

# 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

<b>Product name</b>	: Lambda gt11- EcoR I - CIAP -Treated - Gigapack III Cloning Kit, Part Number 234612
<b>Part no. (chemical kit)</b>	: 234612
<b>Part no.</b>	: 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

<b>Material uses</b>	: Analytical reagent.
	Lambda gt11 Vector Digested With EcoR I 0.01 ml (10 µg 1 µg/µl) And Dephosphorylated 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

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

<b>Product definition</b>	: Lambda gt11 Vector Mixture Digested 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
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## SECTION 2: Hazards identification

Gigapack III packaging extract	Mixture
Wild-Type Lambda DNA c1857ind 1 Sam7	Mixture
VCS257 E. coli Strain	Mixture

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

Not classified.

<b>Ingredients of unknown toxicity</b>	: Y1088 E. coli Strain	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 10 - 30%
	: Y1089r- E. coli Strain	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 10 - 30%
	: Y1090r- E. coli Strain	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 10 - 30%
	: Gigapack III packaging extract	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%
	: VCS257 E. coli Strain	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 10 - 30%
<b>Ingredients of unknown ecotoxicity</b>	: Gigapack III packaging extract	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 8%

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	No signal word.	
	: Y1088 E. coli Strain	No signal word.	
	: Y1089r- E. coli Strain	No signal word.	
	: Y1090r- E. coli Strain	No signal word.	
	: Gigapack III packaging extract	No signal word.	
	: Wild-Type Lambda DNA c1857ind 1 Sam7	No signal word.	
	: VCS257 E. coli Strain	No signal word.	
	<b>Hazard statements</b>	: Lambda gt11 Vector 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 c1857ind 1 Sam7	No known significant effects or critical hazards.		
: VCS257 E. coli Strain	No known significant effects or critical hazards.		

### Precautionary statements

<b>Prevention</b>	: Lambda gt11 Vector 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 extract	Not applicable.

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

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## SECTION 2: Hazards identification

<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	
	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 extract	Not applicable.
	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	
	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 extract	Not applicable.
	Wild-Type Lambda DNA	Not applicable.
	c1857ind 1 Sam7	
VCS257 E. coli Strain	Not applicable.	

### 2.3 Other hazards

<b>Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII</b>	: Lambda gt11 Vector	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
	Digested With EcoR I	
	And Dephosphorylated	
	pRho/EcoR I Test Insert	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
	Y1088 E. coli Strain	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
	Y1089r- E. coli Strain	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
	Y1090r- E. coli Strain	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
	Gigapack III packaging extract	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
	Wild-Type Lambda DNA	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
	c1857ind 1 Sam7	
VCS257 E. coli Strain	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	

<b>Other hazards which do not result in classification</b>	: Lambda gt11 Vector	None known.
	Digested With EcoR I	
	And Dephosphorylated	
	pRho/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	None known.
	c1857ind 1 Sam7	
VCS257 E. coli Strain	None known.	

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### SECTION 3: Composition/information on ingredients

<b>3.1 Substances</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated	Mixture
	pRho/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 c1857ind	Mixture
	1 Sam7	
	VCS257 E. coli Strain	Mixture

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.
	Y1089r- 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.
	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 pRheo/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.
	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 pRheo/EcoR I Test Insert	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.

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## SECTION 4: First aid measures

### Ingestion

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.
VCS257 E. coli Strain	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
: 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.
pRheo/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.

## SECTION 4: First aid measures

<b>Protection of first-aiders</b>	:	Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/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 without suitable training.
		Gigapack III packaging extract	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	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.
<b>Inhalation</b>	:	Lambda gt11 Vector 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 c1857ind 1 Sam7	No known significant effects or critical hazards.
		VCS257 E. coli Strain	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	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.

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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 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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### Over-exposure signs/symptoms

<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.
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<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.
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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>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.
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## SECTION 4: First aid measures

### 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 pRho/EcoR I Test Insert	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Y1088 E. coli Strain	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Y1089r- E. coli Strain	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Y1090r- E. coli Strain	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Gigapack III packaging extract	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 pRho/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 pRho/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 pRho/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

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## SECTION 5: Firefighting measures

<b>Hazards from the substance or mixture</b>	: Lambda gt11 Vector	In a fire or if heated, a pressure increase will occur and the container may burst.
	Digested With EcoR I	
	And Dephosphorylated	
	pRho/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.
<b>Hazardous combustion products</b>	Gigapack III packaging extract	In a fire or if heated, a pressure increase will occur and the 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.
	: Lambda gt11 Vector	No specific data.
	Digested With EcoR I	
	And Dephosphorylated	
pRho/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	
pRho/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.	

## SECTION 5: Firefighting measures

### Special protective equipment for fire-fighters

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 c1857ind 1 Sam7	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
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.
: 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.
	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.
<b>For emergency responders</b>	: 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	If specialised clothing is required to deal with the spillage,

## SECTION 6: Accidental release measures

extract	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".

### 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

<b>Methods for cleaning up</b> : 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.

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

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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 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.

## SECTION 7: Handling and storage

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 before handling or use.
Y1089r- 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.
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.

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## SECTION 7: Handling and storage

### 7.3 Specific end use(s)

<b>Recommendations</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	Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications.
<b>Industrial sector specific solutions</b>	: Lambda 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 applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
Y1088 E. coli Strain Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 8/2018).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist
Y1089r- E. coli Strain Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 8/2018).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist
Y1090r- E. coli Strain Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 8/2018).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist
Gigapack III packaging extract Sucrose	<b>EH40/2005 WELs (United Kingdom (UK), 8/2018).</b> STEL: 20 mg/m <sup>3</sup> 15 minutes. TWA: 10 mg/m <sup>3</sup> 8 hours.
VCS257 E. coli Strain Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 8/2018).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist

<b>Recommended monitoring procedures</b>	: 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
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## SECTION 8: Exposure controls/personal protection

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

Product/ingredient name	Type	Exposure	Value	Population	Effects
<b>Y1088 E. coli Strain</b> Sodium chloride	DNEL	Short term Oral	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	295.52 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	295.52 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	443.28 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	443.28 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Short term Inhalation	2068.62 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	2068.62 mg/m <sup>3</sup>	Workers	Systemic
<b>Y1089r- E. coli Strain</b> Sodium chloride	DNEL	Short term Oral	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	295.52 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	295.52 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	443.28 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	443.28 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Short term Inhalation	2068.62 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	2068.62 mg/m <sup>3</sup>	Workers	Systemic
<b>Y1090r- E. coli Strain</b> Sodium chloride	DNEL	Short term Oral	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	295.52 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	295.52 mg/kg bw/day	Workers	Systemic

## SECTION 8: Exposure controls/personal protection

<b>VCS257 E. coli Strain</b> Sodium chloride	DNEL	Short term Inhalation	443.28 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	443.28 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Short term Inhalation	2068.62 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	2068.62 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Short term Oral	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	295.52 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	295.52 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	443.28 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	443.28 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Short term Inhalation	2068.62 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	2068.62 mg/m <sup>3</sup>	Workers	Systemic

### PNECs

No PNECs available

### 8.2 Exposure controls

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

### Individual protection measures

**Hygiene measures** : Handle as biohazard material (Biosafety level 1). Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**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.

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## SECTION 8: Exposure controls/personal protection

- 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 Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert	Liquid. Liquid. Liquid. Liquid. Liquid.
<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. 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. 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	Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available.

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## SECTION 9: Physical and chemical properties

	Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	Not available.
<b>pH</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert	7.5
	Y1088 E. coli Strain	7
	Y1089r- E. coli Strain	7
	Y1090r- E. coli Strain	7
	Gigapack III packaging extract	8
	Wild-Type Lambda DNA c1857ind 1 Sam7 VCS257 E. coli Strain	7
<b>Melting point/freezing point</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert	0°C
	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 VCS257 E. coli Strain	0°C
<b>Initial boiling point and boiling range</b>	: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRho/EcoR I Test Insert	100°C
	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 VCS257 E. coli Strain	100°C
	Y1088 E. coli Strain	Not available.
<b>Flash point</b>	: Lambda gt11 Vector 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 VCS257 E. coli Strain	Not available.

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<b>Evaporation rate</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.
<b>Flammability (solid, gas)</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 applicable.  Not applicable.  Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<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.
<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.
<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	Not available.  Not available.  Not available. Not available. Not available.

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## SECTION 9: Physical and chemical properties

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

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## SECTION 9: Physical and chemical properties

<b>Decomposition temperature</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. Not available. Not available.
<b>Viscosity</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. Not available. Not available.
<b>Explosive properties</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. Not available. Not available.
<b>Oxidising properties</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. Not available. Not available.

### 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	<ul style="list-style-type: none"> <li>: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert</li> <li>Y1088 E. coli Strain</li> <li>Y1089r- E. coli Strain</li> <li>Y1090r- E. coli Strain</li> <li>Gigapack III packaging extract</li> <li>Wild-Type Lambda DNA c1857ind 1 Sam7</li> <li>VCS257 E. coli Strain</li> </ul>	<ul style="list-style-type: none"> <li>No specific test data related to reactivity available for this product or its ingredients.</li> <li>No specific test data related to reactivity available for this product or its ingredients.</li> <li>No specific test data related to reactivity available for this product or its ingredients.</li> <li>No specific test data related to reactivity available for this product or its ingredients.</li> <li>No specific test data related to reactivity available for this product or its ingredients.</li> <li>No specific test data related to reactivity available for this product or its ingredients.</li> <li>No specific test data related to reactivity available for this product or its ingredients.</li> </ul>
<b>10.2 Chemical stability</b>	<ul style="list-style-type: none"> <li>: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert</li> <li>Y1088 E. coli Strain</li> <li>Y1089r- E. coli Strain</li> <li>Y1090r- E. coli Strain</li> <li>Gigapack III packaging extract</li> <li>Wild-Type Lambda DNA c1857ind 1 Sam7</li> <li>VCS257 E. coli Strain</li> </ul>	<ul style="list-style-type: none"> <li>The product is stable.</li> <li>The product is stable.</li> <li>The product is stable.</li> <li>The product is stable.</li> <li>The product is stable.</li> <li>The product is stable.</li> <li>The product is stable.</li> </ul>
<b>10.3 Possibility of hazardous reactions</b>	<ul style="list-style-type: none"> <li>: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert</li> <li>Y1088 E. coli Strain</li> <li>Y1089r- E. coli Strain</li> <li>Y1090r- E. coli Strain</li> <li>Gigapack III packaging extract</li> <li>Wild-Type Lambda DNA c1857ind 1 Sam7</li> <li>VCS257 E. coli Strain</li> </ul>	<ul style="list-style-type: none"> <li>Under normal conditions of storage and use, hazardous reactions will not occur.</li> <li>Under normal conditions of storage and use, hazardous reactions will not occur.</li> <li>Under normal conditions of storage and use, hazardous reactions will not occur.</li> <li>Under normal conditions of storage and use, hazardous reactions will not occur.</li> <li>Under normal conditions of storage and use, hazardous reactions will not occur.</li> <li>Under normal conditions of storage and use, hazardous reactions will not occur.</li> <li>Under normal conditions of storage and use, hazardous reactions will not occur.</li> </ul>
<b>10.4 Conditions to avoid</b>	<ul style="list-style-type: none"> <li>: Lambda gt11 Vector Digested With EcoR I And Dephosphorylated pRheo/EcoR I Test Insert</li> <li>Y1088 E. coli Strain</li> <li>Y1089r- E. coli Strain</li> <li>Y1090r- E. coli Strain</li> <li>Gigapack III packaging extract</li> <li>Wild-Type Lambda DNA c1857ind 1 Sam7</li> <li>VCS257 E. coli Strain</li> </ul>	<ul style="list-style-type: none"> <li>No specific data.</li> <li>No specific data.</li> <li>No specific data.</li> <li>No specific data.</li> <li>No specific data.</li> <li>No specific data.</li> <li>No specific data.</li> </ul>

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## SECTION 10: Stability and reactivity

<b>10.5 Incompatible materials</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	May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials.
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<b>10.6 Hazardous decomposition products</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	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.
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## 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

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)

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<b>Y1088 E. coli Strain</b> Sodium chloride	3000	N/A	N/A	N/A	N/A
<b>Y1089r- E. coli Strain</b> Sodium chloride	3000	N/A	N/A	N/A	N/A
<b>Y1090r- E. coli Strain</b> Sodium chloride	3000	N/A	N/A	N/A	N/A
<b>VCS257 E. coli Strain</b> Sodium chloride	3000	N/A	N/A	N/A	N/A

### 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 mg	-
	Eyes - Moderate irritant	Rabbit	-	10 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
<b>Y1089r- E. coli Strain</b> Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Moderate irritant	Rabbit	-	10 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
<b>Y1090r- E. coli Strain</b> Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Moderate irritant	Rabbit	-	10 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
<b>VCS257 E. coli Strain</b> Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Moderate irritant	Rabbit	-	10 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-

### Sensitiser

**Conclusion/Summary** : Not available.

### Mutagenicity

**Conclusion/Summary** : Not available.

### Carcinogenicity

**Conclusion/Summary** : Not available.

### Reproductive toxicity

**Conclusion/Summary** : Not available.

### Teratogenicity

**Conclusion/Summary** : Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

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Not available.

<b>Information on likely routes of exposure</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. Routes of entry anticipated: Oral, Dermal, Inhalation. Routes of entry anticipated: Oral, Dermal, Inhalation. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available.  Not available.  Routes of entry anticipated: Oral, Dermal, Inhalation.
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### Potential acute health effects

<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 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.
<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 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.
<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 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.
<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	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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## SECTION 11: Toxicological information

c1857ind 1 Sam7  
VCS257 E. coli Strain No known significant effects or critical hazards.

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

<b>Inhalation</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	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 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	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 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	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
<b>Eye contact</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	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.

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

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

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**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 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>Developmental effects</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	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

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## SECTION 11: Toxicological information

<b>Fertility effects</b>	:	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.
		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 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 IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water Chronic NOEC 0.314 g/L Fresh water Chronic NOEC 100 mg/l Fresh water	Aquatic plants - Lemna minor Daphnia - Daphnia pulex Fish - Gambusia holbrooki - Adult	96 hours 21 days 8 weeks
<b>Y1089r- 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 IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water Chronic NOEC 0.314 g/L Fresh water Chronic NOEC 100 mg/l Fresh water	Aquatic plants - Lemna minor Daphnia - Daphnia pulex Fish - Gambusia holbrooki - Adult	96 hours 21 days 8 weeks
<b>Y1090r- 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 IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks

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## SECTION 12: Ecological information

VCS257 E. coli Strain Sodium chloride	Chronic NOEC 6 g/L Fresh water Chronic NOEC 0.314 g/L Fresh water Chronic NOEC 100 mg/l Fresh water	Aquatic plants - Lemna minor Daphnia - Daphnia pulex Fish - Gambusia holbrooki - Adult	96 hours 21 days 8 weeks
	Acute EC50 4.74 g/L Fresh water	Algae - Chlamydomonas reinhardtii	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water Acute LC50 1000000 µg/l Fresh water Chronic LC10 781 mg/l Fresh water	Aquatic plants - Lemna minor Fish - Morone saxatilis - Larvae Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	96 hours 96 hours 3 weeks
	Chronic NOEC 6 g/L Fresh water Chronic NOEC 0.314 g/L Fresh water Chronic NOEC 100 mg/l Fresh water	Aquatic plants - Lemna minor Daphnia - Daphnia pulex Fish - Gambusia holbrooki - Adult	96 hours 21 days 8 weeks

### 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

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

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

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

#### Packaging

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

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

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## SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

### Additional information

**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 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.
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### Other EU regulations

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

Not listed.

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

Not listed.

#### Seveso Directive

This product is not controlled under the Seveso Directive.

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## SECTION 15: Regulatory information

### 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>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.

<b>Abbreviations and acronyms</b>	: ATE = Acute Toxicity Estimate CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level EUH statement = CLP-specific Hazard statement N/A = Not available PBT = Persistent, Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration RRN = REACH Registration Number vPvB = Very Persistent and Very Bioaccumulative
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### Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

<b>Classification</b>	<b>Justification</b>
Not classified.	

### Full text of abbreviated H statements

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**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

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**Notice to reader**

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