

# SAFETY DATA SHEET

Lambda Dash II BamH I-treated/Gigapack III Cloning Kit, Part Number 247613

## Section 1. Identification

### 1.1 Product identifier

**Product name** : Lambda Dash II BamH I-treated/Gigapack III Cloning Kit, Part Number 247613

**Part no. (chemical kit)** : 247613

**Part no.** : Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated 247211-51  
 XL1-Blue MRA E.coli Strain 200302-81  
 XL1-Blue MRA (p2) E.coli Strain 200303-81  
 pME/Bam HI Test Insert 210200-53  
 Gigapack III packaging extract 200201-41  
 VCS257 E. coli Strain 200256-51  
 Wild-Type Lambda DNA c1857ind 1 Sam7 246203-51

**Validation date** : 5/27/2020

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

**Material uses** : Analytical reagent.

Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	0.01 ml( 10 µg 1 µg/µl)
XL1-Blue MRA E.coli Strain	0.5 ml
XL1-Blue MRA (p2) E.coli Strain	0.5 ml
pME/Bam HI Test Insert	0.01 ml (2.5 µg 0.25 µg/µl)
Gigapack III packaging extract	0.275 ml
VCS257 E. coli Strain	1 ml
Wild-Type Lambda DNA c1857ind 1 Sam7	0.005 ml (1.05 µg 0.21 µg/µl)

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

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

### 1.4 Emergency telephone number

**In case of emergency** : CHEMTREC®: 1-800-424-9300

## Section 2. Hazards identification

### 2.1 Classification of the substance or mixture

<p><b>OSHA/HCS status</b> : Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated</p>	<p>While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.</p>
<p>XL1-Blue MRA E.coli Strain</p>	<p>This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).</p>
<p>XL1-Blue MRA (p2) E.coli Strain</p>	<p>This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).</p>
<p>pME/Bam HI Test Insert</p>	<p>While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees</p>

## Section 2. Hazards identification

Gigapack III packaging extract	and other users of this product. While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
VCS257 E. coli Strain	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Wild-Type Lambda DNA c1857ind 1 Sam7	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

### Classification of the substance or mixture

#### **XL1-Blue MRA E.coli Strain**

H319 EYE IRRITATION - Category 2A

#### **XL1-Blue MRA (p2) E.coli Strain**

H319 EYE IRRITATION - Category 2A

#### **VCS257 E. coli Strain**

H319 EYE IRRITATION - Category 2A

### 2.2 GHS label elements

#### **Hazard pictograms**

: XL1-Blue MRA E.coli Strain



XL1-Blue MRA (p2) E.coli Strain



VCS257 E. coli Strain



#### **Signal word**

: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	No signal word.
XL1-Blue MRA E.coli Strain	Warning
XL1-Blue MRA (p2) E.coli Strain	Warning
pME/Bam HI Test Insert	No signal word.
Gigapack III packaging extract	No signal word.
VCS257 E. coli Strain	Warning
Wild-Type Lambda DNA c1857ind 1 Sam7	No signal word.



## Section 2. Hazards identification

	Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Not applicable.
	XL1-Blue MRA E.coli Strain	Not applicable.
	XL1-Blue MRA (p2) E.coli Strain	Not applicable.
	pME/Bam HI Test Insert	Not applicable.
	Gigapack III packaging extract	Not applicable.
	VCS257 E. coli Strain	Not applicable.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not applicable.
<b>Supplemental label elements</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	None known.
	XL1-Blue MRA E.coli Strain	None known.
	XL1-Blue MRA (p2) E.coli Strain	None known.
	pME/Bam HI Test Insert	None known.
	Gigapack III packaging extract	None known.
	VCS257 E. coli Strain	None known.
	Wild-Type Lambda DNA c1857ind 1 Sam7	None known.

### 2.3 Other hazards

<b>Hazards not otherwise classified</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	None known.
	XL1-Blue MRA E.coli Strain	None known.
	XL1-Blue MRA (p2) E.coli Strain	None known.
	pME/Bam HI Test Insert	None known.
	Gigapack III packaging extract	None known.
	VCS257 E. coli Strain	None known.
	Wild-Type Lambda DNA c1857ind 1 Sam7	None known.

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Mixture
	XL1-Blue MRA E.coli Strain	Mixture
	XL1-Blue MRA (p2) E.coli Strain	Mixture
	pME/Bam HI Test Insert	Mixture
	Gigapack III packaging extract	Mixture
	VCS257 E. coli Strain	Mixture
	Wild-Type Lambda DNA c1857ind 1 Sam7	Mixture

Ingredient name	%	CAS number
<b>XL1-Blue MRA E.coli Strain</b>		
Glycerol	≥10 - ≤25	56-81-5
Sodium chloride	≤3	7647-14-5
<b>XL1-Blue MRA (p2) E.coli Strain</b>		
Glycerol	≥10 - ≤25	56-81-5
Sodium chloride	≤3	7647-14-5
<b>VCS257 E. coli Strain</b>		
Glycerol	≥10 - ≤25	56-81-5
Sodium chloride	≤3	7647-14-5

## Section 3. Composition/information on ingredients

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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

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

## Section 4. First aid measures

### 4.1 Description of necessary first aid measures

#### Eye contact

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated</li> </ul> | <p>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.</p>                       |
| <ul style="list-style-type: none"> <li>XL1-Blue MRA E.coli Strain</li> </ul>   | <p>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.</p> |
| <ul style="list-style-type: none"> <li>XL1-Blue MRA (p2) E.coli Strain</li> </ul>  | <p>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.</p> |
| <ul style="list-style-type: none"> <li>pME/Bam HI Test Insert</li> </ul>   | <p>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.</p>                       |
| <ul style="list-style-type: none"> <li>Gigapack III packaging extract</li> </ul>   | <p>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.</p>                       |
| <ul style="list-style-type: none"> <li>VCS257 E. coli Strain</li> </ul>  | <p>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.</p> |
| <ul style="list-style-type: none"> <li>Wild-Type Lambda DNA c1857ind 1 Sam7</li> </ul>                                       | <p>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.</p>                       |

#### Inhalation

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated</li> </ul> | <p>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</p>  |
| <ul style="list-style-type: none"> <li>XL1-Blue MRA E.coli Strain</li> </ul>   | <p>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.</p> |
| <ul style="list-style-type: none"> <li>XL1-Blue MRA (p2) E.coli Strain</li> </ul>  | <p>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</p>   |

## Section 4. First aid measures

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.

pME/Bam HI Test Insert

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

Gigapack III packaging extract

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

VCS257 E. coli Strain

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.

Wild-Type Lambda DNA c1857ind 1 Sam7

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

### Skin contact

: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated  
XL1-Blue MRA E.coli Strain

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

XL1-Blue MRA (p2) E.coli Strain

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.

pME/Bam HI Test Insert

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.

Gigapack III packaging extract

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

VCS257 E. coli Strain

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Wild-Type Lambda DNA c1857ind 1 Sam7

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.

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

## Section 4. First aid measures

### Ingestion

<p>: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated</p>	<p>Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.</p>
<p>XL1-Blue MRA E.coli Strain</p>	<p>Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention 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>XL1-Blue MRA (p2) E.coli Strain</p>	<p>Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention 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>pME/Bam HI Test Insert</p>	<p>Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.</p>
<p>Gigapack III packaging extract</p>	<p>Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.</p>
<p>VCS257 E. coli Strain</p>	<p>Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting</p>

## Section 4. First aid measures

Wild-Type Lambda DNA c1857ind  
1 Sam7

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.

Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

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

#### Potential acute health effects

<b>Eye contact</b>	<ul style="list-style-type: none"> <li>: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated</li> <li>XL1-Blue MRA E.coli Strain</li> <li>XL1-Blue MRA (p2) E.coli Strain</li> <li>pME/Bam HI Test Insert</li> <li>Gigapack III packaging extract</li> <li>VCS257 E. coli Strain</li> <li>Wild-Type Lambda DNA c1857ind</li> <li>1 Sam7</li> </ul>	<p>No known significant effects or critical hazards.</p> <p>Causes serious eye irritation.</p> <p>Causes serious eye irritation.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>Causes serious eye irritation.</p> <p>No known significant effects or critical hazards.</p>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated</li> <li>XL1-Blue MRA E.coli Strain</li> <li>XL1-Blue MRA (p2) E.coli Strain</li> <li>pME/Bam HI Test Insert</li> <li>Gigapack III packaging extract</li> <li>VCS257 E. coli Strain</li> <li>Wild-Type Lambda DNA c1857ind</li> <li>1 Sam7</li> </ul>	<p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p>
<b>Skin contact</b>	<ul style="list-style-type: none"> <li>: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated</li> <li>XL1-Blue MRA E.coli Strain</li> <li>XL1-Blue MRA (p2) E.coli Strain</li> <li>pME/Bam HI Test Insert</li> <li>Gigapack III packaging extract</li> <li>VCS257 E. coli Strain</li> <li>Wild-Type Lambda DNA c1857ind</li> <li>1 Sam7</li> </ul>	<p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated</li> <li>XL1-Blue MRA E.coli Strain</li> <li>XL1-Blue MRA (p2) E.coli Strain</li> <li>pME/Bam HI Test Insert</li> <li>Gigapack III packaging extract</li> </ul>	<p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p>

## Section 4. First aid measures

VCS257 E. coli Strain No known significant effects or critical hazards.  
 Wild-Type Lambda DNA c1857ind No known significant effects or critical hazards.  
 1 Sam7

### Over-exposure signs/symptoms

#### Eye contact

: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain No specific data.  
 Adverse symptoms may include the following:  
 pain or irritation  
 watering  
 redness  
 XL1-Blue MRA (p2) E.coli Strain Adverse symptoms may include the following:  
 pain or irritation  
 watering  
 redness  
 pME/Bam HI Test Insert No specific data.  
 Gigapack III packaging extract No specific data.  
 VCS257 E. coli Strain Adverse symptoms may include the following:  
 pain or irritation  
 watering  
 redness  
 Wild-Type Lambda DNA c1857ind No specific data.  
 1 Sam7

#### Inhalation

: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain No specific data.  
 XL1-Blue MRA (p2) E.coli Strain No specific data.  
 pME/Bam HI Test Insert No specific data.  
 Gigapack III packaging extract No specific data.  
 VCS257 E. coli Strain No specific data.  
 Wild-Type Lambda DNA c1857ind No specific data.  
 1 Sam7

#### Skin contact

: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain No specific data.  
 XL1-Blue MRA (p2) E.coli Strain No specific data.  
 pME/Bam HI Test Insert No specific data.  
 Gigapack III packaging extract No specific data.  
 VCS257 E. coli Strain No specific data.  
 Wild-Type Lambda DNA c1857ind No specific data.  
 1 Sam7

#### Ingestion

: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain No specific data.  
 XL1-Blue MRA (p2) E.coli Strain No specific data.  
 pME/Bam HI Test Insert No specific data.  
 Gigapack III packaging extract No specific data.  
 VCS257 E. coli Strain No specific data.  
 Wild-Type Lambda DNA c1857ind No specific data.  
 1 Sam7

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

## Section 4. First aid measures

<b>Notes to physician</b>	<p>: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain</p> <p>XL1-Blue MRA (p2) E.coli Strain</p> <p>pME/Bam HI Test Insert</p> <p>Gigapack III packaging extract</p> <p>VCS257 E. coli Strain</p> <p>Wild-Type Lambda DNA c1857ind 1 Sam7</p>	<p>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</p> <p>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</p> <p>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</p> <p>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</p> <p>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</p> <p>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</p>
<b>Specific treatments</b>	<p>: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7</p>	<p>No specific treatment.</p> <p>No specific treatment.</p> <p>No specific treatment.</p> <p>No specific treatment.</p> <p>No specific treatment.</p> <p>No specific treatment.</p>
<b>Protection of first-aiders</b>	<p>: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain</p> <p>XL1-Blue MRA (p2) E.coli Strain</p> <p>pME/Bam HI Test Insert</p> <p>Gigapack III packaging extract</p> <p>VCS257 E. coli Strain</p> <p>Wild-Type Lambda DNA c1857ind 1 Sam7</p>	<p>No action shall be taken involving any personal risk or without suitable training.</p> <p>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.</p> <p>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.</p> <p>No action shall be taken involving any personal risk or without suitable training.</p> <p>No action shall be taken involving any personal risk or without suitable training.</p> <p>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.</p> <p>No action shall be taken involving any personal risk or without suitable training.</p>

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain  XL1-Blue MRA (p2) E.coli Strain  pME/Bam HI Test Insert  Gigapack III packaging extract  VCS257 E. coli Strain  Wild-Type Lambda DNA c1857ind 1 Sam7	Use an extinguishing agent suitable for the surrounding fire.  Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	None known.  None known. None known. None known. None known. None known.

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

<b>Specific hazards arising from the chemical</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain  XL1-Blue MRA (p2) E.coli Strain  pME/Bam HI Test Insert  Gigapack III packaging extract  VCS257 E. coli Strain  Wild-Type Lambda DNA c1857ind 1 Sam7	In a fire or if heated, a pressure increase will occur and the container may burst.  In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous thermal decomposition products</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain          XL1-Blue MRA (p2) E.coli Strain	No specific data.          Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds

## Section 5. Fire-fighting measures

pME/Bam HI Test Insert Gigapack III packaging extract	metal oxide/oxides No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide
VCS257 E. coli Strain	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
Wild-Type Lambda DNA c1857ind 1 Sam7	No specific data.

### 5.3 Advice for firefighters

#### Special protective actions for fire-fighters

: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	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.
XL1-Blue MRA E.coli Strain	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.
XL1-Blue MRA (p2) E.coli Strain	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.
pME/Bam HI Test Insert	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.
Gigapack III packaging extract	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.
VCS257 E. coli Strain	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.
Wild-Type Lambda DNA c1857ind 1 Sam7	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

#### Special protective equipment for fire-fighters

: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
XL1-Blue MRA E.coli Strain	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
XL1-Blue MRA (p2) E.coli Strain	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
pME/Bam HI Test Insert	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus

## Section 5. Fire-fighting measures

Gigapack III packaging extract	(SCBA) with a full face-piece operated in positive pressure mode. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
VCS257 E. coli Strain	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Wild-Type Lambda DNA c1857ind 1 Sam7	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>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	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.
	XL1-Blue MRA E.coli Strain	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.
	XL1-Blue MRA (p2) E.coli Strain	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.
	pME/Bam HI Test Insert	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.
	Gigapack III packaging extract	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.
	VCS257 E. coli Strain	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

## Section 6. Accidental release measures

	<p>Wild-Type Lambda DNA c1857ind 1 Sam7</p>	<p>breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.</p> <p>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.</p>
<p><b>For emergency responders :</b></p>	<p>Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated</p> <p>XL1-Blue MRA E.coli Strain</p> <p>XL1-Blue MRA (p2) E.coli Strain</p> <p>pME/Bam HI Test Insert</p> <p>Gigapack III packaging extract</p> <p>VCS257 E. coli Strain</p> <p>Wild-Type Lambda DNA c1857ind 1 Sam7</p>	<p>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".</p> <p>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".</p> <p>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".</p> <p>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".</p> <p>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".</p> <p>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".</p>
<p><b>6.2 Environmental precautions</b></p>	<p>Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated</p> <p>XL1-Blue MRA E.coli Strain</p> <p>XL1-Blue MRA (p2) E.coli Strain</p> <p>pME/Bam HI Test Insert</p>	<p>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).</p> <p>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).</p> <p>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).</p> <p>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).</p>

## Section 6. Accidental release measures

Gigapack III packaging extract	waterways, soil or air). 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).
VCS257 E. coli Strain	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).
Wild-Type Lambda DNA c1857ind 1 Sam7	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).

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

<b>Methods for cleaning up</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	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.
	XL1-Blue MRA E.coli Strain	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.
	XL1-Blue MRA (p2) E.coli Strain	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.
	pME/Bam HI Test Insert	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.
	Gigapack III packaging extract	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.
	VCS257 E. coli Strain	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.
	Wild-Type Lambda DNA c1857ind 1 Sam7	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.

## Section 6. Accidental release measures

disposal container. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

### 7.1 Precautions for safe handling

#### Protective measures

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated</li> <li>XL1-Blue MRA E.coli Strain</li> </ul> | <p>Put on appropriate personal protective equipment (see Section 8).</p> <p>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.</p> |
| <ul style="list-style-type: none"> <li>XL1-Blue MRA (p2) E.coli Strain</li> </ul>  | <p>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.</p>  |
| <ul style="list-style-type: none"> <li>pME/Bam HI Test Insert</li> </ul>   | <p>Put on appropriate personal protective equipment (see Section 8).</p>  |
| <ul style="list-style-type: none"> <li>Gigapack III packaging extract</li> </ul>   | <p>Put on appropriate personal protective equipment (see Section 8).</p>  |
| <ul style="list-style-type: none"> <li>VCS257 E. coli Strain</li> </ul>  | <p>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.</p>  |
| <ul style="list-style-type: none"> <li>Wild-Type Lambda DNA c1857ind 1 Sam7</li> </ul>   | <p>Put on appropriate personal protective equipment (see Section 8).</p>  |

#### Advice on general occupational hygiene

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated</li> </ul> | <p>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.</p>                                    |
| <ul style="list-style-type: none"> <li>XL1-Blue MRA E.coli Strain</li> </ul>   | <p>Potentially biohazardous material. 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.</p> |
| <ul style="list-style-type: none"> <li>XL1-Blue MRA (p2) E.coli Strain</li> </ul>  | <p>Potentially biohazardous material. 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</p>  |

## Section 7. Handling and storage

pME/Bam HI Test Insert	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.
Gigapack III packaging extract	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.
VCS257 E. coli Strain	Potentially biohazardous material. 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.
Wild-Type Lambda DNA c1857ind 1 Sam7	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

: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	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.
XL1-Blue MRA E.coli Strain	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.
XL1-Blue MRA (p2) E.coli Strain	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from

## Section 7. Handling and storage

pME/Bam HI Test Insert	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. 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.
Gigapack III packaging extract	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.
VCS257 E. coli Strain	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.
Wild-Type Lambda DNA c1857ind 1 Sam7	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.

### [7.3 Specific end use\(s\)](#)

## Section 7. Handling and storage

<b>Recommendations</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Industrial applications, Professional applications.  Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications.
<b>Industrial sector specific solutions</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Not applicable.  Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.

## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
<p><b>XL1-Blue MRA E.coli Strain</b> Glycerol</p> <p>Sodium chloride</p> <p><b>XL1-Blue MRA (p2) E.coli Strain</b> Glycerol</p> <p>Sodium chloride</p> <p><b>VCS257 E. coli Strain</b> Glycerol</p>	<p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction TWA: 10 mg/m<sup>3</sup> 8 hours. Form: Total dust</p> <p><b>OSHA PEL (United States, 5/2018).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction TWA: 15 mg/m<sup>3</sup> 8 hours. Form: Total dust</p> <p>None.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction TWA: 10 mg/m<sup>3</sup> 8 hours. Form: Total dust</p> <p><b>OSHA PEL (United States, 5/2018).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction TWA: 15 mg/m<sup>3</sup> 8 hours. Form: Total dust</p> <p>None.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction TWA: 10 mg/m<sup>3</sup> 8 hours. Form: Total dust</p> <p><b>OSHA PEL (United States, 5/2018).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction TWA: 15 mg/m<sup>3</sup> 8 hours. Form: Total dust</p>

## Section 8. Exposure controls/personal protection

Sodium chloride	None.
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### 8.2 Exposure controls

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- 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** : Handle as biohazard material (Biosafety level 1). 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.
- 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

### 9.1 Information on basic physical and chemical properties

#### Appearance

- Physical state**
- |  |         |
|--|---------|
| Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated | Liquid. |
| XL1-Blue MRA E.coli Strain   | Liquid. |
| XL1-Blue MRA (p2) E.coli Strain  | Liquid. |
| pME/Bam HI Test Insert   | Liquid. |
| Gigapack III packaging extract   | Liquid. |
| VCS257 E. coli Strain  | Liquid. |
| Wild-Type Lambda DNA c1857ind 1 Sam7                                     | Liquid. |

## Section 9. Physical and chemical properties

<b>Color</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.  Not available. Not available. Not available. Not available. Not available.
<b>Odor</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.  Not available. Not available. Not available. Not available. Not available.
<b>Odor threshold</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.  Not available. Not available. Not available. Not available. Not available.
<b>pH</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	7.5  7 7 7.5 8 7 7
<b>Melting point</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	0°C (32°F)  Not available. Not available. 0°C (32°F) Not available. Not available. 0°C (32°F)
<b>Boiling point</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain	100°C (212°F)  Not available. Not available. 100°C (212°F) Not available. Not available.

## Section 9. Physical and chemical properties

	Wild-Type Lambda DNA c1857ind 1 Sam7	100°C (212°F)
<b>Flash point</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Not available. Not available. Not available. Not available. Not available. Not available.
<b>Evaporation rate</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Not available. Not available. Not available. Not available. Not available. Not available.
<b>Flammability (solid, gas)</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<b>Lower and upper explosive (flammable) limits</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Not available. Not available. Not available. Not available. Not available. Not available.
<b>Vapor pressure</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Not available. Not available. Not available. Not available. Not available. Not available.
<b>Vapor density</b>	:	

## Section 9. Physical and chemical properties

	Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Not available.
	XL1-Blue MRA E.coli Strain	Not available.
	XL1-Blue MRA (p2) E.coli Strain	Not available.
	pME/Bam HI Test Insert	Not available.
	Gigapack III packaging extract	Not available.
	VCS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
<b>Relative density</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Not available.
	XL1-Blue MRA E.coli Strain	Not available.
	XL1-Blue MRA (p2) E.coli Strain	Not available.
	pME/Bam HI Test Insert	Not available.
	Gigapack III packaging extract	Not available.
	VCS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
<b>Solubility</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Easily soluble in the following materials: cold water and hot water.
	XL1-Blue MRA E.coli Strain	Soluble in the following materials: cold water and hot water.
	XL1-Blue MRA (p2) E.coli Strain	Soluble in the following materials: cold water and hot water.
	pME/Bam HI Test Insert	Easily soluble in the following materials: cold water and hot water.
	Gigapack III packaging extract	Easily soluble in the following materials: cold water and hot water.
	VCS257 E. coli Strain	Easily soluble in the following materials: cold water and hot water.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Easily soluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Not available.
	XL1-Blue MRA E.coli Strain	Not available.
	XL1-Blue MRA (p2) E.coli Strain	Not available.
	pME/Bam HI Test Insert	Not available.
	Gigapack III packaging extract	Not available.
	VCS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
<b>Auto-ignition temperature</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Not available.
	XL1-Blue MRA E.coli Strain	Not available.
	XL1-Blue MRA (p2) E.coli Strain	Not available.
	pME/Bam HI Test Insert	Not available.
	Gigapack III packaging extract	Not available.
	VCS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.

## Section 9. Physical and chemical properties

<b>Decomposition temperature</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Not available. Not available. Not available. Not available. Not available. Not available.
<b>Viscosity</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Not available. Not available. Not available. Not available. Not available. Not available.

## Section 10. Stability and reactivity

<b>10.1 Reactivity</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain  XL1-Blue MRA (p2) E.coli Strain  pME/Bam HI Test Insert  Gigapack III packaging extract  VCS257 E. coli Strain  Wild-Type Lambda DNA c1857ind 1 Sam7	No specific test data related to reactivity available for this product or its ingredients.  No specific test data related to reactivity available for this product or its ingredients.  No specific test data related to reactivity available for this product or its ingredients.  No specific test data related to reactivity available for this product or its ingredients.  No specific test data related to reactivity available for this product or its ingredients.  No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	The product is stable.  The product is stable. The product is stable. The product is stable. The product is stable. The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain  XL1-Blue MRA (p2) E.coli Strain  pME/Bam HI Test Insert	Under normal conditions of storage and use, hazardous reactions will not occur.  Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use,

## Section 10. Stability and reactivity

Gigapack III packaging extract	hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
VCS257 E. coli Strain	Under normal conditions of storage and use, hazardous reactions will not occur.
Wild-Type Lambda DNA c1857ind 1 Sam7	Under normal conditions of storage and use, hazardous reactions will not occur.

<b>10.4 Conditions to avoid</b>	:	Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	No specific data.
		XL1-Blue MRA E.coli Strain	No specific data.
		XL1-Blue MRA (p2) E.coli Strain	No specific data.
		pME/Bam HI Test Insert	No specific data.
		Gigapack III packaging extract	No specific data.
		VCS257 E. coli Strain	No specific data.
		Wild-Type Lambda DNA c1857ind 1 Sam7	No specific data.

<b>10.5 Incompatible materials</b>	:	Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	May react or be incompatible with oxidizing materials.
		XL1-Blue MRA E.coli Strain	May react or be incompatible with oxidizing materials.
		XL1-Blue MRA (p2) E.coli Strain	May react or be incompatible with oxidizing materials.
		pME/Bam HI Test Insert	May react or be incompatible with oxidizing materials.
		Gigapack III packaging extract	May react or be incompatible with oxidizing materials.
		VCS257 E. coli Strain	May react or be incompatible with oxidizing materials.
		Wild-Type Lambda DNA c1857ind 1 Sam7	May react or be incompatible with oxidizing materials.

<b>10.6 Hazardous decomposition products</b>	:	Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		XL1-Blue MRA E.coli Strain	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		XL1-Blue MRA (p2) E.coli Strain	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		pME/Bam HI Test Insert	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		Gigapack III packaging extract	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		VCS257 E. coli Strain	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		Wild-Type Lambda DNA c1857ind 1 Sam7	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>XL1-Blue MRA E.coli Strain</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
<b>XL1-Blue MRA (p2) E.coli Strain</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
<b>VCS257 E. coli Strain</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation	
<input checked="" type="checkbox"/> <b>XL1-Blue MRA E.coli Strain</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-	
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-	
	Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
		Eyes - Moderate irritant Skin - Mild irritant	Rabbit Rabbit	- -	10 mg 24 hours 500 mg	- -
<b>XL1-Blue MRA (p2) E.coli Strain</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-	
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-	
	Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
		Eyes - Moderate irritant Skin - Mild irritant	Rabbit Rabbit	- -	10 mg 24 hours 500 mg	- -
<b>VCS257 E. coli Strain</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-	
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-	
	Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
		Eyes - Moderate irritant Skin - Mild irritant	Rabbit Rabbit	- -	10 mg 24 hours 500 mg	- -

#### Sensitization

Not available.

#### Mutagenicity

**Conclusion/Summary** : Not available.

## Section 11. Toxicological information

### Carcinogenicity

**Conclusion/Summary** : Not available.

### Reproductive toxicity

**Conclusion/Summary** : Not available.

### Teratogenicity

**Conclusion/Summary** : Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

<b>Information on the likely routes of exposure</b>	<p>: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain</p> <p>XL1-Blue MRA (p2) E.coli Strain</p> <p>pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain</p> <p>Wild-Type Lambda DNA c1857ind 1 Sam7</p>	<p>Not available.</p> <p>Routes of entry anticipated: Oral, Dermal, Inhalation.</p> <p>Routes of entry anticipated: Oral, Dermal, Inhalation.</p> <p>Not available.</p> <p>Not available.</p> <p>Routes of entry anticipated: Oral, Dermal, Inhalation.</p> <p>Not available.</p>
<b><u>Potential acute health effects</u></b>		
<b>Eye contact</b>	<p>: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7</p>	<p>No known significant effects or critical hazards.</p> <p>Causes serious eye irritation.</p> <p>Causes serious eye irritation.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>Causes serious eye irritation.</p> <p>No known significant effects or critical hazards.</p>
<b>Inhalation</b>	<p>: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7</p>	<p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p>

## Section 11. Toxicological information

<b>Skin contact</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	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. No known significant effects or critical hazards.
<b>Ingestion</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	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. No known significant effects or critical hazards.

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

<b>Eye contact</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain  XL1-Blue MRA (p2) E.coli Strain  pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain  Wild-Type Lambda DNA c1857ind 1 Sam7	No specific data.  Adverse symptoms may include the following: pain or irritation watering redness Adverse symptoms may include the following: pain or irritation watering redness No specific data. No specific data. Adverse symptoms may include the following: pain or irritation watering redness No specific data.
<b>Inhalation</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No specific data.  No specific data. No specific data. No specific data. No specific data. No specific data.

## Section 11. Toxicological information

<b>Skin contact</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
<b>Ingestion</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No specific data. No specific data. No specific data. No specific data. No specific data. 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>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	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. No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	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. No known significant effects or critical hazards.

## Section 11. Toxicological information

<b>Mutagenicity</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	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. No known significant effects or critical hazards.
<b>Teratogenicity</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	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. No known significant effects or critical hazards.
<b>Developmental effects</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	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. No known significant effects or critical hazards.
<b>Fertility effects</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	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. No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
<b>XL1-Blue MRA E.coli Strain</b>					
XL1-Blue MRA E.coli Strain	300000	N/A	N/A	N/A	N/A
Glycerol	12600	N/A	N/A	N/A	N/A
Sodium chloride	3000	N/A	N/A	N/A	N/A
<b>XL1-Blue MRA (p2) E.coli Strain</b>					
XL1-Blue MRA (p2) E.coli Strain	300000	N/A	N/A	N/A	N/A
Glycerol	12600	N/A	N/A	N/A	N/A
Sodium chloride	3000	N/A	N/A	N/A	N/A

## Section 11. Toxicological information

<b>VCS257 E. coli Strain</b>					
VCS257 E. coli Strain	300000	N/A	N/A	N/A	N/A
Glycerol	12600	N/A	N/A	N/A	N/A
Sodium chloride	3000	N/A	N/A	N/A	N/A

## Section 12. Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<b>XL1-Blue MRA E.coli Strain</b>			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Sodium chloride	Acute EC50 4.74 g/L Fresh water	Algae - Chlamydomonas reinhardtii	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks
<b>XL1-Blue MRA (p2) E.coli Strain</b>			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Sodium chloride	Acute EC50 4.74 g/L Fresh water	Algae - Chlamydomonas reinhardtii	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks
<b>VCS257 E. coli Strain</b>			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Sodium chloride	Acute EC50 4.74 g/L Fresh water	Algae - Chlamydomonas reinhardtii	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks

### 12.2 Persistence and degradability

## Section 12. Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
<b>XL1-Blue MRA E.coli Strain</b> Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
<b>XL1-Blue MRA (p2) E.coli Strain</b> Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
<b>VCS257 E. coli Strain</b> Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>XL1-Blue MRA E.coli Strain</b> Glycerol	-1.76	-	low
<b>XL1-Blue MRA (p2) E.coli Strain</b> Glycerol	-1.76	-	low
<b>VCS257 E. coli Strain</b> Glycerol	-1.76	-	low

### 12.4 Mobility in soil

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

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

## Section 13. Disposal considerations

### 13.1 Waste treatment methods

**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. 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 13. Disposal considerations

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## Section 14. Transport information

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

**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

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

**U.S. Federal regulations** : TSCA 8(a) CDR Exempt/Partial exemption: Not determined  
Clean Water Act (CWA) 311: Edetic acid

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 302/304

#### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

## Section 15. Regulatory information

<b>Classification</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Not applicable.
	XL1-Blue MRA E.coli Strain	EYE IRRITATION - Category 2A
	XL1-Blue MRA (p2) E.coli Strain	EYE IRRITATION - Category 2A
	pME/Bam HI Test Insert	Not applicable.
	Gigapack III packaging extract	Not applicable.
	VCS257 E. coli Strain	EYE IRRITATION - Category 2A
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not applicable.

### Composition/information on ingredients

Name	%	Classification
<b>XL1-Blue MRA E.coli Strain</b>		
Glycerol	≥10 - ≤25	EYE IRRITATION - Category 2B
Sodium chloride	≤3	EYE IRRITATION - Category 2A
<b>XL1-Blue MRA (p2) E.coli Strain</b>		
Glycerol	≥10 - ≤25	EYE IRRITATION - Category 2B
Sodium chloride	≤3	EYE IRRITATION - Category 2A
<b>Gigapack III packaging extract</b>		
Sucrose	≤10	COMBUSTIBLE DUSTS
<b>VCS257 E. coli Strain</b>		
Glycerol	≥10 - ≤25	EYE IRRITATION - Category 2B
Sodium chloride	≤3	EYE IRRITATION - Category 2A

### State regulations

<b>Massachusetts</b>	: The following components are listed: GLYCERINE MIST; SUCROSE DUST
<b>New York</b>	: None of the components are listed.
<b>New Jersey</b>	: The following components are listed: GLYCERIN; 1,2,3-PROPANETRIOL
<b>Pennsylvania</b>	: The following components are listed: 1,2,3-PROPANETRIOL; .ALPHA.-D-GLUCOPYRANOSIDE, .BETA.-D-FRUCTOFURANOSYL

### California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

### 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

<b>Australia</b>	: Not determined.
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## Section 15. Regulatory information

<b>Canada</b>	: At least one component is not listed in DSL but all such components are listed in NDSL.
<b>China</b>	: Not determined.
<b>Europe</b>	: All components are listed or exempted.
<b>Japan</b>	: <b>Japan inventory (ENCS)</b> : Not determined. <b>Japan inventory (ISHL)</b> : Not determined.
<b>New Zealand</b>	: All components are listed or exempted.
<b>Philippines</b>	: Not determined.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: <input checked="" type="checkbox"/> All components are active or exempted.
<b>Viet Nam</b>	: Not determined.

## Section 16. Other information

### History

<b>Date of issue</b>	: 05/27/2020
<b>Date of previous issue</b>	: 02/21/2018
<b>Version</b>	: 6

### Key to abbreviations

: ATE = Acute Toxicity Estimate
: BCF = Bioconcentration Factor
: GHS = Globally Harmonized System of Classification and Labelling of Chemicals
: 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
<input checked="" type="checkbox"/> <b>XL1-Blue MRA E.coli Strain</b> EYE IRRITATION - Category 2A	Calculation method
<b>XL1-Blue MRA (p2) E.coli Strain</b> EYE IRRITATION - Category 2A	Calculation method
<b>VCS257 E. coli Strain</b> EYE IRRITATION - Category 2A	Calculation method

Indicates information that has changed from previously issued version.

### Notice to reader

**Disclaimer:** The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.