritation.  
    H370 - Causes damage to organs.  
    H412 - Harmful to aquatic life with long lasting effects.

### Precautionary statements

#### Prevention

: Frag/A-Tail Buffer      P273 - Avoid release to the environment.  
    P260 - Do not breathe vapor.  
    P270 - Do not eat, drink or smoke when using this  
    product.  
    P264 - Wash thoroughly after handling.  
 Frag/A-Tail Enzyme Mix      Not applicable.  
 Ligation Master Mix      Not applicable.  
 SureSelect Max MBC-Free      Not applicable.  
 Adaptor Oligo Mix  
 SureSelect Max MBC      Not applicable.  
 Adaptor Oligo Mix, ILM  
 Amplification Master Mix      P280 - Wear protective gloves. Wear eye or face  
    protection.  
    P273 - Avoid release to the environment.  
    P260 - Do not breathe vapor.  
    P270 - Do not eat, drink or smoke when using this  
    product.  
    P264 - Wash thoroughly after handling.

## Section 2. Hazard identification

<b>Response</b>	: Frag/A-Tail Buffer	P391 - Collect spillage. P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor.
	Frag/A-Tail Enzyme Mix	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.
	Ligation Master Mix	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.
	SureSelect Max MBC-Free Adaptor Oligo Mix	Not applicable.
	SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix	Not applicable.  P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor. P362 + P364 - Take off contaminated clothing and wash it before reuse. P302 + P352 - IF ON SKIN: Wash with plenty of water. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.
<b>Storage</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>Disposal</b>	: Frag/A-Tail Buffer	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	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.  P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Supplemental label elements</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 2. Hazard identification

<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	None known.
	Adaptor Oligo Mix	
	SureSelect Max MBC	None known.
	Adaptor Oligo Mix, ILM	
Amplification Master Mix	None known.	

## Section 3. Composition/information on ingredients

<b>Substance/mixture</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	Mixture
	Adaptor Oligo Mix, ILM	
Amplification Master Mix	Mixture	

Ingredient name	Synonyms	% (w/w)	CAS number
<b>Frag/A-Tail Buffer</b>			
Magnesium chloride	Magnesium chloride	≥10 - ≤30	7786-30-3
tetramethylammonium chloride	tetramethylammonium chloride	≥5 - ≤10	75-57-0
<b>Frag/A-Tail Enzyme Mix</b>			
Glycerol	Glycerol	≥30 - ≤60	56-81-5
<b>Ligation Master Mix</b>			
Glycerol	Glycerol	≥30 - ≤60	56-81-5
2,2' -oxybisethanol	2,2' -Oxybisethanol	≥10 - ≤30	111-46-6
<b>Amplification Master Mix</b>			
Glycerol	Glycerol	≥30 - ≤60	56-81-5
Trometamol	Tris	≥5 - ≤10	77-86-1
tetramethylammonium chloride	tetramethylammonium chloride	≥5 - ≤10	75-57-0

Ranges if listed above for hazardous ingredient(s) are prescribed ranges. The actual concentration(s) or actual concentration range(s) are being withheld as a trade secret.

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

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

## Section 4. First-aid measures

### Description of necessary 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. 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. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
	Ligation 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. If irritation persists, get medical attention.
	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. 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. 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 adverse health effects persist or are severe. 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.
	Ligation 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

## Section 4. First-aid measures

		personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. 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.
	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 dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. 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. 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. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Ligation Master Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	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.

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<p><b>Ingestion</b></p>	<p>: Frag/A-Tail Buffer</p>	<p>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.</p>
	<p>Frag/A-Tail Enzyme Mix</p>	<p>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 adverse health effects persist or are severe. 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.</p>
	<p>Ligation Master Mix</p>	<p>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 adverse health effects persist or are severe. 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.</p>
	<p>SureSelect Max MBC-Free Adaptor Oligo Mix</p>	<p>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.</p>
	<p>SureSelect Max MBC Adaptor Oligo Mix, ILM</p>	<p>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.</p>
	<p>Amplification Master Mix</p>	<p>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.</p>

## Section 4. First-aid measures

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.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

<b>Eye contact</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	No known significant effects or critical hazards. Causes eye irritation. Causes eye irritation. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. Causes serious eye irritation.
<b>Inhalation</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	Causes damage to organs following a single exposure if inhaled. 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. No known significant effects or critical hazards. Causes damage to organs following a single exposure if inhaled.
<b>Skin contact</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	Causes damage to organs following a single exposure in contact with skin. 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. No known significant effects or critical hazards. Causes damage to organs following a single exposure in contact with skin. Causes skin irritation.
<b>Ingestion</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	Harmful if swallowed. Causes damage to organs following a single exposure if swallowed. 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. Harmful if swallowed. Causes damage to organs following a single exposure if swallowed.

#### Over-exposure signs/symptoms

<b>Eye contact</b>	: Frag/A-Tail Buffer Frag/A-Tail Enzyme Mix  Ligation Master Mix	No specific data. Adverse symptoms may include the following: irritation watering redness Adverse symptoms may include the following: irritation watering redness
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	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
<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.

### Indication of immediate medical attention and special treatment needed, if necessary

<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 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.

## Section 4. First-aid measures

<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	No specific treatment.
	Adaptor Oligo Mix	
	SureSelect Max MBC	No specific treatment.
<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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	Ligation 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.
	SureSelect Max MBC-Free	No action shall be taken involving any personal risk or without suitable training.
	Adaptor Oligo Mix	No action shall be taken involving any personal risk or without suitable training.
	SureSelect Max MBC	No action shall be taken involving any personal risk or without suitable training.
	Adaptor Oligo Mix, ILM	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.
	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.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

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

## Section 5. Fire-fighting measures

<b>Specific hazards arising from the chemical</b>	: 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 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.
<b>Hazardous thermal decomposition products</b>	: 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 Amplification Master Mix	No specific data.  Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds
<b>Special protective actions for fire-fighters</b>	: 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	Promptly isolate the scene by removing all persons

## Section 5. Fire-fighting measures

	Adaptor Oligo Mix	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.
<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

### 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 spilled material. Avoid breathing vapor 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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 spilled material. Avoid breathing vapor or

## Section 6. Accidental release measures

SureSelect Max MBC-Free Adaptor Oligo Mix	mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
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 spilled 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
<b>For emergency responders</b> : Frag/A-Tail Buffer	If specialized 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 specialized 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 specialized 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 specialized 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 specialized 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 specialized 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".
<b>Environmental precautions</b> : Frag/A-Tail Buffer	Avoid dispersal of spilled 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 spilled 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).

## Section 6. Accidental release measures

Ligation Master Mix	Avoid dispersal of spilled 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 spilled 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 spilled 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 spilled 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.

### Methods and materials for containment and cleaning up

#### Methods for cleaning up

: 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.

## Section 7. Handling and storage

### 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 vapor 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). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. 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.
	Ligation Master Mix	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. 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.
	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 vapor 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.
<b>Advice on general occupational hygiene</b>	: Frag/A-Tail 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.
	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

## Section 7. Handling and storage

SureSelect Max MBC-Free  
Adaptor Oligo Mix

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.

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.

**Conditions for safe storage, including any incompatibilities** : 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 unlabeled 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 unlabeled 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 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 7. Handling and storage

SureSelect Max MBC-Free Adaptor Oligo 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 unlabeled 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 unlabeled 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### [Control parameters](#)

### [Occupational exposure limits](#)

Ingredient name	Exposure limits
<b>Frag/A-Tail Enzyme Mix</b> Glycerol	<b>CA Alberta Provincial (Canada, 6/2018).</b> OEL: 10 mg/m <sup>3</sup> 8 hours. Form: Mist <b>CA Quebec Provincial (Canada, 6/2022).</b> TWAEV: 10 mg/m <sup>3</sup> 8 hours. Form: mist <b>CA Saskatchewan Provincial (Canada, 7/2013).</b> STEL: 20 mg/m <sup>3</sup> 15 minutes. Form: mist TWA: 10 mg/m <sup>3</sup> 8 hours. Form: mist <b>CA British Columbia Provincial (Canada, 6/2023).</b> TWA: 3 mg/m <sup>3</sup> 8 hours. Form: respirable mist TWA: 10 mg/m <sup>3</sup> 8 hours. Form: total mist
<b>Ligation Master Mix</b> Glycerol	<b>CA Alberta Provincial (Canada, 6/2018).</b> OEL: 10 mg/m <sup>3</sup> 8 hours. Form: Mist

## Section 8. Exposure controls/personal protection

<p>2,2' -oxybisethanol</p> <p><b>Amplification Master Mix</b> Glycerol</p>	<p><b>CA Quebec Provincial (Canada, 6/2022).</b> TWAEV: 10 mg/m<sup>3</sup> 8 hours. Form: mist</p> <p><b>CA Saskatchewan Provincial (Canada, 7/2013).</b> STEL: 20 mg/m<sup>3</sup> 15 minutes. Form: mist TWA: 10 mg/m<sup>3</sup> 8 hours. Form: mist</p> <p><b>CA British Columbia Provincial (Canada, 6/2023).</b> TWA: 3 mg/m<sup>3</sup> 8 hours. Form: respirable mist TWA: 10 mg/m<sup>3</sup> 8 hours. Form: total mist</p> <p><b>OARS WEEL (United States, 4/2022).</b> TWA: 10 mg/m<sup>3</sup> 8 hours.</p> <p><b>CA Alberta Provincial (Canada, 6/2018).</b> OEL: 10 mg/m<sup>3</sup> 8 hours. Form: Mist</p> <p><b>CA Quebec Provincial (Canada, 6/2022).</b> TWAEV: 10 mg/m<sup>3</sup> 8 hours. Form: mist</p> <p><b>CA Saskatchewan Provincial (Canada, 7/2013).</b> STEL: 20 mg/m<sup>3</sup> 15 minutes. Form: mist TWA: 10 mg/m<sup>3</sup> 8 hours. Form: mist</p> <p><b>CA British Columbia Provincial (Canada, 6/2023).</b> TWA: 3 mg/m<sup>3</sup> 8 hours. Form: respirable mist TWA: 10 mg/m<sup>3</sup> 8 hours. Form: total mist</p>
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### Biological exposure indices

No exposure indices known.

- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor 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.
- 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.

### Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

### Skin protection

## Section 8. Exposure controls/personal 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.

## Section 9. Physical and chemical properties and safety characteristics

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

### Appearance

<b>Physical state</b>	Frag/A-Tail Buffer	Liquid.
	Frag/A-Tail Enzyme Mix	Liquid.
	Ligation Master Mix	Liquid.
	SureSelect Max MBC-Free	Liquid.
	Adaptor Oligo Mix	
	SureSelect Max MBC	Liquid.
	Adaptor Oligo Mix, ILM	
	Amplification Master Mix	Liquid.
<b>Color</b>	Frag/A-Tail Buffer	Not available.
	Frag/A-Tail Enzyme Mix	Not available.
	Ligation Master Mix	Not available.
	SureSelect Max MBC-Free	Not available.
	Adaptor Oligo Mix	
	SureSelect Max MBC	Not available.
	Adaptor Oligo Mix, ILM	
	Amplification Master Mix	Not available.
<b>Odor</b>	Frag/A-Tail Buffer	Not available.
	Frag/A-Tail Enzyme Mix	Not available.
	Ligation Master Mix	Not available.
	SureSelect Max MBC-Free	Not available.
	Adaptor Oligo Mix	
	SureSelect Max MBC	Not available.
	Adaptor Oligo Mix, ILM	
	Amplification Master Mix	Not available.
<b>Odor threshold</b>	Frag/A-Tail Buffer	Not available.
	Frag/A-Tail Enzyme Mix	Not available.
	Ligation Master Mix	Not available.
	SureSelect Max MBC-Free	Not available.
	Adaptor Oligo Mix	
	SureSelect Max MBC	Not available.
	Adaptor Oligo Mix, ILM	
	Amplification Master Mix	Not available.

## Section 9. Physical and chemical properties and safety characteristics

<b>pH</b>	:	Frag/A-Tail Buffer	8.3
		Frag/A-Tail Enzyme Mix	7
		Ligation Master Mix	7.8
		SureSelect Max MBC-Free	7.5
		Adaptor Oligo Mix	
		SureSelect Max MBC	7.5
		Adaptor Oligo Mix, ILM	
<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	0°C (32°F)
		Adaptor Oligo Mix	
		SureSelect Max MBC	0°C (32°F)
		Adaptor Oligo Mix, ILM	
<b>Boiling point, initial boiling point, and boiling range</b>	:	Frag/A-Tail Buffer	Not available.
		Frag/A-Tail Enzyme Mix	Not available.
		Ligation Master Mix	Not available.
		SureSelect Max MBC-Free	100°C (212°F)
		Adaptor Oligo Mix	
		SureSelect Max MBC	100°C (212°F)
		Adaptor Oligo Mix, ILM	
<b>Flash point</b>	:	Amplification Master Mix	Not available.

<b>Flash point</b>	:	<b>Ingredient name</b>	<b>Closed cup</b>			<b>Open cup</b>		
			<b>°C</b>	<b>°F</b>	<b>Method</b>	<b>°C</b>	<b>°F</b>	<b>Method</b>
		<b>Frag/A-Tail Enzyme Mix</b>						
		Glycerol	-	-	-	177	350.6	-
		<b>Ligation Master Mix</b>						
		2,2' -oxybisethanol	-	-	-	138	280.4	-
		Glycerol	-	-	-	177	350.6	-
		<b>Amplification Master Mix</b>						
		Glycerol	-	-	-	177	350.6	-

<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	Not available.
		Adaptor Oligo Mix	
		SureSelect Max MBC	Not available.
		Adaptor Oligo Mix, ILM	
	Amplification Master Mix	Not available.	

## Section 9. Physical and chemical properties and safety characteristics

**Flammability**

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	Not applicable.
Adaptor Oligo Mix, ILM	
Amplification Master Mix	Not applicable.

**Lower and upper explosion limit/flammability limit**

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

**Vapor pressure**

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
<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>						
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</b>						

## Section 9. Physical and chemical properties and safety characteristics

		<b>Master Mix</b>					
	water	17.5	2.3	-	92.258	12.3	-
	Trometamol	<0.00075006	<0.0001	-	-	-	-
<b>Relative vapor density</b>	: Frag/A-Tail Buffer	Not available.					
	Frag/A-Tail Enzyme Mix	Not available.					
	Ligation Master Mix	Not available.					
	SureSelect Max MBC-Free	Not available.					
	Adaptor Oligo Mix	Not available.					
	SureSelect Max MBC	Not available.					
	Adaptor Oligo Mix, ILM	Not available.					
	Amplification Master Mix	Not available.					
<b>Relative density</b>	: Frag/A-Tail Buffer	Not available.					
	Frag/A-Tail Enzyme Mix	Not available.					
	Ligation Master Mix	Not available.					
	SureSelect Max MBC-Free	Not available.					
	Adaptor Oligo Mix	Not available.					
	SureSelect Max MBC	Not available.					
	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					
<b>Partition coefficient: n-octanol/water</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	Not applicable.					
	SureSelect Max MBC	Not applicable.					
	Adaptor Oligo Mix, ILM	Not applicable.					
	Amplification Master Mix	Not applicable.					
<b>Auto-ignition temperature</b>	: <b>Ingredient name</b>	<b>°C</b>	<b>°F</b>	<b>Method</b>			
	<b>Frag/A-Tail Enzyme Mix</b>						
	Glycerol	370	698	-			
	<b>Ligation Master Mix</b>						
	2,2' -oxybisethanol	229	444.2	DIN EN 14522-S			
	Glycerol	370	698	-			

## Section 9. Physical and chemical properties and safety characteristics

	Amplification Master Mix			
	Glycerol	370	698	-
<b>Decomposition temperature</b>	Frag/A-Tail Buffer	Not available.		
	Frag/A-Tail Enzyme Mix	Not available.		
	Ligation Master Mix	Not available.		
	SureSelect Max MBC-Free	Not available.		
	Adaptor Oligo Mix			
	SureSelect Max MBC	Not available.		
	Adaptor Oligo Mix, ILM			
	Amplification Master Mix	Not available.		
<b>Viscosity</b>	Frag/A-Tail Buffer	Not available.		
	Frag/A-Tail Enzyme Mix	Not available.		
	Ligation Master Mix	Not available.		
	SureSelect Max MBC-Free	Not available.		
	Adaptor Oligo Mix			
	SureSelect Max MBC	Not available.		
	Adaptor Oligo Mix, ILM			
	Amplification Master Mix	Not available.		
<b>Particle characteristics</b>				
<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	Not applicable.		
	Adaptor Oligo Mix			
	SureSelect Max MBC	Not applicable.		
	Adaptor Oligo Mix, ILM			
	Amplification Master Mix	Not applicable.		

## Section 10. Stability and reactivity

<b>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	No specific test data related to reactivity available for this product or its ingredients.
	Adaptor Oligo Mix	No specific test data related to reactivity available for this product or its ingredients.
	SureSelect Max MBC	No specific test data related to reactivity available for this product or its ingredients.
	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>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	The product is stable.
	Adaptor Oligo Mix	
	SureSelect Max MBC	The product is stable.
	Adaptor Oligo Mix, ILM	
	Amplification Master Mix	The product is stable.

## Section 10. Stability and reactivity

<b>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.
	SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</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 Amplification Master Mix	No specific data.
		No specific data.
<b>Incompatible materials</b>	: Frag/A-Tail Buffer	May react or be incompatible with oxidizing materials.
	Frag/A-Tail Enzyme Mix	May react or be incompatible with oxidizing materials.
	Ligation Master Mix	May react or be incompatible with oxidizing materials.
	SureSelect Max MBC-Free Adaptor Oligo Mix	May react or be incompatible with oxidizing materials.
	SureSelect Max MBC Adaptor Oligo Mix, ILM Amplification Master Mix	May react or be incompatible with oxidizing materials.
		May react or be incompatible with oxidizing materials.
<b>Hazardous decomposition products</b>	: 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 Amplification Master Mix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

## Section 11. Toxicological information

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	-
	LD50 Oral	Rat	50 mg/kg	-
<b>Frag/A-Tail Enzyme Mix</b> Glycerol	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 chloride	LD50 Oral	Rat	12600 mg/kg	-
	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Dermal	Rabbit - Male, Female	200 to 500 mg/ kg	-
	LD50 Oral	Rat	50 mg/kg	-

### 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	-

### Sensitization

Not available.

### Mutagenicity

**Conclusion/Summary** : Not available.

### Carcinogenicity

**Conclusion/Summary** : Not available.

### Reproductive toxicity

**Conclusion/Summary** : Not available.

## Section 11. Toxicological information

### Teratogenicity

**Conclusion/Summary** : Not available.

### Specific target organ toxicity (single exposure)

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> Trometamol	Category 3	-	Respiratory tract irritation
tetramethylammonium chloride	Category 1	oral	central nervous system (CNS)

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

<b>Information on the likely routes of exposure</b>	: 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	Not available.
	Adaptor Oligo Mix	Not available.
	SureSelect Max MBC	Not available.
	Adaptor Oligo Mix, ILM	Not available.
	Amplification Master Mix	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

<b>Eye contact</b>	: Frag/A-Tail Buffer	No known significant effects or critical hazards.
	Frag/A-Tail Enzyme Mix	Causes eye irritation.
	Ligation Master Mix	Causes eye irritation.
	SureSelect Max MBC-Free	No known significant effects or critical hazards.
	Adaptor Oligo Mix	No known significant effects or critical hazards.
	SureSelect Max MBC	No known significant effects or critical hazards.
	Adaptor Oligo Mix, ILM	No known significant effects or critical hazards.
	Amplification Master Mix	Causes serious eye irritation.
<b>Inhalation</b>	: Frag/A-Tail Buffer	Causes 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	No known significant effects or critical hazards.
	Adaptor Oligo Mix	No known significant effects or critical hazards.
	SureSelect Max MBC	No known significant effects or critical hazards.
	Adaptor Oligo Mix, ILM	No known significant effects or critical hazards.
	Amplification Master Mix	Causes damage to organs following a single exposure if inhaled.

## Section 11. Toxicological information

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

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

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

## Section 11. Toxicological information

<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	No specific data.
		Adaptor Oligo Mix	
		SureSelect Max MBC	No specific data.
		Adaptor Oligo Mix, ILM	
		Amplification Master Mix	No specific data.

### Delayed and immediate effects and also 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

<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	No known significant effects or critical hazards.
		Adaptor Oligo Mix	
		SureSelect Max MBC	No known significant effects or critical hazards.
		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	No known significant effects or critical hazards.
		Adaptor Oligo Mix	
		SureSelect Max MBC	No known significant effects or critical hazards.
		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	No known significant effects or critical hazards.
		Adaptor Oligo Mix	
		SureSelect Max MBC	No known significant effects or critical hazards.
		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	No known significant effects or critical hazards.
		Adaptor Oligo Mix	
		SureSelect Max MBC	No known significant effects or critical hazards.
		Adaptor Oligo Mix, ILM	
		Amplification Master Mix	No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

## Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
<b>Frag/A-Tail Buffer</b>					
Frag/A-Tail Buffer	965.5	4838.7	N/A	N/A	N/A
Magnesium chloride	2800	2500	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

## Section 12. Ecological information

### 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 - <i>Eudiaptomus padanus ssp. padanus</i> - Adult	48 hours
	Acute IC50 6.8 mg/l Fresh water	Aquatic plants - <i>Lemna aequinoctialis</i>	96 hours
	Acute LC50 32000 µg/l Fresh water	Daphnia - <i>Daphnia hyalina</i> - Adult	48 hours
	Acute LC50 2120 mg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours
	Acute NOEC 100 mg/l Fresh water	Algae - <i>Desmodesmus subspicatus</i>	72 hours
tetramethylammonium chloride	Chronic NOEC 0.1 mg/l Fresh water	Fish - <i>Cyprinus carpio</i>	35 days
	Acute LC50 462 mg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours
<b>Frag/A-Tail Enzyme Mix</b>			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
<b>Ligation Master Mix</b>			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
2,2' -oxybisethanol	Acute LC50 75200000 µg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours
<b>Amplification Master Mix</b>			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
Trometamol	Acute EC50 >980 mg/l Fresh water	Daphnia	48 hours
	Acute NOEC 520 mg/l Fresh water	Daphnia	48 hours
tetramethylammonium chloride	Acute LC50 462 mg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours

## Section 12. Ecological information

### 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	-

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

### Bioaccumulative potential

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

## Section 12. Ecological information

### Mobility in soil

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

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

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

**TDG / IMDG / IATA** : Not regulated.

### Additional information

**Remarks** : De minimis quantities

**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.

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

## Section 15. Regulatory information

### Canadian lists

**Canadian NPRI** : None of the components are listed.

**CEPA Toxic substances** : None of the components are listed.

### 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

## Section 15. Regulatory information

**Canada** : Not determined.

**United States** : Not determined.

## Section 16. Other information

### History

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

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

**Version** : 1

**Key to abbreviations** :

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- HPR = Hazardous Products Regulations
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- N/A = Not available
- UN = United Nations

### Procedure used to derive the classification

Classification	Justification
<b>Frag/A-Tail Buffer</b> ACUTE TOXICITY (oral) - Category 4 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 2	Calculation method Calculation method Calculation method
<b>Frag/A-Tail Enzyme Mix</b> EYE IRRITATION - Category 2B	Calculation method
<b>Ligation Master Mix</b> EYE IRRITATION - Category 2B	Calculation method
<b>Amplification Master Mix</b> ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 3	Calculation method Calculation method Calculation method Calculation method Calculation method

🔍 Indicates information that has changed from previously issued version.

### Notice to reader

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