

SAFETY DATA SHEET

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

Section 1. Identification

1.1 Product identifier

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

Part no. (chemical kit) : 247613

Part no. : Lambda DASH II Vector Double Digested 247211-51
 With BamH I And Xho I CIAP Treated

XL1-Blue MRA E.coli Strain	200302-81
XL1-Blue MRA (p2) E.coli Strain	200303-81
pME/Bam HI Test Insert	210200-53
Gigapack III packaging extract	200201-41
VCS257 E. coli Strain	200256-51
Wild-Type Lambda DNA c1857ind 1 Sam7	246203-51

Validation date : 2/21/2018

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

Material uses : Analytical reagent.

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

1.3 Details of the supplier of the safety data sheet

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

1.4 Emergency telephone number

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

Section 2. Hazards identification

2.1 Classification of the substance or mixture

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

Section 2. Hazards identification

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

Classification of the substance or mixture

XL1-Blue MRA E.coli Strain

H319 EYE IRRITATION - Category 2A

XL1-Blue MRA (p2) E.coli Strain

H319 EYE IRRITATION - Category 2A

VCS257 E. coli Strain




H319 EYE IRRITATION - Category 2A

Ingredients of unknown toxicity

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

2.2 GHS label elements

Hazard pictograms

: <input checked="" type="checkbox"/> XL1-Blue MRA E.coli Strain	
XL1-Blue MRA (p2) E.coli Strain	
VCS257 E. coli Strain	

Signal word :

Section 2. Hazards identification

	<ul style="list-style-type: none"> ☑ Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 	<p>No signal word.</p> <p>Warning</p> <p>Warning</p> <p>No signal word.</p> <p>No signal word.</p> <p>Warning</p> <p>No signal word.</p>
Hazard statements	<ul style="list-style-type: none"> ☑ Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 	<p>No known significant effects or critical hazards.</p> <p>H319 - Causes serious eye irritation.</p> <p>H319 - Causes serious eye irritation.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>H319 - Causes serious eye irritation.</p> <p>No known significant effects or critical hazards.</p>
Precautionary statements		
Prevention	<ul style="list-style-type: none"> ☑ Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 	<p>Not applicable.</p> <p>P280 - Wear eye or face protection.</p> <p>P264 - Wash hands thoroughly after handling.</p> <p>P280 - Wear eye or face protection.</p> <p>P264 - Wash hands thoroughly after handling.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>P280 - Wear eye or face protection.</p> <p>P264 - Wash hands thoroughly after handling.</p> <p>Not applicable.</p>
Response	<ul style="list-style-type: none"> ☑ Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 	<p>Not applicable.</p> <p>P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P337 + P313 - If eye irritation persists: Get medical attention.</p> <p>P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P337 + P313 - If eye irritation persists: Get medical attention.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P337 + P313 - If eye irritation persists: Get medical attention.</p> <p>Not applicable.</p>

Section 2. Hazards identification

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

Section 3. Composition/information on ingredients

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

Section 3. Composition/information on ingredients

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

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

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

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


Section 4. First aid measures

4.1 Description of necessary first aid measures

Eye contact	: <input checked="" type="checkbox"/> Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	XL1-Blue MRA E.coli Strain	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
	XL1-Blue MRA (p2) E.coli Strain	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
	pME/Bam HI Test Insert	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Gigapack III packaging extract	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	VCS257 E. coli Strain	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
	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.

Section 4. First aid measures

Inhalation

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

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- XL1-Blue MRA (p2) E.coli Strain

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- pME/Bam HI Test Insert


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

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- VCS257 E. coli Strain

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Wild-Type Lambda DNA c1857ind 1 Sam7

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


Skin contact

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

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- XL1-Blue MRA (p2) E.coli Strain

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

Section 4. First aid measures

		clothing before reuse. Clean shoes thoroughly before reuse.
	pME/Bam HI Test Insert	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Gigapack III packaging extract	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	VCS257 E. coli Strain	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	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.
Ingestion	:  Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	XL1-Blue MRA E.coli Strain	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	XL1-Blue MRA (p2) E.coli Strain	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	pME/Bam HI Test Insert	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small

Section 4. First aid measures

Gigapack III packaging extract

quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

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 dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

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.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact

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

No known significant effects or critical hazards.

Causes serious eye irritation.

Causes serious eye irritation.

No known significant effects or critical hazards.

No known significant effects or critical hazards.

Causes serious eye irritation.

No known significant effects or critical hazards.

Inhalation

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

No known significant effects or critical hazards.

No known significant effects or critical hazards.

No known significant effects or critical hazards.

No known significant effects or critical hazards.

No known significant effects or critical hazards.

No known significant effects or critical hazards.

No known significant effects or critical hazards.

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

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

Over-exposure signs/symptoms

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

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

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

Section 4. First aid measures

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

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

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

Section 4. First aid measures

Gigapack III packaging extract	or without suitable training. 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
Wild-Type Lambda DNA c1857ind 1 Sam7	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

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

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

Specific hazards arising from the chemical

<ul style="list-style-type: none"> : Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 	<p>In a fire or if heated, a pressure increase will occur and the container may burst.</p> <p>In a fire or if heated, a pressure increase will occur and the container may burst.</p> <p>In a fire or if heated, a pressure increase will occur and the container may burst.</p> <p>In a fire or if heated, a pressure increase will occur and the container may burst.</p> <p>In a fire or if heated, a pressure increase will occur and the container may burst.</p> <p>In a fire or if heated, a pressure increase will occur and the container may burst.</p> <p>In a fire or if heated, a pressure increase will occur and the container may burst.</p>
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Section 5. Fire-fighting measures

Hazardous thermal decomposition products	: λ Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain	No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
	XL1-Blue MRA (p2) E.coli Strain	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
	pME/Bam HI Test Insert Gigapack III packaging extract	No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide
	VCS257 E. coli Strain	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
	Wild-Type Lambda DNA c1857ind 1 Sam7	No specific data.

5.3 Advice for firefighters

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

Section 5. Fire-fighting measures

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

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: Λ mbda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
	XL1-Blue MRA E.coli Strain	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	XL1-Blue MRA (p2) E.coli Strain	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	pME/Bam HI Test Insert	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and

Section 6. Accidental release measures

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

Section 6. Accidental release measures

6.2 Environmental precautions

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

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up

<p> ▶ Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated </p>	<p>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.</p>
<p>XL1-Blue MRA E.coli Strain</p>	<p>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.</p>
<p>XL1-Blue MRA (p2) E.coli Strain</p>	<p>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.</p>
<p>pME/Bam HI Test Insert</p>	<p>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</p>

Section 6. Accidental release measures

Gigapack III packaging extract	inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
VCS257 E. coli Strain	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Wild-Type Lambda DNA c1857ind 1 Sam7	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures	: <input checked="" type="checkbox"/> Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain	Put on appropriate personal protective equipment (see Section 8). Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	XL1-Blue MRA (p2) E.coli Strain	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	pME/Bam HI Test Insert	Put on appropriate personal protective equipment (see Section 8).
	Gigapack III packaging extract	Put on appropriate personal protective equipment (see Section 8).
	VCS257 E. coli Strain	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Put on appropriate personal protective equipment (see Section 8).

Section 7. Handling and storage

Advice on general occupational hygiene

<p>: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated</p>	<p>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</p>
<p>XL1-Blue MRA E.coli Strain</p>	<p>Potentially biohazardous material. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</p>
<p>XL1-Blue MRA (p2) E.coli Strain</p>	<p>Potentially biohazardous material. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</p>
<p>pME/Bam HI Test Insert</p>	<p>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</p>
<p>Gigapack III packaging extract</p>	<p>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</p>
<p>VCS257 E. coli Strain</p>	<p>Potentially biohazardous material. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</p>
<p>Wild-Type Lambda DNA c1857ind 1 Sam7</p>	<p>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</p>

Section 7. Handling and storage

7.2 Conditions for safe storage, including any incompatibilities

<p>λ Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated</p>	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
<p>XL1-Blue MRA E.coli Strain</p>	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
<p>XL1-Blue MRA (p2) E.coli Strain</p>	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
<p>pME/Bam HI Test Insert</p>	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
<p>Gigapack III packaging extract</p>	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
<p>VCS257 E. coli Strain</p>	<p>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</p>

Section 8. Exposure controls/personal protection

<p>XL1-Blue MRA (p2) E.coli Strain Glycerol</p>	<p>OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 10 mg/m³ 8 hours. Form: Total dust OSHA PEL (United States, 6/2016). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust None.</p>
<p>Sodium chloride</p>	
<p>VCS257 E. coli Strain Glycerol</p>	<p>OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 10 mg/m³ 8 hours. Form: Total dust OSHA PEL (United States, 6/2016). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust None.</p>
<p>Sodium chloride</p>	

8.2 Exposure controls

Appropriate engineering controls

: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

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

Eye/face protection

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

Skin protection

Hand protection

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

Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

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.

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	:	Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Liquid.
		XL1-Blue MRA E.coli Strain	Liquid.
		XL1-Blue MRA (p2) E.coli Strain	Liquid.
		pME/Bam HI Test Insert	Liquid.
		Gigapack III packaging extract	Liquid.
		VCS257 E. coli Strain	Liquid.
		Wild-Type Lambda DNA c1857ind 1 Sam7	Liquid.
Color	:	Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Not available.
		XL1-Blue MRA E.coli Strain	Not available.
		XL1-Blue MRA (p2) E.coli Strain	Not available.
		pME/Bam HI Test Insert	Not available.
		Gigapack III packaging extract	Not available.
		VCS257 E. coli Strain	Not available.
		Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
Odor	:	Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Not available.
		XL1-Blue MRA E.coli Strain	Not available.
		XL1-Blue MRA (p2) E.coli Strain	Not available.
		pME/Bam HI Test Insert	Not available.
		Gigapack III packaging extract	Not available.
		VCS257 E. coli Strain	Not available.
		Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
Odor threshold	:	Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Not available.
		XL1-Blue MRA E.coli Strain	Not available.
		XL1-Blue MRA (p2) E.coli Strain	Not available.
		pME/Bam HI Test Insert	Not available.
		Gigapack III packaging extract	Not available.
		VCS257 E. coli Strain	Not available.
		Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
pH	:	Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	7.5
		XL1-Blue MRA E.coli Strain	7
		XL1-Blue MRA (p2) E.coli Strain	7
		pME/Bam HI Test Insert	7.5
		Gigapack III packaging extract	8
		VCS257 E. coli Strain	7
		Wild-Type Lambda DNA c1857ind	7

Section 9. Physical and chemical properties

	1 Sam7	
Melting point	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	0°C (32°F)
	XL1-Blue MRA E.coli Strain	Not available.
	XL1-Blue MRA (p2) E.coli Strain	Not available.
	pME/Bam HI Test Insert	0°C (32°F)
	Gigapack III packaging extract	Not available.
	VCS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	0°C (32°F)
Boiling point	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	100°C (212°F)
	XL1-Blue MRA E.coli Strain	Not available.
	XL1-Blue MRA (p2) E.coli Strain	Not available.
	pME/Bam HI Test Insert	100°C (212°F)
	Gigapack III packaging extract	Not available.
	VCS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	100°C (212°F)
Flash point	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Not available.
	XL1-Blue MRA E.coli Strain	Not available.
	XL1-Blue MRA (p2) E.coli Strain	Not available.
	pME/Bam HI Test Insert	Not available.
	Gigapack III packaging extract	Not available.
	VCS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
Evaporation rate	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Not available.
	XL1-Blue MRA E.coli Strain	Not available.
	XL1-Blue MRA (p2) E.coli Strain	Not available.
	pME/Bam HI Test Insert	Not available.
	Gigapack III packaging extract	Not available.
	VCS257 E. coli Strain	Not available.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
Flammability (solid, gas)	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated	Not applicable.
	XL1-Blue MRA E.coli Strain	Not applicable.
	XL1-Blue MRA (p2) E.coli Strain	Not applicable.
	pME/Bam HI Test Insert	Not applicable.
	Gigapack III packaging extract	Not applicable.
	VCS257 E. coli Strain	Not applicable.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Not applicable.

Section 9. Physical and chemical properties

Lower and upper explosive (flammable) limits	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Not available. Not available. Not available. Not available. Not available. Not available.
Vapor pressure	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Not available. Not available. Not available. Not available. Not available. Not available.
Vapor density	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Not available. Not available. Not available. Not available. Not available. Not available.
Relative density	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Not available. Not available. Not available. Not available. Not available. Not available.
Solubility	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	Easily soluble in the following materials: cold water and hot water. Soluble in the following materials: cold water and hot water. Soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water.

Section 9. Physical and chemical properties

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

Section 10. Stability and reactivity

10.1 Reactivity	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
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Section 10. Stability and reactivity

10.2 Chemical stability	<ul style="list-style-type: none"> ☑ Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 	<ul style="list-style-type: none"> The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable.
10.3 Possibility of hazardous reactions	<ul style="list-style-type: none"> ☑ Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 	<ul style="list-style-type: none"> Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	<ul style="list-style-type: none"> ☑ Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 	<ul style="list-style-type: none"> No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
10.5 Incompatible materials	<ul style="list-style-type: none"> ☑ Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 	<ul style="list-style-type: none"> May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials.

Section 10. Stability and reactivity

10.6 Hazardous decomposition products	: <input checked="" type="checkbox"/> Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7	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
<input checked="" type="checkbox"/> XL1-Blue MRA E.coli Strain Glycerol	LD50 Oral	Rat	12600 mg/kg	-
	Sodium chloride	Rat	3000 mg/kg	-
XL1-Blue MRA (p2) E.coli Strain Glycerol	LD50 Oral	Rat	12600 mg/kg	-
	Sodium chloride	Rat	3000 mg/kg	-
VCS257 E. coli Strain Glycerol	LD50 Oral	Rat	12600 mg/kg	-
	Sodium chloride	Rat	3000 mg/kg	-

Irritation/Corrosion

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

Section 11. Toxicological information

Sodium chloride	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
VCS257 E. coli Strain	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Sodium chloride	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant Skin - Mild irritant	Rabbit Rabbit	- -	10 milligrams 24 hours 500 milligrams	- -

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure

: Lambda DASH II Vector Double

Digested With BamH I And Xho I
CIAP Treated

XL1-Blue MRA E.coli Strain

XL1-Blue MRA (p2) E.coli Strain

pME/Bam HI Test Insert
Gigapack III packaging extract
VCS257 E. coli Strain

Wild-Type Lambda DNA c1857ind
1 Sam7

Not available.

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.

Not available.

Potential acute health effects

Section 11. Toxicological information

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

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain	No specific data. Adverse symptoms may include the following: pain or irritation watering redness Adverse symptoms may include the following: pain or irritation watering redness No specific data. No specific data. Adverse symptoms may include the following: pain or irritation
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Section 11. Toxicological information

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

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

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

Section 11. Toxicological information

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

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Route	ATE value
XL1-Blue MRA E.coli Strain Oral	300000 mg/kg
XL1-Blue MRA (p2) E.coli Strain Oral	300000 mg/kg
VCS257 E. coli Strain Oral	300000 mg/kg

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
XL1-Blue MRA E.coli Strain Glycerol Sodium chloride	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute EC50 4.74 g/L Fresh water	Algae - Chlamydomonas reinhardtii	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute EC50 402600 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks
XL1-Blue MRA (p2) E.coli Strain Glycerol Sodium chloride	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute EC50 4.74 g/L Fresh water	Algae - Chlamydomonas reinhardtii	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute EC50 402600 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks
VCS257 E. coli Strain Glycerol Sodium chloride	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute EC50 4.74 g/L Fresh water	Algae - Chlamydomonas reinhardtii	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute EC50 402600 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca -	3 weeks	

Section 12. Ecological information

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

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

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
XL1-Blue MRA E.coli Strain Glycerol	-1.76	-	low
XL1-Blue MRA (p2) E.coli Strain Glycerol	-1.76	-	low
VCS257 E. coli Strain Glycerol	-1.76	-	low

12.4 Mobility in soil

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

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

Section 13. Disposal considerations

13.1 Waste treatment methods

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

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

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

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

Section 14. Transport information

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

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

Transport in bulk according to 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

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

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

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

Section 15. Regulatory information

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification :

<ul style="list-style-type: none"> ☑ Lambda DASH II Vector Double Digested With BamH I And Xho I CIAP Treated XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pME/Bam HI Test Insert Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 	<ul style="list-style-type: none"> Not applicable. EYE IRRITATION - Category 2A EYE IRRITATION - Category 2A Not applicable. Not applicable. EYE IRRITATION - Category 2A Not applicable.
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Composition/information on ingredients

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

State regulations

Massachusetts : The following components are listed: GLYCERINE MIST; SUCROSE DUST

New York : None of the components are listed.

New Jersey : The following components are listed: GLYCERIN; 1,2,3-PROPANETRIOL

Pennsylvania : The following components are listed: 1,2,3-PROPANETRIOL; .ALPHA.-D-GLUCOPYRANOSIDE, .BETA.-D-FRUCTOFURANOSYL

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

Section 15. Regulatory information

Not listed.

Inventory list

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

Section 16. Other information

History

Date of issue	: 02/21/2018
Date of previous issue	: 02/29/2016
Version	: 5

Procedure used to derive the classification

Classification	Justification
XL1-Blue MRA E.coli Strain EYE IRRITATION - Category 2A	Calculation method
XL1-Blue MRA (p2) E.coli Strain EYE IRRITATION - Category 2A	Calculation method
VCS257 E. coli Strain EYE IRRITATION - Category 2A	Calculation method

Indicates information that has changed from previously issued version.

Notice to reader

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