

# SAFETY DATA SHEET



Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612

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

### 1.1 Product identifier

<b>Product name</b>	: Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612		
<b>Part no. (chemical kit)</b>	: 241612		
<b>Part no.</b>	: XL1-Blue MRA E.coli Strain	200302-81	
	: XL1-Blue MRA (p2) E. coli Strain	200303-81	
	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	241211-51	
	: 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	

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

<b>Material uses</b>	: Analytical reagent.		
	<input checked="" type="checkbox"/> XL1-Blue MRA E.coli Strain	0.5 ml	
	: XL1-Blue MRA (p2) E.coli Strain	0.5 ml	
	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	0.01 ml (10 µg 1 µg/µl)	
	: pME/Bam HI Test Insert	0.01 ml (2.5 µg 0.25 µg/µl)	
	: Gigapack III packaging extract	0.275 ml (11 x 0.025 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

Agilent Technologies Manufacturing GmbH & Co. KG  
Hewlett-Packard-Str. 8  
76337 Waldbronn  
Germany  
0800 603 1000

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

### 1.4 Emergency telephone number

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

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

<b>Product definition</b>	:	<input checked="" type="checkbox"/> XL1-Blue MRA E.coli Strain	Mixture
		XL1-Blue MRA (p2) E. coli Strain	Mixture
		Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	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

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

Not classified.

<b>Ingredients of unknown toxicity</b>	:	<input checked="" type="checkbox"/> XL1-Blue MRA E.coli Strain	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30%
		XL1-Blue MRA (p2) E.coli Strain	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30%
		Gigapack III packaging extract	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
		VCS257 E. coli Strain	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30%

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

<b>Signal word</b>	:	<input checked="" type="checkbox"/> XL1-Blue MRA E.coli Strain	No signal word.
		XL1-Blue MRA (p2) E. coli Strain	No signal word.
		Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	No signal word.
		pME/Bam HI Test Insert	No signal word.
		Gigapack III packaging extract	No signal word.
		VCS257 E. coli Strain	No signal word.
		Wild-Type Lambda DNA c1857ind 1 Sam7	No signal word.
<b>Hazard statements</b>	:	<input checked="" type="checkbox"/> XL1-Blue MRA E.coli Strain	No known significant effects or critical hazards.
		XL1-Blue MRA (p2) E. coli Strain	No known significant effects or critical hazards.
		Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	No known significant effects or critical hazards.
		pME/Bam HI Test Insert	No known significant effects or critical hazards.
		Gigapack III packaging extract	No known significant effects or critical hazards.
		VCS257 E. coli Strain	No known significant effects or critical hazards.
		Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.

Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612

## SECTION 2: Hazards identification

### Precautionary statements

<b>Prevention</b>	: <input checked="" type="checkbox"/> XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E. coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated 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. Not applicable.
<b>Response</b>	: <input checked="" type="checkbox"/> XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E. coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated 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>Storage</b>	: <input checked="" type="checkbox"/> XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E. coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated 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>Disposal</b>	: <input checked="" type="checkbox"/> XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E. coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated 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.

**Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612**

**SECTION 2: Hazards identification**

<b>Hazardous ingredients</b>	: <input checked="" type="checkbox"/> XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E. coli Strain VCS257 E. coli Strain	Not applicable. Not applicable. Not applicable.
<b>Supplemental label elements</b>	: XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E. coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Safety data sheet available on request. Safety data sheet available on request. Not applicable. Not applicable. Safety data sheet available on request. Not applicable.
<b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>	: XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E. coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated 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><u>Special packaging requirements</u></b>		
<b>Tactile warning of danger</b>	: XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E. coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated 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>2.3 Other hazards</b>		
<b>Other hazards which do not result in classification</b>	: XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E. coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert Gigapack III packaging	None known. None known. None known. None known. None known.

Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612

## SECTION 2: Hazards identification

extract  
 VCS257 E. coli Strain None known.  
 Wild-Type Lambda DNA None known.  
 c1857ind 1 Sam7

## SECTION 3: Composition/information on ingredients

<b>3.1 Substances</b>	:	<input checked="" type="checkbox"/> XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Mixture Mixture Mixture  Mixture Mixture Mixture Mixture
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Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
<input checked="" type="checkbox"/> XL1-Blue MRA E.coli Strain				
Glycerol	REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥10 - ≤25	Not classified.	[2]
Sodium chloride	EC: 231-598-3 CAS: 7647-14-5	≤3	Eye Irrit. 2, H319	[1]
<b>XL1-Blue MRA (p2) E.coli Strain</b>				
Glycerol	REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥10 - ≤25	Not classified.	[2]
Sodium chloride	EC: 231-598-3 CAS: 7647-14-5	≤3	Eye Irrit. 2, H319	[1]
<b>Gigapack III packaging extract</b>				
Sucrose	REACH #: Annex IV EC: 200-334-9 CAS: 57-50-1	≤10	Not classified.	[2]
<b>VCS257 E. coli Strain</b>				
Glycerol	REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥10 - ≤25	Not classified.	[2]
Sodium chloride	EC: 231-598-3 CAS: 7647-14-5	≤3	Eye Irrit. 2, H319	[1]
			<b>See Section 16 for the full text of the H statements declared above.</b>	

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.

### Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

<b>Eye contact</b>	: XL1-Blue MRA E.coli Strain	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.
	XL1-Blue MRA (p2) E. coli Strain	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.
	Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert	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.
	Gigapack III packaging extract	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.
	VCS257 E. coli Strain	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.
	Wild-Type Lambda DNA c1857ind 1 Sam7	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.
	<b>Inhalation</b>	: XL1-Blue MRA E.coli Strain
XL1-Blue MRA (p2) E. coli Strain		Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated 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. Get medical attention if symptoms occur.
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.
<b>Skin contact</b>		: XL1-Blue MRA E.coli Strain
	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.
	Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Gigapack III packaging extract	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

**Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612**

**SECTION 4: First aid measures**

	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.
<b>Ingestion</b>	: XL1-Blue MRA E.coli Strain	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.
	XL1-Blue MRA (p2) E. coli Strain	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.
	Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	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.
	pME/Bam HI Test Insert	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.
	Gigapack III packaging extract	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.
	VCS257 E. coli Strain	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.
	Wild-Type Lambda DNA c1857ind 1 Sam7	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.
<b>Protection of first-aiders</b>	: XL1-Blue MRA E.coli Strain	No action shall be taken involving any personal risk or without suitable training.
	XL1-Blue MRA (p2) E. coli Strain	No action shall be taken involving any personal risk or without suitable training.
	Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	No action shall be taken involving any personal risk or without suitable training.
	pME/Bam HI Test Insert	No action shall be taken involving any personal risk or without suitable training.
	Gigapack III packaging extract	No action shall be taken involving any personal risk or without suitable training.
	VCS257 E. coli Strain	No action shall be taken involving any personal risk or

**Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612**

**SECTION 4: First aid measures**

Wild-Type Lambda DNA c1857ind 1 Sam7	without suitable training. No action shall be taken involving any personal risk or without suitable training.
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**4.2 Most important symptoms and effects, both acute and delayed**

**Potential acute health effects**

<b>Eye contact</b>	: XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E. coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated 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. No known significant effects or critical hazards.
<b>Inhalation</b>	: XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E. coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated 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. No known significant effects or critical hazards.
<b>Skin contact</b>	: XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E. coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated 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. No known significant effects or critical hazards.
<b>Ingestion</b>	: XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E. coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain	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.



**Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612**

**SECTION 4: First aid measures**

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

**Over-exposure signs/symptoms**

- Eye contact** : XL1-Blue MRA E.coli Strain No specific data.  
 XL1-Blue MRA (p2) E. coli Strain No specific data.  
 Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated No specific data.  
 pME/Bam HI Test Insert Gigapack III packaging extract No specific data.  
 VCS257 E. coli Strain No specific data.  
 Wild-Type Lambda DNA c1857ind 1 Sam7 No specific data.
- Inhalation** : XL1-Blue MRA E.coli Strain No specific data.  
 XL1-Blue MRA (p2) E. coli Strain No specific data.  
 Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated No specific data.  
 pME/Bam HI Test Insert Gigapack III packaging extract No specific data.  
 VCS257 E. coli Strain No specific data.  
 Wild-Type Lambda DNA c1857ind 1 Sam7 No specific data.
- Skin contact** : XL1-Blue MRA E.coli Strain No specific data.  
 XL1-Blue MRA (p2) E. coli Strain No specific data.  
 Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated No specific data.  
 pME/Bam HI Test Insert Gigapack III packaging extract No specific data.  
 VCS257 E. coli Strain No specific data.  
 Wild-Type Lambda DNA c1857ind 1 Sam7 No specific data.
- Ingestion** : XL1-Blue MRA E.coli Strain No specific data.  
 XL1-Blue MRA (p2) E. coli Strain No specific data.  
 Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated No specific data.  
 pME/Bam HI Test Insert Gigapack III packaging extract No specific data.  
 VCS257 E. coli Strain No specific data.  
 Wild-Type Lambda DNA c1857ind 1 Sam7 No specific data.

**Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612**

**SECTION 4: First aid measures**

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

<b>Notes to physician</b>	: XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E. coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert  Gigapack III packaging extract VCS257 E. coli Strain  Wild-Type Lambda DNA c1857ind 1 Sam7	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.  Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	: XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E. coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment.

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

<b>Suitable extinguishing media</b>	: XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E. coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated 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>	: XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E. coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain	None known. None known. None known.  None known. None known. None known.

**Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612**

**SECTION 5: Firefighting measures**

Wild-Type Lambda DNA c1857ind 1 Sam7 None known.

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

<b>Hazards from the substance or mixture</b>	: XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E. coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated 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 combustion products</b>	: XL1-Blue MRA E.coli Strain  XL1-Blue MRA (p2) E. coli Strain  Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert Gigapack III packaging extract  VCS257 E. coli Strain  Wild-Type Lambda DNA c1857ind 1 Sam7	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 metal oxide/oxides  No specific data.  No specific data. Decomposition products may include the following materials:  carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides  No specific data.

**5.3 Advice for firefighters**

<b>Special precautions for fire-fighters</b>	: XL1-Blue MRA E.coli Strain  XL1-Blue MRA (p2) E. coli Strain  Lambda EMBL3 Vector Double Digested With EcoR I And BamH 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. 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. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
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**Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612**

**SECTION 5: Firefighting measures**

**Special protective equipment for fire-fighters**

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.
: 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
Lambda EMBL3 Vector Double Digested With EcoR I And BamH 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
pME/Bam HI Test Insert	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
Gigapack III packaging extract	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

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

<b>For non-emergency personnel</b>	: 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 spilt material. 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 spilt material. Put on appropriate personal protective equipment.
	Lambda EMBL3 Vector Double Digested With EcoR I And BamH 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 spilt material. 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 spilt 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 spilt 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 spilt material. Put on appropriate personal protective equipment.
	Wild-Type Lambda DNA c1857ind 1 Sam7	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	: XL1-Blue MRA E.coli Strain	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	XL1-Blue MRA (p2) E. coli Strain	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	pME/Bam HI Test Insert	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Gigapack III packaging extract	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	VCS257 E. coli Strain	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Wild-Type Lambda DNA	If specialised clothing is required to deal with the spillage,

**Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612**

**SECTION 6: Accidental release measures**

c1857ind 1 Sam7 take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**6.2 Environmental precautions**

- : XL1-Blue MRA E.coli Strain Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- XL1-Blue MRA (p2) E. coli Strain Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- pME/Bam HI Test Insert Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Gigapack III packaging extract Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- VCS257 E. coli Strain Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Wild-Type Lambda DNA c1857ind 1 Sam7 Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

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

**Methods for cleaning up**

- : 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.
- Lambda EMBL3 Vector Double Digested With EcoR I And BamH 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.
- 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,

**Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612**

**SECTION 6: Accidental release measures**

Wild-Type Lambda DNA  
c1857ind 1 Sam7

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

**6.4 Reference to other sections**

: See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

**Protective measures**

: XL1-Blue MRA E.coli Strain Put on appropriate personal protective equipment (see Section 8).  
XL1-Blue MRA (p2) E. coli Strain Put on appropriate personal protective equipment (see Section 8).  
Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated Put on appropriate personal protective equipment (see Section 8).  
pME/Bam HI Test Insert Put on appropriate personal protective equipment (see Section 8).  
Gigapack III packaging extract Put on appropriate personal protective equipment (see Section 8).  
VCS257 E. coli Strain Put on appropriate personal protective equipment (see Section 8).  
Wild-Type Lambda DNA c1857ind 1 Sam7 Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene**

: XL1-Blue MRA 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.  
XL1-Blue MRA (p2) 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.  
Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated 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.  
pME/Bam HI Test Insert 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,

**Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612**

**SECTION 7: Handling and storage**

VCS257 E. coli Strain	drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. 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**

**Storage**

: <input checked="" type="checkbox"/> 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 unlabelled 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 incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
Lambda EMBL3 Vector Double Digested With EcoR I And BamH 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
pME/Bam HI Test Insert	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
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 7: Handling and storage

VCS257 E. coli Strain	Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### 7.3 Specific end use(s)

#### Recommendations

: XL1-Blue MRA E.coli Strain	Industrial applications, Professional applications.
: XL1-Blue MRA (p2) E. coli Strain	Industrial applications, Professional applications.
: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	Industrial applications, Professional applications.
: pME/Bam HI Test Insert Gigapack III packaging extract	Industrial applications, Professional applications. Industrial applications, Professional applications.
: VCS257 E. coli Strain	Industrial applications, Professional applications.
: Wild-Type Lambda DNA c1857ind 1 Sam7	Industrial applications, Professional applications.

#### Industrial sector specific solutions

: XL1-Blue MRA E.coli Strain	Not applicable.
: XL1-Blue MRA (p2) E. coli Strain	Not applicable.
: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	Not applicable.
: pME/Bam HI Test Insert Gigapack III packaging extract	Not applicable. Not applicable.
: VCS257 E. coli Strain	Not applicable.
: Wild-Type Lambda DNA c1857ind 1 Sam7	Not applicable.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
<b>XL1-Blue MRA E.coli Strain</b> Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist
<b>XL1-Blue MRA (p2) E.coli Strain</b> Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist
<b>Gigapack III packaging extract</b> Sucrose	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b> STEL: 20 mg/m <sup>3</sup> 15 minutes. TWA: 10 mg/m <sup>3</sup> 8 hours.
<b>VCS257 E. coli Strain</b> Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

No DNELs/DMELs available.

#### PNECs

No PNECs available

### 8.2 Exposure controls

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

#### 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.

Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612

## SECTION 8: Exposure controls/personal protection

- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

- Physical state** : XL1-Blue MRA E.coli Strain Liquid.  
XL1-Blue MRA (p2) E. coli Strain Liquid.  
Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated Liquid.  
pME/Bam HI Test Insert Gigapack III packaging Liquid.  
extract Liquid.  
VCS257 E. coli Strain Liquid.  
Wild-Type Lambda DNA c1857ind 1 Sam7 Liquid.
- Colour** : XL1-Blue MRA E.coli Strain Not available.  
XL1-Blue MRA (p2) E. coli Strain Not available.  
Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated Not available.  
pME/Bam HI Test Insert Gigapack III packaging extract Not available.  
VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Not available.
- Odour** : XL1-Blue MRA E.coli Strain Not available.  
XL1-Blue MRA (p2) E. coli Strain Not available.  
Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated Not available.  
pME/Bam HI Test Insert Gigapack III packaging extract Not available.  
VCS257 E. coli Strain Wild-Type Lambda Not available.

**Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612**

## SECTION 9: Physical and chemical properties

		DNA c1857ind 1 Sam7	
<b>Odour threshold</b>	:	XL1-Blue MRA E.coli Strain	Not available.
		XL1-Blue MRA (p2) E.coli Strain	Not available.
		Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	Not available.
		pME/Bam HI Test Insert Gigapack III packaging extract	Not available.
		VCS257 E. coli Strain	Not available.
		Wild-Type Lambda	Not available.
		DNA c1857ind 1 Sam7	
<b>pH</b>	:	XL1-Blue MRA E.coli Strain	7
		XL1-Blue MRA (p2) E.coli Strain	7
		Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	7
		pME/Bam HI Test Insert Gigapack III packaging extract	7.5
		VCS257 E. coli Strain	8
		Wild-Type Lambda	7
		DNA c1857ind 1 Sam7	7
<b>Melting point/freezing point</b>	:	XL1-Blue MRA E.coli Strain	Not available.
		XL1-Blue MRA (p2) E.coli Strain	Not available.
		Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	0°C
		pME/Bam HI Test Insert Gigapack III packaging extract	0°C
		VCS257 E. coli Strain	Not available.
		Wild-Type Lambda	0°C
		DNA c1857ind 1 Sam7	
<b>Initial boiling point and boiling range</b>	:	XL1-Blue MRA E.coli Strain	Not available.
		XL1-Blue MRA (p2) E.coli Strain	Not available.
		Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	100°C
		pME/Bam HI Test Insert Gigapack III packaging extract	100°C
		VCS257 E. coli Strain	Not available.
		Wild-Type Lambda	100°C
		DNA c1857ind 1 Sam7	

Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612

## SECTION 9: Physical and chemical properties

<b>Flash point</b>	:	XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated 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>	:	XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated 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>	:	XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated 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>Upper/lower flammability or explosive limits</b>	:	XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated 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.

Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612

## SECTION 9: Physical and chemical properties

<b>Vapour pressure</b>	:	XL1-Blue MRA E.coli Strain	Not available.
		XL1-Blue MRA (p2) E.coli Strain	Not available.
		Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	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>Vapour density</b>	:	XL1-Blue MRA E.coli Strain	Not available.
		XL1-Blue MRA (p2) E.coli Strain	Not available.
		Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	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>	:	XL1-Blue MRA E.coli Strain	Not available.
		XL1-Blue MRA (p2) E.coli Strain	Not available.
		Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	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(ies)</b>	:	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.
		Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	Easily 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.

Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612

## SECTION 9: Physical and chemical properties

<b>Partition coefficient: n-octanol/water</b>	:	XL1-Blue MRA E.coli Strain	Not available.
		XL1-Blue MRA (p2) E.coli Strain	Not available.
		Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	Not available.
		pME/Bam HI Test Insert 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>	:	XL1-Blue MRA E.coli Strain	Not available.
		XL1-Blue MRA (p2) E.coli Strain	Not available.
		Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	Not available.
		pME/Bam HI Test Insert Gigapack III packaging extract	Not available.
		VCS257 E. coli Strain	Not available.
		Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
<b>Decomposition temperature</b>	:	XL1-Blue MRA E.coli Strain	Not available.
		XL1-Blue MRA (p2) E.coli Strain	Not available.
		Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	Not available.
		pME/Bam HI Test Insert Gigapack III packaging extract	Not available.
		VCS257 E. coli Strain	Not available.
		Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
<b>Viscosity</b>	:	XL1-Blue MRA E.coli Strain	Not available.
		XL1-Blue MRA (p2) E.coli Strain	Not available.
		Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	Not available.
		pME/Bam HI Test Insert Gigapack III packaging extract	Not available.
		VCS257 E. coli Strain	Not available.
		Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.

Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612

## SECTION 9: Physical and chemical properties

<b>Explosive properties</b>	:	XL1-Blue MRA E.coli Strain	Not available.
		XL1-Blue MRA (p2) E.coli Strain	Not available.
		Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	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>Oxidising properties</b>	:	XL1-Blue MRA E.coli Strain	Not available.
		XL1-Blue MRA (p2) E.coli Strain	Not available.
		Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	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.

### 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	:	XL1-Blue MRA E.coli Strain	No specific test data related to reactivity available for this product or its ingredients.
		XL1-Blue MRA (p2) E.coli Strain	No specific test data related to reactivity available for this product or its ingredients.
		Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	No specific test data related to reactivity available for this product or its ingredients.
		pME/Bam HI Test Insert	No specific test data related to reactivity available for this product or its ingredients.
		Gigapack III packaging extract	No specific test data related to reactivity available for this product or its ingredients.
		VCS257 E. coli Strain	No specific test data related to reactivity available for this product or its ingredients.
		Wild-Type Lambda DNA c1857ind 1 Sam7	No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	:	XL1-Blue MRA E.coli Strain	The product is stable.
		XL1-Blue MRA (p2) E.coli Strain	The product is stable.
		Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	The product is stable.
		pME/Bam HI Test Insert	The product is stable.
		Gigapack III packaging	The product is stable.

**Date of issue/Date of revision** : 30/04/2018



**Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612**

**SECTION 10: Stability and reactivity**

extract  
 VCS257 E. coli Strain The product is stable.  
 Wild-Type Lambda DNA The product is stable.  
 c1857ind 1 Sam7

**10.3 Possibility of hazardous reactions**

: XL1-Blue MRA E.coli Strain Under normal conditions of storage and use, hazardous reactions will not occur.  
 XL1-Blue MRA (p2) E. coli Strain Under normal conditions of storage and use, hazardous reactions will not occur.  
 Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated Under normal conditions of storage and use, hazardous reactions will not occur.  
 pME/Bam HI Test Insert Under normal conditions of storage and use, hazardous reactions will not occur.  
 Gigapack III packaging extract 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.

**10.4 Conditions to avoid**

: XL1-Blue MRA E.coli Strain No specific data.  
 XL1-Blue MRA (p2) E. coli Strain No specific data.  
 Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated 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.

**10.5 Incompatible materials**

: XL1-Blue MRA E.coli Strain May react or be incompatible with oxidising materials.  
 XL1-Blue MRA (p2) E. coli Strain May react or be incompatible with oxidising materials.  
 Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated May react or be incompatible with oxidising materials.  
 pME/Bam HI Test Insert May react or be incompatible with oxidising materials.  
 Gigapack III packaging extract May react or be incompatible with oxidising materials.  
 VCS257 E. coli Strain May react or be incompatible with oxidising materials.  
 Wild-Type Lambda DNA c1857ind 1 Sam7 May react or be incompatible with oxidising materials.

**10.6 Hazardous decomposition products**

: 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.  
 Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612**

**SECTION 10: Stability and reactivity**

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> Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
<b>XL1-Blue MRA (p2) E.coli Strain</b> Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
<b>VCS257 E. coli Strain</b> Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-

Acute toxicity estimates

Not available.

Irritation/Corrosion

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

Sensitiser

**Conclusion/Summary** : Not available.

Mutagenicity

**Conclusion/Summary** : Not available.

Carcinogenicity

**Conclusion/Summary** : Not available.

Reproductive toxicity

Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612

## SECTION 11: Toxicological information

**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.

### Information on likely routes of exposure

XL1-Blue MRA E.coli Strain	Routes of entry anticipated: Oral, Dermal, Inhalation.
XL1-Blue MRA (p2) E. coli Strain	Routes of entry anticipated: Oral, Dermal, Inhalation.
Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	Not available.
pME/Bam HI Test Insert	Not available.
Gigapack III packaging extract	Not available.
VCS257 E. coli Strain	Routes of entry anticipated: Oral, Dermal, Inhalation.
Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.

### Potential acute health effects

#### Inhalation

XL1-Blue MRA E.coli Strain	No known significant effects or critical hazards.
XL1-Blue MRA (p2) E. coli Strain	No known significant effects or critical hazards.
Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	No known significant effects or critical hazards.
pME/Bam HI Test Insert	No known significant effects or critical hazards.
Gigapack III packaging extract	No known significant effects or critical hazards.
VCS257 E. coli Strain	No known significant effects or critical hazards.
Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.

#### Ingestion

XL1-Blue MRA E.coli Strain	No known significant effects or critical hazards.
XL1-Blue MRA (p2) E. coli Strain	No known significant effects or critical hazards.
Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	No known significant effects or critical hazards.
pME/Bam HI Test Insert	No known significant effects or critical hazards.
Gigapack III packaging extract	No known significant effects or critical hazards.
VCS257 E. coli Strain	No known significant effects or critical hazards.
Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.

**Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612**

**SECTION 11: Toxicological information**

<b>Skin contact</b>	: XL1-Blue MRA E.coli Strain	No known significant effects or critical hazards.
	: XL1-Blue MRA (p2) E. coli Strain	No known significant effects or critical hazards.
	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	No known significant effects or critical hazards.
	: pME/Bam HI Test Insert Gigapack III packaging extract	No known significant effects or critical hazards.
	: VCS257 E. coli Strain	No known significant effects or critical hazards.
	: Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.
	<b>Eye contact</b>	: XL1-Blue MRA E.coli Strain
: XL1-Blue MRA (p2) E. coli Strain		No known significant effects or critical hazards.
: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated		No known significant effects or critical hazards.
: pME/Bam HI Test Insert Gigapack III packaging extract		No known significant effects or critical hazards.
: VCS257 E. coli Strain		No known significant effects or critical hazards.
: Wild-Type Lambda DNA c1857ind 1 Sam7		No known significant effects or critical hazards.

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

<b>Inhalation</b>	: XL1-Blue MRA E.coli Strain	No specific data.
	: XL1-Blue MRA (p2) E. coli Strain	No specific data.
	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	No specific data.
	: pME/Bam HI Test Insert 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>Ingestion</b>	: XL1-Blue MRA E.coli Strain
: XL1-Blue MRA (p2) E. coli Strain		No specific data.
: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated		No specific data.
: pME/Bam HI Test Insert Gigapack III packaging extract		No specific data.
: VCS257 E. coli Strain		No specific data.
: Wild-Type Lambda DNA c1857ind 1 Sam7		No specific data.

**Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612**

**SECTION 11: Toxicological information**

<b>Skin contact</b>	: XL1-Blue MRA E.coli Strain	No specific data.
	XL1-Blue MRA (p2) E. coli Strain	No specific data.
	Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	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>Eye contact</b>	: XL1-Blue MRA E.coli Strain	No specific data.
	XL1-Blue MRA (p2) E. coli Strain	No specific data.
	Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	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.

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

**Short term exposure**

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**Long term exposure**

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**Potential chronic health effects**

<b>General</b>	: XL1-Blue MRA E.coli Strain	No known significant effects or critical hazards.
	XL1-Blue MRA (p2) E. coli Strain	No known significant effects or critical hazards.
	Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	No known significant effects or critical hazards.
	pME/Bam HI Test Insert	No known significant effects or critical hazards.
	Gigapack III packaging extract	No known significant effects or critical hazards.
	VCS257 E. coli Strain	No known significant effects or critical hazards.
	Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.

Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612

## SECTION 11: Toxicological information

<b>Carcinogenicity</b>	: XL1-Blue MRA E.coli Strain	No known significant effects or critical hazards.
	: XL1-Blue MRA (p2) E. coli Strain	No known significant effects or critical hazards.
	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	No known significant effects or critical hazards.
	: pME/Bam HI Test Insert Gigapack III packaging extract	No known significant effects or critical hazards.
	: VCS257 E. coli Strain	No known significant effects or critical hazards.
	: Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.
<b>Mutagenicity</b>	: XL1-Blue MRA E.coli Strain	No known significant effects or critical hazards.
	: XL1-Blue MRA (p2) E. coli Strain	No known significant effects or critical hazards.
	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	No known significant effects or critical hazards.
	: pME/Bam HI Test Insert Gigapack III packaging extract	No known significant effects or critical hazards.
	: VCS257 E. coli Strain	No known significant effects or critical hazards.
	: Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.
<b>Teratogenicity</b>	: XL1-Blue MRA E.coli Strain	No known significant effects or critical hazards.
	: XL1-Blue MRA (p2) E. coli Strain	No known significant effects or critical hazards.
	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	No known significant effects or critical hazards.
	: pME/Bam HI Test Insert Gigapack III packaging extract	No known significant effects or critical hazards.
	: VCS257 E. coli Strain	No known significant effects or critical hazards.
	: Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.
<b>Developmental effects</b>	: XL1-Blue MRA E.coli Strain	No known significant effects or critical hazards.
	: XL1-Blue MRA (p2) E. coli Strain	No known significant effects or critical hazards.
	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	No known significant effects or critical hazards.
	: pME/Bam HI Test Insert Gigapack III packaging extract	No known significant effects or critical hazards.
	: VCS257 E. coli Strain	No known significant effects or critical hazards.
	: Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.

Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612

## SECTION 11: Toxicological information

<b>Fertility effects</b>	: XL1-Blue MRA E.coli Strain	No known significant effects or critical hazards.
	XL1-Blue MRA (p2) E. coli Strain	No known significant effects or critical hazards.
	Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	No known significant effects or critical hazards.
	pME/Bam HI Test Insert	No known significant effects or critical hazards.
	Gigapack III packaging extract	No known significant effects or critical hazards.
	VCS257 E. coli Strain	No known significant effects or critical hazards.
	Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<b>XL1-Blue MRA E.coli Strain</b> 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 EC50 402600 µg/l Fresh water	Daphnia - Daphnia magna	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
<b>XL1-Blue MRA (p2) E.coli Strain</b> Sodium chloride	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
	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 EC50 402600 µg/l Fresh water	Daphnia - Daphnia magna	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
<b>VCS257 E. coli Strain</b> Sodium chloride	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
	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 EC50 402600 µg/l Fresh water	Daphnia - Daphnia magna	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 -	3 weeks

Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612

## SECTION 12: Ecological information

	Chronic NOEC 6 g/L Fresh water Chronic NOEC 0.314 g/L Fresh water Chronic NOEC 100 mg/l Fresh water	Juvenile (Fledgling, Hatchling, Weanling) Aquatic plants - Lemna minor Daphnia - Daphnia pulex Fish - Gambusia holbrooki - Adult	96 hours 21 days 8 weeks
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### 12.2 Persistence and degradability

Not available.

### 12.3 Bioaccumulative potential

Not available.

### 12.4 Mobility in soil

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

Mobility : Not available.

### 12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

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

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

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

**Hazardous waste** : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

#### Packaging

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

**Special precautions** : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

ADR/RID / IMDG / IATA : Not regulated.

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



Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612

## SECTION 14: Transport information

14.7 Transport in bulk : Not available.

according to Annex II of  
Marpol and the IBC Code

## SECTION 15: Regulatory information

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

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

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

<b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>	: XL1-Blue MRA E.coli Strain	Not applicable.
	: XL1-Blue MRA (p2) E.coli Strain	Not applicable.
	: Lambda EMBL3 Vector	Not applicable.
	: Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert	Not applicable.
	: Gigapack III packaging extract	Not applicable.
	: VCS257 E. coli Strain	Not applicable.
	: Wild-Type Lambda DNA	Not applicable.
	: c1857ind 1 Sam7	Not applicable.

Other EU regulations

Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

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.
<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.

Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612

## SECTION 15: Regulatory information

<b>Japan</b>	: <b>Japan inventory (ENCS):</b> Not determined. <b>Japan inventory (ISHL):</b> Not determined.
<b>Malaysia</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>	: <input checked="" type="checkbox"/> Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: All components are listed or exempted.
<b>Viet Nam</b>	: <input checked="" type="checkbox"/> Not determined.

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

## SECTION 16: Other information

Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate  
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
DNEL = Derived No Effect Level  
EUH statement = CLP-specific Hazard statement  
PNEC = Predicted No Effect Concentration  
RRN = REACH Registration Number

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

Classification	Justification
Not classified.	

### Full text of abbreviated H statements

<b>XL1-Blue MRA E.coli Strain</b> H319	Causes serious eye irritation.
<b>XL1-Blue MRA (p2) E.coli Strain</b> H319	Causes serious eye irritation.
<b>VCS257 E. coli Strain</b> H319	Causes serious eye irritation.

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

<b>XL1-Blue MRA E.coli Strain</b> Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
<b>XL1-Blue MRA (p2) E.coli Strain</b> Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
<b>VCS257 E. coli Strain</b> Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2

**Date of issue/ Date of revision** : 30/04/2018

**Date of previous issue** : 29/02/2016

**Version** : 2

### Notice to reader

**Date of issue/Date of revision** : 30/04/2018

*Lambda EMBL3 - BamH I Gigapack III Gold Cloning Kit, Part Number 241612*

## **SECTION 16: Other information**

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.