

# SAFETY DATA SHEET



Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

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

### 1.1 Product identifier

**Product name** : Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612  
**Part No. (Kit)** : 234612  
**Part No.** : Lambda gt11 Vector 234211-51  
Digested With EcoR I  
And Dephosphorylated  
pRheo/EcoR I Test Insert 210200-51  
Y1088 E. coli Strain 200263-81  
Y1089r- E. coli Strain 200260-81  
Y1090r- E. coli Strain 200281-81  
Gigapack III packaging 200201-41  
extract  
Wild-Type Lambda DNA 246203-51  
c1857ind 1 Sam7  
VCS257 E. coli Strain 200256-51

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

Identified uses	
Analytical reagent.	
Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	0.01 ml (10 µg 1 µg/µl)
pRheo/EcoR I Test Insert	2 x 0.005 ml (1.25 µg 0.25 µg/µl)
Y1088 E. coli Strain	0.5 ml
Y1089r- E. coli Strain	0.5 ml
Y1090r- E. coli Strain	0.5 ml
Gigapack III packaging extract	0.275 ml
Wild-Type Lambda DNA c1857ind 1 Sam7	0.005 ml (1.05 µg 0.21 µg/µl)
VCS257 E. coli Strain	1 ml

### 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 gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

<b>Product definition</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	Mixture   Mixture Mixture Mixture Mixture Mixture Mixture Mixture
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#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

<b>Ingredients of unknown toxicity</b>	: Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract VCS257 E. coli Strain	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30% Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30% Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30% Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10% Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30%
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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 gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	No signal word.   No signal word. No signal word. No signal word. No signal word. No signal word. No signal word. No signal word. No signal word.
<b>Hazard statements</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 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. No known significant effects or critical hazards. No known significant effects or critical hazards.

#### Precautionary statements

Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## SECTION 2: Hazards identification

<b>Prevention</b>	:	Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<b>Response</b>	:	Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<b>Storage</b>	:	Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<b>Disposal</b>	:	Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<b>Hazardous ingredients</b>	:	Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain VCS257 E. coli Strain	Not applicable. Not applicable. Not applicable. Not applicable.
<b>Supplemental label elements</b>	:	Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging	Not applicable. Not applicable. Safety data sheet available on request. Safety data sheet available on request. Safety data sheet available on request. Not applicable.

Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## SECTION 2: Hazards identification

	extract	
	Wild-Type Lambda DNA	Not applicable.
	c1857ind 1 Sam7	
	VCS257 E. coli Strain	Safety data sheet available on request.
<b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>	: Lambda gt11 Vector	Not applicable.
	Digested With EcoR I	
	And Dephosphorylated	
	pRheo/EcoR I Test Insert	Not applicable.
	Y1088 E. coli Strain	Not applicable.
	Y1089r- E. coli Strain	Not applicable.
	Y1090r- E. coli Strain	Not applicable.
	Gigapack III packaging	Not applicable.
	extract	
	Wild-Type Lambda DNA	Not applicable.
	c1857ind 1 Sam7	
	VCS257 E. coli Strain	Not applicable.

### Special packaging requirements

<b>Tactile warning of danger</b>	: Lambda gt11 Vector	Not applicable.
	Digested With EcoR I	
	And Dephosphorylated	
	pRheo/EcoR I Test Insert	Not applicable.
	Y1088 E. coli Strain	Not applicable.
	Y1089r- E. coli Strain	Not applicable.
	Y1090r- E. coli Strain	Not applicable.
	Gigapack III packaging	Not applicable.
	extract	
	Wild-Type Lambda DNA	Not applicable.
	c1857ind 1 Sam7	
	VCS257 E. coli Strain	Not applicable.

### 2.3 Other hazards

<b>Other hazards which do not result in classification</b>	: Lambda gt11 Vector	None known.
	Digested With EcoR I	
	And Dephosphorylated	
	pRheo/EcoR I Test Insert	None known.
	Y1088 E. coli Strain	None known.
	Y1089r- E. coli Strain	None known.
	Y1090r- E. coli Strain	None known.
	Gigapack III packaging	None known.
	extract	
	Wild-Type Lambda DNA	None known.
	c1857ind 1 Sam7	
	VCS257 E. coli Strain	None known.

## SECTION 3: Composition/information on ingredients

<b>3.1 Substances</b>	: Lambda gt11 Vector Digested	Mixture
	With EcoR I And	
	Dephosphorylated	
	pRheo/EcoR I Test Insert	Mixture
	Y1088 E. coli Strain	Mixture
	Y1089r- E. coli Strain	Mixture
	Y1090r- E. coli Strain	Mixture
	Gigapack III packaging extract	Mixture
	Wild-Type Lambda DNA	Mixture
	c1857ind 1 Sam7	
	VCS257 E. coli Strain	Mixture

Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

### SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
<b>Y1088 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>Y1089r- 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>Y1090r- 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>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I 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.
	Y1088 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.

**SECTION 4: First aid measures**

	Y1089r- E. coli Strain	any contact lenses. Get medical attention if irritation occurs. 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.
	Y1090r- 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.
	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.
	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.
	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.
<b>Inhalation</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Y1088 E. coli Strain	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Y1089r- E. coli Strain	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Y1090r- E. coli Strain	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.
	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.
	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.
<b>Skin contact</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Y1088 E. coli Strain	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Y1089r- E. coli Strain	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Y1090r- E. coli Strain	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.
	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.



## 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.
<b>Ingestion</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	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.
	pRho/EcoR I 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.
	Y1088 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.
	Y1089r- 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.
	Y1090r- 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.
	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.
	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.
	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.
<b>Protection of first-aiders</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	No action shall be taken involving any personal risk or without suitable training.
	pRho/EcoR I Test Insert	No action shall be taken involving any personal risk or without suitable training.
	Y1088 E. coli Strain	No action shall be taken involving any personal risk or without suitable training.
	Y1089r- E. coli Strain	No action shall be taken involving any personal risk or without suitable training.
	Y1090r- E. coli Strain	No action shall be taken involving any personal risk or

## SECTION 4: First aid measures

Gigapack III packaging extract	without suitable training. No action shall be taken involving any personal risk or without suitable training.
Wild-Type Lambda DNA c1857ind 1 Sam7	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 without suitable training.

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

#### Potential acute health effects

<b>Eye contact</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089- E. coli Strain Y1090- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 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. No known significant effects or critical hazards.
<b>Inhalation</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089- E. coli Strain Y1090- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 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. No known significant effects or critical hazards.
<b>Skin contact</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089- E. coli Strain Y1090- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 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. No known significant effects or critical hazards.
<b>Ingestion</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089- E. coli Strain Y1090- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 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. No known significant effects or critical hazards.

#### Over-exposure signs/symptoms



Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## SECTION 4: First aid measures

<b>Eye contact</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
<b>Inhalation</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
<b>Skin contact</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
<b>Ingestion</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.

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

<b>Notes to physician</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert  Y1088 E. coli Strain  Y1089r- E. coli Strain  Y1090r- E. coli Strain	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
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Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## SECTION 4: First aid measures

	Gigapack III packaging extract	immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	VCS257 E. coli Strain	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	No specific treatment.
	pRheo/EcoR I Test Insert	No specific treatment.
	Y1088 E. coli Strain	No specific treatment.
	Y1089r- E. coli Strain	No specific treatment.
	Y1090r- E. coli Strain	No specific treatment.
	Gigapack III packaging extract	No specific treatment.
	Wild-Type Lambda DNA c1857ind 1 Sam7	No specific treatment.
	VCS257 E. coli Strain	No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	Use an extinguishing agent suitable for the surrounding fire.
	pRheo/EcoR I Test Insert	Use an extinguishing agent suitable for the surrounding fire.
	Y1088 E. coli Strain	Use an extinguishing agent suitable for the surrounding fire.
	Y1089r- E. coli Strain	Use an extinguishing agent suitable for the surrounding fire.
	Y1090r- E. coli Strain	Use an extinguishing agent suitable for the surrounding fire.
	Gigapack III packaging extract	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.
	VCS257 E. coli Strain	Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	None known.
	pRheo/EcoR I Test Insert	None known.
	Y1088 E. coli Strain	None known.
	Y1089r- E. coli Strain	None known.
	Y1090r- E. coli Strain	None known.
	Gigapack III packaging extract	None known.
	Wild-Type Lambda DNA c1857ind 1 Sam7	None known.
	VCS257 E. coli Strain	None known.

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

<b>Hazards from the substance or mixture</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	In a fire or if heated, a pressure increase will occur and the container may burst.
	pRheo/EcoR I Test Insert	In a fire or if heated, a pressure increase will occur and the container may burst.
	Y1088 E. coli Strain	In a fire or if heated, a pressure increase will occur and the container may burst.
	Y1089r- E. coli Strain	In a fire or if heated, a pressure increase will occur and the container may burst.
	Y1090r- E. coli Strain	In a fire or if heated, a pressure increase will occur and the container may burst.
	Gigapack III packaging	In a fire or if heated, a pressure increase will occur and the

Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## SECTION 5: Firefighting measures

	extract	container may burst.
	Wild-Type Lambda DNA	In a fire or if heated, a pressure increase will occur and the container may burst.
	c1857ind 1 Sam7	
	VCS257 E. coli Strain	In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous combustion products</b>	: Lambda gt11 Vector	No specific data.
	Digested With EcoR I	
	And Dephosphorylated	
	pRheo/EcoR I Test Insert	No specific data.
	Y1088 E. coli Strain	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
	Y1089r- E. coli Strain	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
	Y1090r- E. coli Strain	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
	Gigapack III packaging extract	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	Wild-Type Lambda DNA	No specific data.
	c1857ind 1 Sam7	
	VCS257 E. coli Strain	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides

### 5.3 Advice for firefighters

<b>Special precautions for fire-fighters</b>	: Lambda gt11 Vector	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.
	Digested With EcoR I	
	And Dephosphorylated	
	pRheo/EcoR I 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.
	Y1088 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.
	Y1089r- 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.
	Y1090r- 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.
	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.
	Wild-Type Lambda DNA	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.
	c1857ind 1 Sam7	
	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.

## SECTION 5: Firefighting measures

<b>Special protective equipment for fire-fighters</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	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.
	pRheo/EcoR I 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.
	Y1088 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.
	Y1089r- 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.
	Y1090r- 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.
	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.
	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.
	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.

## SECTION 6: Accidental release measures

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

<b>For non-emergency personnel</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	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.
	pRheo/EcoR I 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.

**SECTION 6: Accidental release measures**

Y1088 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.
Y1089r- 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.
Y1090r- 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.
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.
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.
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.
: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	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".
pRheo/EcoR I 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".
Y1088 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".
Y1089r- 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".
Y1090r- 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".
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".
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".
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".

**For emergency responders**



## SECTION 6: Accidental release measures

### 6.2 Environmental precautions

: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	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).
pRho/EcoR I 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).
Y1088 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).
Y1089r- 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).
Y1090r- 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).
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).
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).
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).

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

#### Methods for cleaning up

: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	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.
pRho/EcoR I 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.
Y1088 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.
Y1089r- 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.
Y1090r- 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.
Gigapack III packaging	Stop leak if without risk. Move containers from spill area.



**Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612**

## SECTION 6: Accidental release measures

extract	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.
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.

**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 gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert	Put on appropriate personal protective equipment (see Section 8).
	Y1088 E. coli Strain	Put on appropriate personal protective equipment (see Section 8).
	Y1089r- E. coli Strain	Put on appropriate personal protective equipment (see Section 8).
	Y1090r- E. coli Strain	Put on appropriate personal protective equipment (see Section 8).
	Gigapack III packaging extract	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).
	VCS257 E. coli Strain	Put on appropriate personal protective equipment (see Section 8).
<b>Advice on general occupational hygiene</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	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.
	pRho/EcoR I 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.
	Y1088 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.
	Y1089r- 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

Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## SECTION 7: Handling and storage

	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.
Y1090r- 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.
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.
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.
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.

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

#### Storage

: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	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.
pRho/EcoR I 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.
Y1088 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

## SECTION 7: Handling and storage

Y1089r- E. coli Strain	before handling or use. Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
Y1090r- 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.
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.
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.
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.

### 7.3 Specific end use(s)

#### Recommendations

: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	Industrial applications, Professional applications.
pRheo/EcoR I Test Insert	Industrial applications, Professional applications.
Y1088 E. coli Strain	Industrial applications, Professional applications.
Y1089r- E. coli Strain	Industrial applications, Professional applications.
Y1090r- E. coli Strain	Industrial applications, Professional applications.
Gigapack III packaging	Industrial applications, Professional applications.

Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## SECTION 7: Handling and storage

	extract	
	Wild-Type Lambda DNA	Industrial applications, Professional applications.
	c1857ind 1 Sam7	
	VCS257 E. coli Strain	Industrial applications, Professional applications.
<b>Industrial sector specific solutions</b>	: Lambda gt11 Vector	Not applicable.
	Digested With EcoR I	
	And Dephosphorylated	
	pRho/EcoR I Test Insert	Not applicable.
	Y1088 E. coli Strain	Not applicable.
	Y1089r- E. coli Strain	Not applicable.
	Y1090r- E. coli Strain	Not applicable.
	Gigapack III packaging	Not applicable.
	extract	
	Wild-Type Lambda DNA	Not applicable.
	c1857ind 1 Sam7	
	VCS257 E. coli Strain	Not applicable.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
<b>Y1088 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>Y1089r- 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>Y1090r- 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

Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## SECTION 8: Exposure controls/personal protection

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.

**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 gt11 Vector	Liquid.
		Digested With EcoR I	
		And Dephosphorylated	
		pRho/EcoR I Test	Liquid.
		Insert	
		Y1088 E. coli Strain	Liquid.
		Y1089r- E. coli Strain	Liquid.
		Y1090r- E. coli Strain	Liquid.
		Gigapack III packaging	Liquid.
		extract	
		Wild-Type Lambda	Liquid.
		DNA c1857ind 1 Sam7	
		VCS257 E. coli Strain	Liquid.

Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## SECTION 9: Physical and chemical properties

<b>Colour</b>	:	Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	Not available.  Not available.  Not available. Not available. Not available. Not available. Not available. Not available. Not available.
<b>Odour</b>	:	Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	Not available.  Not available.  Not available. Not available. Not available. Not available. Not available. Not available.
<b>Odour threshold</b>	:	Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	Not available.  Not available.  Not available. Not available. Not available. Not available. Not available.
<b>pH</b>	:	Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	7.5  7.5  7 7 7 8 7 7
<b>Melting point/freezing point</b>	:	Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging	0°C  0°C  Not available. Not available. Not available. Not available.



Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## SECTION 9: Physical and chemical properties

	extract	
	Wild-Type Lambda	0°C
	DNA c1857ind 1 Sam7	
	VCS257 E. coli Strain	Not available.
<b>Initial boiling point and boiling range</b>	: Lambda gt11 Vector	100°C
	Digested With EcoR I	
	And Dephosphorylated	
	pRho/EcoR I Test	100°C
	Insert	
	Y1088 E. coli Strain	Not available.
	Y1089r- E. coli Strain	Not available.
	Y1090r- E. coli Strain	Not available.
	Gigapack III packaging	Not available.
	extract	
	Wild-Type Lambda	100°C
	DNA c1857ind 1 Sam7	
	VCS257 E. coli Strain	Not available.
<b>Flash point</b>	: Lambda gt11 Vector	Not available.
	Digested With EcoR I	
	And Dephosphorylated	
	pRho/EcoR I Test	Not available.
	Insert	
	Y1088 E. coli Strain	Not available.
	Y1089r- E. coli Strain	Not available.
	Y1090r- E. coli Strain	Not available.
	Gigapack III packaging	Not available.
	extract	
	Wild-Type Lambda	Not available.
	DNA c1857ind 1 Sam7	
	VCS257 E. coli Strain	Not available.
<b>Evaporation rate</b>	: Lambda gt11 Vector	Not available.
	Digested With EcoR I	
	And Dephosphorylated	
	pRho/EcoR I Test	Not available.
	Insert	
	Y1088 E. coli Strain	Not available.
	Y1089r- E. coli Strain	Not available.
	Y1090r- E. coli Strain	Not available.
	Gigapack III packaging	Not available.
	extract	
	Wild-Type Lambda	Not available.
	DNA c1857ind 1 Sam7	
	VCS257 E. coli Strain	Not available.
<b>Flammability (solid, gas)</b>	: Lambda gt11 Vector	Not applicable.
	Digested With EcoR I	
	And Dephosphorylated	
	pRho/EcoR I Test	Not applicable.
	Insert	
	Y1088 E. coli Strain	Not applicable.
	Y1089r- E. coli Strain	Not applicable.
	Y1090r- E. coli Strain	Not applicable.
	Gigapack III packaging	Not applicable.
	extract	
	Wild-Type Lambda	Not applicable.
	DNA c1857ind 1 Sam7	
	VCS257 E. coli Strain	Not applicable.

Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## SECTION 9: Physical and chemical properties

<b>Upper/lower flammability or explosive limits</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available.
<b>Vapour pressure</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available.
<b>Vapour density</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available.
<b>Relative density</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available.
<b>Solubility(ies)</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain	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. Easily soluble in the following materials: cold water and hot water.

*Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612*

## SECTION 9: Physical and chemical properties

	Y1090r- E. coli Strain	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.
	Wild-Type Lambda DNA c1857ind 1 Sam7	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.
<b>Partition coefficient: n-octanol/water</b>	: Lambda gt11 Vector	Not available.
	Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert	Not available.
	Y1088 E. coli Strain	Not available.
	Y1089r- E. coli Strain	Not available.
	Y1090r- E. coli Strain	Not available.
	Gigapack III packaging extract	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	VCS257 E. coli Strain	Not available.
<b>Auto-ignition temperature</b>	: Lambda gt11 Vector	Not available.
	Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert	Not available.
	Y1088 E. coli Strain	Not available.
	Y1089r- E. coli Strain	Not available.
	Y1090r- E. coli Strain	Not available.
	Gigapack III packaging extract	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	VCS257 E. coli Strain	Not available.
<b>Decomposition temperature</b>	: Lambda gt11 Vector	Not available.
	Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert	Not available.
	Y1088 E. coli Strain	Not available.
	Y1089r- E. coli Strain	Not available.
	Y1090r- E. coli Strain	Not available.
	Gigapack III packaging extract	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	VCS257 E. coli Strain	Not available.
<b>Viscosity</b>	: Lambda gt11 Vector	Not available.
	Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert	Not available.
	Y1088 E. coli Strain	Not available.
	Y1089r- E. coli Strain	Not available.
	Y1090r- E. coli Strain	Not available.
	Gigapack III packaging extract	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	VCS257 E. coli Strain	Not available.

Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## SECTION 9: Physical and chemical properties

<b>Explosive properties</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert	Not available. Not available.
	Y1088 E. coli Strain	Not available.
	Y1089r- E. coli Strain	Not available.
	Y1090r- E. coli Strain	Not available.
	Gigapack III packaging extract	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	VCS257 E. coli Strain	Not available.
<b>Oxidising properties</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert	Not available. Not available.
	Y1088 E. coli Strain	Not available.
	Y1089r- E. coli Strain	Not available.
	Y1090r- E. coli Strain	Not available.
	Gigapack III packaging extract	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	VCS257 E. coli Strain	Not available.

### 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
	Y1088 E. coli Strain	No specific test data related to reactivity available for this product or its ingredients.
	Y1089r- E. coli Strain	No specific test data related to reactivity available for this product or its ingredients.
	Y1090r- E. coli Strain	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.
	Wild-Type Lambda DNA c1857ind 1 Sam7	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.
<b>10.2 Chemical stability</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert	The product is stable. The product is stable.
	Y1088 E. coli Strain	The product is stable.
	Y1089r- E. coli Strain	The product is stable.
	Y1090r- E. coli Strain	The product is stable.
	Gigapack III packaging extract	The product is stable.
	Wild-Type Lambda DNA c1857ind 1 Sam7	The product is stable.

Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## SECTION 10: Stability and reactivity

VCS257 E. coli Strain The product is stable.

### 10.3 Possibility of hazardous reactions

- : Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert Under normal conditions of storage and use, hazardous reactions will not occur.
- Y1088 E. coli Strain Under normal conditions of storage and use, hazardous reactions will not occur.
- Y1089r- E. coli Strain Under normal conditions of storage and use, hazardous reactions will not occur.
- Y1090r- E. coli Strain 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.
- Wild-Type Lambda DNA c1857ind 1 Sam7 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.

### 10.4 Conditions to avoid

- : Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert No specific data.
- Y1088 E. coli Strain No specific data.
- Y1089r- E. coli Strain No specific data.
- Y1090r- E. coli Strain No specific data.
- Gigapack III packaging extract No specific data.
- Wild-Type Lambda DNA c1857ind 1 Sam7 No specific data.
- VCS257 E. coli Strain No specific data.

### 10.5 Incompatible materials

- : Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert May react or be incompatible with oxidising materials.
- Y1088 E. coli Strain May react or be incompatible with oxidising materials.
- Y1089r- E. coli Strain May react or be incompatible with oxidising materials.
- Y1090r- E. coli Strain May react or be incompatible with oxidising materials.
- Gigapack III packaging extract May react or be incompatible with oxidising materials.
- Wild-Type Lambda DNA c1857ind 1 Sam7 May react or be incompatible with oxidising materials.
- VCS257 E. coli Strain May react or be incompatible with oxidising materials.

### 10.6 Hazardous decomposition products

- : Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Y1088 E. coli Strain Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Y1089r- E. coli Strain Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Y1090r- E. coli Strain 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.
- Wild-Type Lambda DNA Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## SECTION 10: Stability and reactivity

c1857ind 1 Sam7  
VCS257 E. coli Strain

decomposition products should not be produced.  
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>Y1088 E. coli Strain</b> Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
<b>Y1089r- E. coli Strain</b> Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
<b>Y1090r- 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>Y1088 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>Y1089r- 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>Y1090r- 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.

#### Specific target organ toxicity (single exposure)

Not available.

#### Specific target organ toxicity (repeated exposure)

**Date of issue/Date of revision** : 21/12/2017



Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## SECTION 11: Toxicological information

Not available.

### Aspiration hazard

Not available.

### Information on likely routes of exposure

: Lambda gt11 Vector	Not available.
Digested With EcoR I	
And Dephosphorylated	
pRheo/EcoR I Test Insert	Not available.
Y1088 E. coli Strain	Routes of entry anticipated: Oral, Dermal, Inhalation.
Y1089r- E. coli Strain	Routes of entry anticipated: Oral, Dermal, Inhalation.
Y1090r- E. coli Strain	Routes of entry anticipated: Oral, Dermal, Inhalation.
Gigapack III packaging extract	Not available.
Wild-Type Lambda DNA	Not available.
c1857ind 1 Sam7	
VCS257 E. coli Strain	Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential acute health effects

#### Inhalation

: Lambda gt11 Vector	No known significant effects or critical hazards.
Digested With EcoR I	
And Dephosphorylated	
pRheo/EcoR I Test Insert	No known significant effects or critical hazards.
Y1088 E. coli Strain	No known significant effects or critical hazards.
Y1089r- E. coli Strain	No known significant effects or critical hazards.
Y1090r- E. coli Strain	No known significant effects or critical hazards.
Gigapack III packaging extract	No known significant effects or critical hazards.
Wild-Type Lambda DNA	No known significant effects or critical hazards.
c1857ind 1 Sam7	
VCS257 E. coli Strain	No known significant effects or critical hazards.

#### Ingestion

: Lambda gt11 Vector	No known significant effects or critical hazards.
Digested With EcoR I	
And Dephosphorylated	
pRheo/EcoR I Test Insert	No known significant effects or critical hazards.
Y1088 E. coli Strain	No known significant effects or critical hazards.
Y1089r- E. coli Strain	No known significant effects or critical hazards.
Y1090r- E. coli Strain	No known significant effects or critical hazards.
Gigapack III packaging extract	No known significant effects or critical hazards.
Wild-Type Lambda DNA	No known significant effects or critical hazards.
c1857ind 1 Sam7	
VCS257 E. coli Strain	No known significant effects or critical hazards.

#### Skin contact

: Lambda gt11 Vector	No known significant effects or critical hazards.
Digested With EcoR I	
And Dephosphorylated	
pRheo/EcoR I Test Insert	No known significant effects or critical hazards.
Y1088 E. coli Strain	No known significant effects or critical hazards.
Y1089r- E. coli Strain	No known significant effects or critical hazards.
Y1090r- E. coli Strain	No known significant effects or critical hazards.
Gigapack III packaging extract	No known significant effects or critical hazards.
Wild-Type Lambda DNA	No known significant effects or critical hazards.
c1857ind 1 Sam7	
VCS257 E. coli Strain	No known significant effects or critical hazards.

Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## SECTION 11: Toxicological information

<b>Eye contact</b>	:	Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 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. No known significant effects or critical hazards.
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### Symptoms related to the physical, chemical and toxicological characteristics

<b>Inhalation</b>	:	Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	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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<b>Ingestion</b>	:	Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	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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<b>Skin contact</b>	:	Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	No specific data.  No specific data. No specific data. No specific data. No specific data. No specific data.
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<b>Eye contact</b>	:	Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract 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 gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## SECTION 11: Toxicological information

VCS257 E. coli Strain 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>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 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. No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 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. No known significant effects or critical hazards.
<b>Mutagenicity</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 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. No known significant effects or critical hazards.
<b>Teratogenicity</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089r- E. coli Strain Y1090r- E. coli Strain Gigapack III packaging extract	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 gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## SECTION 11: Toxicological information

<b>Developmental effects</b>	:	Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.
	:	VCS257 E. coli Strain	No known significant effects or critical hazards.
	:	Lambda gt11 Vector	No known significant effects or critical hazards.
	:	Digested With EcoR I	
	:	And Dephosphorylated	
	:	pRho/EcoR I Test Insert	No known significant effects or critical hazards.
	:	Y1088 E. coli Strain	No known significant effects or critical hazards.
	:	Y1089r- E. coli Strain	No known significant effects or critical hazards.
	:	Y1090r- E. coli Strain	No known significant effects or critical hazards.
	:	Gigapack III packaging extract	No known significant effects or critical hazards.
<b>Fertility effects</b>	:	Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.
	:	VCS257 E. coli Strain	No known significant effects or critical hazards.
	:	Lambda gt11 Vector	No known significant effects or critical hazards.
	:	Digested With EcoR I	
	:	And Dephosphorylated	
	:	pRho/EcoR I Test Insert	No known significant effects or critical hazards.
	:	Y1088 E. coli Strain	No known significant effects or critical hazards.
	:	Y1089r- E. coli Strain	No known significant effects or critical hazards.
	:	Y1090r- E. coli Strain	No known significant effects or critical hazards.
	:	Gigapack III packaging extract	No known significant effects or critical hazards.
	:	Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.
	:	VCS257 E. coli Strain	No known significant effects or critical hazards.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<b>Y1088 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>Y1089r- 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
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

Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## SECTION 12: Ecological information

<b>Y1090r- E. coli Strain</b> Sodium chloride	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 - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
<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 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks

### 12.2 Persistence and degradability

Not available.

### 12.3 Bioaccumulative potential

Not available.

### 12.4 Mobility in soil

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

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

**PBT** : Not applicable.

**vPvB** : Not applicable.

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

Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

## 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.

**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>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert Y1088 E. coli Strain Y1089- E. coli Strain Y1090- E. coli Strain Gigapack III packaging extract Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
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#### Other EU regulations

##### Ozone depleting substances (1005/2009/EU)

Not listed.

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



*Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612*

## SECTION 15: Regulatory information

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>	: Not determined.
<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>	: Not determined.
<b>Philippines</b>	: Not determined.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: All components are listed or exempted.
<b>Viet Nam</b>	: 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

**Date of issue/Date of revision** : 21/12/2017

Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612

**SECTION 16: Other information**

<b>Y1088 E. coli Strain</b> H319	Causes serious eye irritation.
<b>Y1089r- E. coli Strain</b> H319	Causes serious eye irritation.
<b>Y1090r- 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>Y1088 E. coli Strain</b> Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
<b>Y1089r- E. coli Strain</b> Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
<b>Y1090r- 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** : 21/12/2017

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

**Version** : 1

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