

# SAFETY DATA SHEET



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

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

### 1.1 Product identifier

<b>Product name</b>	: Lambda Dash II BamH I-treated/Gigapack III Cloning Kit, Part Number 247613
<b>Part no. (chemical kit)</b>	: 247613
<b>Part no.</b>	: Lambda DASH II Vector 247211-51 Double Digested With BamH I And Xho I CIAP Treated 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

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

<b>Material uses</b>	: 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

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

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

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

<b>Product definition</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

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

Not classified.

<b>Ingredients of unknown toxicity</b>	:	☑ 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%

<b>Ingredients of unknown ecotoxicity</b>	:	Lambda DASH II vector	Not applicable.
		XL1-Blue MRA host cells	Not applicable.
		XL1-Blue MRA (P2) host cells	Not applicable.
		pME/BamH I test insert	Not applicable.
		Gigapack III Gold-11 packaging extract	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 8%
		VCS257 host strain	Not applicable.
		λc1857 Sam7 wild-type lambda control DNA	Not applicable.

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>	:	☑ Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	No signal word.
		XL1-Blue MRA E.coli Strain	No signal word.
		XL1-Blue MRA (p2) E. coli Strain	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.

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## SECTION 2: Hazards identification

<b>Hazard statements</b>	: <input checked="" type="checkbox"/> Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	No known significant effects or critical hazards.
	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.
	pME/Bam HI Test Insert Gigapack III packaging extract	No known significant effects or critical hazards. 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.

### Precautionary statements

<b>Prevention</b>	: <input checked="" type="checkbox"/> 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 Gigapack III packaging extract	Not applicable. Not applicable.
	VCS257 E. coli Strain	Not applicable.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not applicable.

<b>Response</b>	: <input checked="" type="checkbox"/> 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 Gigapack III packaging extract	Not applicable. Not applicable.
	VCS257 E. coli Strain	Not applicable.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not applicable.

<b>Storage</b>	: <input checked="" type="checkbox"/> 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 Gigapack III packaging extract	Not applicable. Not applicable.
	VCS257 E. coli Strain	Not applicable.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not applicable.

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## SECTION 2: Hazards identification

<b>Disposal</b>	: <input checked="" type="checkbox"/> 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>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>	: 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. 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>	: 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><u>Special packaging requirements</u></b>		
<b>Tactile warning of danger</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	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.

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## SECTION 2: Hazards identification

Wild-Type Lambda DNA c1857ind 1 Sam7 Not applicable.

### 2.3 Other hazards

**Other hazards which do not result in classification** :

- 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

**3.1 Substances** :

- XLambda 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

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
<b>XL1-Blue MRA 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>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]

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### SECTION 3: Composition/information on ingredients

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

##### Eye contact

- : Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated  
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.
- : 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.

##### Inhalation

- : Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated  
XL1-Blue MRA E.coli Strain  
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- : 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.
- : 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.



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## SECTION 4: First aid measures

<b>Skin contact</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	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.
	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.
	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>	: Lambda DASH II Vector Double Digested With BamH I And Xho 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.
	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.
	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

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**SECTION 4: First aid measures**

<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                  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>induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.                  No action shall be taken involving any personal risk or without suitable training.                  No action shall be taken involving any personal risk or without suitable training.                  No action shall be taken involving any personal risk or without suitable training.                  No action shall be taken involving any personal risk or without suitable training.                  No action shall be taken involving any personal risk or without suitable training.                  No action shall be taken involving any personal risk or without suitable training.</p>
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**4.2 Most important symptoms and effects, both acute and delayed**

Potential acute health effects

<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.                  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.</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.                  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.</p>
<b>Skin 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</p>	<p>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.</p>



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**SECTION 4: First aid measures**

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

**Over-exposure signs/symptoms**

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

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## SECTION 4: First aid measures

<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. No specific data.
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### 4.3 Indication of any immediate medical attention and special treatment needed

<b>Notes to physician</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	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.
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<b>Specific treatments</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 treatment.  No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment.
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## SECTION 5: Firefighting 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	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.
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## SECTION 5: Firefighting measures

	VCS257 E. coli Strain	Use an extinguishing agent suitable for the surrounding fire.
	Wild-Type Lambda DNA c1857ind 1 Sam7	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	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.

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

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

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## SECTION 5: Firefighting measures

Wild-Type Lambda DNA c1857ind 1 Sam7 No specific data.

### 5.3 Advice for firefighters

#### Special precautions for fire-fighters

- : 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
- 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.
- 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.

#### Special protective equipment for fire-fighters

- : 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
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.

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## SECTION 5: Firefighting measures

Wild-Type Lambda DNA c1857ind 1 Sam7	basic level of protection for chemical incidents. 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.
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## 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 spilt 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 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.
	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>	: Lambda DASH II Vector Double Digested With BamH I And Xho 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".
	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".
	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".



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## SECTION 6: Accidental release measures

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 c1857ind 1 Sam7	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### 6.2 Environmental precautions

: Lambda DASH II Vector Double Digested With BamH I And Xho 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).
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).
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

<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



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## SECTION 6: Accidental release measures

Gigapack III packaging extract	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.
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. Dispose of via a licensed waste disposal contractor.

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

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

<b>Protective measures</b>	: 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	Put on appropriate personal protective equipment (see Section 8). Put on appropriate personal protective equipment (see Section 8). Put on appropriate personal protective equipment (see Section 8). Put on appropriate personal protective equipment (see Section 8). Put on appropriate personal protective equipment (see Section 8). Put on appropriate personal protective equipment (see Section 8). Put on appropriate personal protective equipment (see Section 8).
<b>Advice on general occupational hygiene</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	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. 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. 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.


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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, 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

#### Storage

:  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 unlabelled 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 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.
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

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	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 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.
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 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

: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Industrial applications, Professional applications.
XL1-Blue MRA E.coli Strain	Industrial applications, Professional applications.
XL1-Blue MRA (p2) E. coli Strain	Industrial applications, Professional applications.
pME/Bam HI Test Insert	Industrial applications, Professional applications.
Gigapack III packaging extract	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

: 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.

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Gigapack III packaging extract	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.

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## SECTION 8: Exposure controls/personal protection

- 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.
- 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

<b>Physical state</b>	: 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.
<b>Colour</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.

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



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## SECTION 9: Physical and chemical properties

<b>Initial boiling point and boiling range</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	100°C    Not available.  Not available.  100°C Not available.  Not available. 100°C
<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. 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. 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. Not applicable.

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## SECTION 9: Physical and chemical properties

<b>Upper/lower flammability or explosive 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>Vapour 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.
<b>Vapour density</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.
<b>Relative density</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.

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## SECTION 9: Physical and chemical properties

<b>Solubility(ies)</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	Easily soluble in the following materials: cold water and hot water.  Soluble in the following materials: cold water and hot water. Soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. 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 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>Auto-ignition 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.
<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.

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## SECTION 9: Physical and chemical properties

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

### 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	No specific test data related to reactivity available for this product or its ingredients.
	: 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.
	: 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.

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**SECTION 10: Stability and reactivity**

Wild-Type Lambda DNA c1857ind 1 Sam7 product or its ingredients.  
No specific test data related to reactivity available for this product or its ingredients.

**10.2 Chemical stability** : Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated The product is stable.  
XL1-Blue MRA E.coli Strain The product is stable.  
XL1-Blue MRA (p2) E. coli Strain The product is stable.  
pME/Bam HI Test Insert Gigapack III packaging extract The product is stable.  
VCS257 E. coli Strain The product is stable.  
Wild-Type Lambda DNA c1857ind 1 Sam7 The product is stable.

**10.3 Possibility of hazardous reactions** : Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated Under normal conditions of storage and use, hazardous reactions will not occur.  
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.  
pME/Bam HI Test Insert 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** : 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 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** : Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated May react or be incompatible with oxidising 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.  
pME/Bam HI Test Insert May react or be incompatible with oxidising materials.

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## SECTION 10: Stability and reactivity

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

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

#### Acute toxicity estimates

Not available.

#### Irritation/Corrosion

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



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## SECTION 11: Toxicological information

	Eyes - Moderate irritant Skin - Mild irritant	Rabbit Rabbit	- -	milligrams 10 milligrams 24 hours 500 milligrams	- -
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### Sensitiser

**Conclusion/Summary** : Not available.

### Mutagenicity

**Conclusion/Summary** : Not available.

### Carcinogenicity

**Conclusion/Summary** : Not available.

### Reproductive toxicity

**Conclusion/Summary** : Not available.

### Teratogenicity

**Conclusion/Summary** : Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

### Information on likely routes of exposure

: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Not available.
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.
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

<b>Inhalation</b>	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	No known significant effects or critical hazards.
	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.
	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 11: Toxicological information

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

## **SECTION 11: Toxicological information**

<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.
<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>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. No specific data. No specific data. No specific data. No specific data. 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

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## SECTION 11: Toxicological information

<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.
<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.

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## SECTION 11: Toxicological information

<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.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
XL1-Blue MRA E.coli Strain 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 Chronic NOEC 0.314 g/L Fresh water Chronic NOEC 100 mg/l Fresh water	Aquatic plants - Lemna minor Daphnia - Daphnia pulex Fish - Gambusia holbrooki - Adult	96 hours 21 days 8 weeks
XL1-Blue MRA (p2) E.coli Strain 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

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## SECTION 12: Ecological information

<b>VCS257 E. coli Strain</b> Sodium chloride	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 100000 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

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.



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## SECTION 13: Disposal considerations

**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.

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** : Not available.

## SECTION 15: Regulatory information

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

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

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

###### Annex XIV

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

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## SECTION 15: Regulatory information

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.
<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]

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## SECTION 16: Other information

<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** : 21/02/2018

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

**Version** : 2

### Notice to reader

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