

SAFETY DATA SHEET

Lambda FIX II Xho I Partial Fill-In - Gigapack III Cloning Kit, Part Number 248612

Section 1. Identification

Product identifier	: Lambda FIX II Xho I Partial Fill-In - Gigapack III Cloning Kit, Part Number 248612	
Part no. (chemical kit)	: 248612	
Part no.	: Gigapack III packaging extract	200201-41
	VCS257 E. coli Strain	200256-51
	Wild-Type Lambda DNA c1857ind 1 Sam7	246203-51
	Lambda FixII Vector Predigested With Xho I	248211-51
	XL1-Blue MRA E.coli Strain	200302-81
	XL1-Blue MRA (p2) E.coli Strain	200303-81
	pMF/BamH I Test Insert	210200-55
Material uses	: Analytical reagent.	
	Gigapack III packaging extract	0.275 ml (11 x 0.025 ml)
	VCS257 E. coli Strain	1 ml
	Wild-Type Lambda DNA c1857ind 1 Sam7	0.005 ml (1.05 µg 0.21 µg/µl)
	Lambda FixII Vector Predigested With Xho I	0.01 ml (10 µg 1 µg/µl)
	XL1-Blue MRA E.coli Strain	0.05 ml
	XL1-Blue MRA (p2) E.coli Strain	0.5 ml
	pMF/BamH I Test Insert	0.01 ml (5 µg 0.5 µg/µl)
Supplier/Manufacturer	: Agilent Technologies, Inc. 5301 Stevens Creek Blvd Santa Clara, CA 95051, USA 800-227-9770	
Emergency telephone number (with hours of operation)	: CHEMTREC®: 1-800-424-9300	

Section 2. Hazard identification

Classification of the substance or mixture

VCS257 E. coli Strain

H319 EYE IRRITATION - Category 2A

XL1-Blue MRA E.coli Strain






H319 EYE IRRITATION - Category 2A

XL1-Blue MRA (p2) E.coli Strain

H319 EYE IRRITATION - Category 2A

GHS label elements

Section 2. Hazard identification

Hazard pictograms	: VCS257 E. coli Strain	
	XL1-Blue MRA E.coli Strain	
	XL1-Blue MRA (p2) E.coli Strain	
Signal word	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pMF/BamH I Test Insert	No signal word. Warning No signal word. No signal word. Warning Warning No signal word.
Hazard statements	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pMF/BamH I Test Insert	No known significant effects or critical hazards. H319 - Causes serious eye irritation. No known significant effects or critical hazards. No known significant effects or critical hazards. H319 - Causes serious eye irritation. H319 - Causes serious eye irritation. No known significant effects or critical hazards.
<u>Precautionary statements</u>		
Prevention	:  Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pMF/BamH I Test Insert	Not applicable. P280 - Wear eye or face protection. Not applicable. Not applicable. P280 - Wear eye or face protection. P280 - Wear eye or face protection. Not applicable.
Response	:  Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA	Not applicable. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention. Not applicable.

Section 2. Hazard identification

	c1857ind 1 Sam7	
	Lambda FixII Vector	Not applicable.
	Predigested With Xho I	
	XL1-Blue MRA E.coli Strain	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.
	XL1-Blue MRA (p2) E.coli Strain	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.
Storage	pMF/BamH I Test Insert	Not applicable.
	: Gigapack III packaging extract	Not applicable.
	VCS257 E. coli Strain	Not applicable.
	Wild-Type Lambda DNA	Not applicable.
	c1857ind 1 Sam7	
Disposal	Lambda FixII Vector	Not applicable.
	Predigested With Xho I	
	XL1-Blue MRA E.coli Strain	Not applicable.
	XL1-Blue MRA (p2) E.coli Strain	Not applicable.
	pMF/BamH I Test Insert	Not applicable.
	: Gigapack III packaging extract	Not applicable.
	VCS257 E. coli Strain	Not applicable.
	Wild-Type Lambda DNA	Not applicable.
	c1857ind 1 Sam7	
	Lambda FixII Vector	Not applicable.
Supplemental label elements	Predigested With Xho I	
	XL1-Blue MRA E.coli Strain	Not applicable.
	XL1-Blue MRA (p2) E.coli Strain	Not applicable.
	pMF/BamH I Test Insert	Not applicable.
	: Gigapack III packaging extract	None known.
	VCS257 E. coli Strain	None known.
	Wild-Type Lambda DNA	None known.
	c1857ind 1 Sam7	
	Lambda FixII Vector	None known.
	Predigested With Xho I	
Other hazards which do not result in classification	XL1-Blue MRA E.coli Strain	None known.
	XL1-Blue MRA (p2) E.coli Strain	None known.
	pMF/BamH I Test Insert	None known.
	: Gigapack III packaging extract	None known.
	VCS257 E. coli Strain	None known.
	Wild-Type Lambda DNA	None known.
	c1857ind 1 Sam7	
	Lambda FixII Vector	None known.
	Predigested With Xho I	
	XL1-Blue MRA E.coli Strain	None known.
XL1-Blue MRA (p2) E.coli Strain	None known.	
	pMF/BamH I Test Insert	None known.

Section 3. Composition/information on ingredients

Substance/mixture	:	Gigapack III packaging extract	Mixture
		VCS257 E. coli Strain	Mixture
		Wild-Type Lambda DNA c1857ind 1 Sam7	Mixture
		Lambda FixII Vector Predigested With Xho I	Mixture
		XL1-Blue MRA E.coli Strain	Mixture
		XL1-Blue MRA (p2) E.coli Strain	Mixture
		pMF/BamH I Test Insert	Mixture

Ingredient name	% (w/w)	CAS number
VCS257 E. coli Strain		
Glycerol	10 - 30	56-81-5
Sodium chloride	0.1 - 1	7647-14-5
XL1-Blue MRA E.coli Strain		
Glycerol	10 - 30	56-81-5
Sodium chloride	0.1 - 1	7647-14-5
XL1-Blue MRA (p2) E.coli Strain		
Glycerol	10 - 30	56-81-5
Sodium chloride	0.1 - 1	7647-14-5

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

Description of necessary first aid measures

Eye contact	:	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.
		Lambda FixII Vector Predigested With Xho I	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.
		pMF/BamH I Test Insert	Immediately flush eyes with plenty of water,

Section 4. First-aid measures

Inhalation	:	Gigapack III packaging extract	occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		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. 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.
		Lambda FixII Vector Predigested With Xho I	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		XL1-Blue MRA 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.
Skin contact	:	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.
		pMF/BamH I 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	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.
Lambda FixII Vector	Flush contaminated skin with plenty of water.		

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	Predigested With Xho I	Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	XL1-Blue MRA E.coli Strain	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. 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 clothing before reuse. Clean shoes thoroughly before reuse.
	pMF/BamH I Test Insert	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	: Gigapack III packaging extract	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	VCS257 E. coli Strain	Wash out mouth with water. Remove 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.
	Lambda FixII Vector Predigested With Xho I	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

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XL1-Blue MRA (p2) E.coli Strain	<p>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.</p> <p>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.</p>
pMF/BamH I Test Insert	<p>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.</p>

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pMF/BamH I Test Insert	<p>No known significant effects or critical hazards.</p> <p>Causes serious eye irritation.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>Causes serious eye irritation.</p> <p>Causes serious eye irritation.</p>
Inhalation	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pMF/BamH I Test Insert	<p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p>

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Skin contact	: 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	No known significant effects or critical hazards.
	c1857ind 1 Sam7	
	Lambda FixII Vector	No known significant effects or critical hazards.
	Predigested With Xho I	
	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.
	pMF/BamH I Test Insert	No known significant effects or critical hazards.
	Ingestion	: Gigapack III packaging extract
VCS257 E. coli Strain		No known significant effects or critical hazards.
Wild-Type Lambda DNA		No known significant effects or critical hazards.
c1857ind 1 Sam7		
Lambda FixII Vector		No known significant effects or critical hazards.
Predigested With Xho I		
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.
pMF/BamH I Test Insert		No known significant effects or critical hazards.
<u>Over-exposure signs/symptoms</u>		
Eye contact	: 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	No specific data.
	c1857ind 1 Sam7	
	Lambda FixII Vector	No specific data.
	Predigested With Xho I	
	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
	pMF/BamH I Test Insert	No specific data.
	Inhalation	: Gigapack III packaging extract
VCS257 E. coli Strain		No specific data.
Wild-Type Lambda DNA		No specific data.
c1857ind 1 Sam7		
Lambda FixII Vector		No specific data.
Predigested With Xho I		
XL1-Blue MRA E.coli Strain		No specific data.
XL1-Blue MRA (p2) E.coli Strain		No specific data.
pMF/BamH I Test Insert		No specific data.

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Skin contact	: Gigapack III packaging extract	No specific data.	
	VCS257 E. coli Strain	No specific data.	
	Wild-Type Lambda DNA c1857ind 1 Sam7	No specific data.	
	Lambda FixII Vector Predigested With Xho I	No specific data.	
	XL1-Blue MRA E.coli Strain	No specific data.	
	XL1-Blue MRA (p2) E.coli Strain	No specific data.	
	pMF/BamH I Test Insert	No specific data.	
	Ingestion	: Gigapack III packaging extract	No specific data.
		VCS257 E. coli Strain	No specific data.
		Wild-Type Lambda DNA c1857ind 1 Sam7	No specific data.
Lambda FixII Vector Predigested With Xho I		No specific data.	
XL1-Blue MRA E.coli Strain	No specific data.		
XL1-Blue MRA (p2) E.coli Strain	No specific data.		
pMF/BamH I Test Insert	No specific data.		

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

Notes to physician	: 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.
	Lambda FixII Vector Predigested With Xho I	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.
	pMF/BamH I Test Insert	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: Gigapack III packaging extract	No specific treatment.
	VCS257 E. coli Strain	No specific treatment.
	Wild-Type Lambda DNA c1857ind 1 Sam7	No specific treatment.
	Lambda FixII Vector Predigested With Xho I	No specific treatment.
	XL1-Blue MRA E.coli Strain	No specific treatment.
	XL1-Blue MRA (p2) E.coli Strain	No specific treatment.
	pMF/BamH I Test Insert	No specific treatment.

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Protection of first-aiders	: Gigapack III packaging extract VCS257 E. coli Strain	No action shall be taken involving any personal risk or without suitable training.
	Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I 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.
	pMF/BamH I Test Insert	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	: Gigapack III packaging extract VCS257 E. coli Strain	Use an extinguishing agent suitable for the surrounding fire.
	Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain	Use an extinguishing agent suitable for the surrounding fire.
	XL1-Blue MRA (p2) E.coli Strain	Use an extinguishing agent suitable for the surrounding fire.
	pMF/BamH I Test Insert	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: Gigapack III packaging extract VCS257 E. coli Strain	None known.
	Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector	None known.
	Predigested With Xho I XL1-Blue MRA E.coli Strain	None known.
	XL1-Blue MRA (p2) E.coli Strain	None known.
	pMF/BamH I Test Insert	None known.

Section 5. Fire-fighting measures

Specific hazards arising from the chemical	: Gigapack III packaging extract	In a fire or if heated, a pressure increase will occur and the container may burst.
	VCS257 E. coli Strain	In a fire or if heated, a pressure increase will occur and the container may burst.
	Wild-Type Lambda DNA c1857ind 1 Sam7	In a fire or if heated, a pressure increase will occur and the container may burst.
	Lambda FixII Vector Predigested With Xho I	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	XL1-Blue MRA E.coli Strain	In a fire or if heated, a pressure increase will occur and the container may burst.
	pMF/BamH I Test Insert	In a fire or if heated, a pressure increase will occur and the container may burst.
	: Gigapack III packaging extract	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	VCS257 E. coli Strain	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides No specific data.
Special protective actions for fire-fighters	Wild-Type Lambda DNA c1857ind 1 Sam7	No specific data.
	Lambda FixII Vector Predigested With Xho I	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
	pMF/BamH I Test Insert	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides No specific data.
Special protective actions for fire-fighters	: 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.
	Lambda FixII Vector Predigested With Xho I	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

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		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.
	pMF/BamH 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.
Special protective equipment for fire-fighters	: 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.
	Lambda FixII Vector Predigested With Xho I	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.
	pMF/BamH 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.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: 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 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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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

Section 6. Accidental release measures

<p>Lambda FixII Vector Predigested With Xho I</p>	<p>areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. 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.</p>
<p>XL1-Blue MRA E.coli Strain</p>	<p>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.</p>
<p>XL1-Blue MRA (p2) E.coli Strain</p>	<p>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.</p>
<p>pMF/BamH I Test Insert</p>	<p>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.</p>
<p>For emergency responders : Gigapack III packaging extract</p>	<p>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".</p>
<p>VCS257 E. coli Strain</p>	<p>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".</p>
<p>Wild-Type Lambda DNA c1857ind 1 Sam7</p>	<p>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".</p>
<p>Lambda FixII Vector Predigested With Xho I</p>	<p>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".</p>
<p>XL1-Blue MRA E.coli Strain</p>	<p>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".</p>
<p>XL1-Blue MRA (p2) E.coli Strain</p>	<p>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".</p>
<p>pMF/BamH I Test Insert</p>	<p>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</p>

Section 6. Accidental release measures

information in "For non-emergency personnel".

Environmental precautions	: Gigapack III packaging extract	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).
	VCS257 E. coli Strain	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).
	Wild-Type Lambda DNA c1857ind 1 Sam7	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).
	Lambda FixII Vector Predigested With Xho I	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).
	XL1-Blue MRA E.coli Strain	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).
	XL1-Blue MRA (p2) E.coli Strain	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).
	pMF/BamH I Test Insert	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).

Methods and materials for containment and cleaning up

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

Section 6. Accidental release measures

Predigested With Xho I	area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
XL1-Blue MRA E.coli Strain	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
XL1-Blue MRA (p2) E.coli Strain	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
pMF/BamH 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.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

: 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).
Lambda FixII Vector	Put on appropriate personal protective equipment (see Section 8).
Predigested With Xho I	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 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.
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.
pMF/BamH I Test Insert	Put on appropriate personal protective equipment (see Section 8).

Section 7. Handling and storage

Advice on general occupational hygiene

: Gigapack III packaging extract	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
VCS257 E. coli Strain	Potentially biohazardous material. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Wild-Type Lambda DNA c1857ind 1 Sam7	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Lambda FixII Vector Predigested With Xho I	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
XL1-Blue MRA E.coli Strain	Potentially biohazardous material. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
XL1-Blue MRA (p2) E.coli Strain	Potentially biohazardous material. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
pMF/BamH 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.

Section 7. Handling and storage

<p>Conditions for safe storage, including any incompatibilities</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 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>Wild-Type Lambda DNA c1857ind 1 Sam7</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>Lambda FixII Vector Predigested With Xho I</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</p>

Section 7. Handling and storage

pMF/BamH I Test Insert

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. 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.

Section 8. Exposure controls/personal protection

[Control parameters](#)

[Occupational exposure limits](#)

Ingredient name	Exposure limits
<p>CS257 E. coli Strain Glycerol</p>	<p>CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 10 mg/m³ 8 hours. Form: Mist CA Quebec Provincial (Canada, 1/2014). TWAEV: 10 mg/m³ 8 hours. Form: mist CA Saskatchewan Provincial (Canada, 7/2013). STEL: 20 mg/m³ 15 minutes. Form: mist TWA: 10 mg/m³ 8 hours. Form: mist CA Ontario Provincial (Canada, 1/2018). TWA: 10 mg/m³ 8 hours. Form: mist CA British Columbia Provincial (Canada, 5/2019). TWA: 3 mg/m³ 8 hours. Form: respirable mist TWA: 10 mg/m³ 8 hours. Form: total mist</p>
<p>XL1-Blue MRA E.coli Strain Glycerol</p>	<p>CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 10 mg/m³ 8 hours. Form: Mist CA Quebec Provincial (Canada, 1/2014). TWAEV: 10 mg/m³ 8 hours. Form: mist CA Saskatchewan Provincial (Canada, 7/2013). STEL: 20 mg/m³ 15 minutes. Form: mist TWA: 10 mg/m³ 8 hours. Form: mist CA Ontario Provincial (Canada, 1/2018). TWA: 10 mg/m³ 8 hours. Form: mist CA British Columbia Provincial (Canada, 5/2019). TWA: 3 mg/m³ 8 hours. Form: respirable mist</p>

Section 8. Exposure controls/personal protection

<p>XL1-Blue MRA (p2) E.coli Strain Glycerol</p>	<p>TWA: 10 mg/m³ 8 hours. Form: total mist</p> <p>CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 10 mg/m³ 8 hours. Form: Mist CA Quebec Provincial (Canada, 1/2014). TWAEV: 10 mg/m³ 8 hours. Form: mist CA Saskatchewan Provincial (Canada, 7/2013). STEL: 20 mg/m³ 15 minutes. Form: mist TWA: 10 mg/m³ 8 hours. Form: mist CA Ontario Provincial (Canada, 1/2018). TWA: 10 mg/m³ 8 hours. Form: mist CA British Columbia Provincial (Canada, 5/2019). TWA: 3 mg/m³ 8 hours. Form: respirable mist TWA: 10 mg/m³ 8 hours. Form: total mist</p>
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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.

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

Appearance

Physical state	: Gigapack III packaging extract	Liquid.	
	VCS257 E. coli Strain	Liquid.	
	Wild-Type Lambda DNA c1857ind 1 Sam7	Liquid.	
	Lambda FixII Vector Predigested With Xho I	Liquid.	
	XL1-Blue MRA E.coli Strain	Liquid.	
	XL1-Blue MRA (p2) E.coli Strain	Liquid.	
	pMF/BamH I Test Insert	Liquid.	
	Color	: Gigapack III packaging extract	Not available.
		VCS257 E. coli Strain	Not available.
		Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
Lambda FixII Vector Predigested With Xho I		Not available.	
XL1-Blue MRA E.coli Strain		Not available.	
XL1-Blue MRA (p2) E.coli Strain		Not available.	
pMF/BamH I Test Insert		Not available.	
Odor		: Gigapack III packaging extract	Not available.
		VCS257 E. coli Strain	Not available.
		Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
	Lambda FixII Vector Predigested With Xho I	Not available.	
	XL1-Blue MRA E.coli Strain	Not available.	
	XL1-Blue MRA (p2) E.coli Strain	Not available.	
	pMF/BamH I Test Insert	Not available.	
	Odor threshold	: Gigapack III packaging extract	Not available.
		VCS257 E. coli Strain	Not available.
		Wild-Type Lambda DNA c1857ind 1 Sam7	Not available.
Lambda FixII Vector Predigested With Xho I		Not available.	
XL1-Blue MRA E.coli Strain		Not available.	
XL1-Blue MRA (p2) E.coli Strain		Not available.	
pMF/BamH I Test Insert		Not available.	
pH		: Gigapack III packaging extract	8
		VCS257 E. coli Strain	7
		Wild-Type Lambda DNA c1857ind 1 Sam7	7
	Lambda FixII Vector Predigested With Xho I	7.5	
	XL1-Blue MRA E.coli Strain	7	
	XL1-Blue MRA (p2) E.coli Strain	7	
	pMF/BamH I Test Insert	8	

Section 9. Physical and chemical properties

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

Section 9. Physical and chemical properties

Lower and upper explosive (flammable) limits	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pMF/BamH I Test Insert	Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available.
Vapor pressure	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pMF/BamH I Test Insert	Not available. Not available. Not available. Not available. Not available. Not available. Not available.
Vapor density	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pMF/BamH I Test Insert	Not available. Not available. Not available. Not available. Not available. Not available. Not available.
Relative density	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pMF/BamH I Test Insert	Not available. Not available. Not available. Not available. Not available. Not available. Not available.
Solubility	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pMF/BamH I Test Insert	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. 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.

Section 9. Physical and chemical properties

Partition coefficient: n-octanol/water	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pMF/BamH I Test Insert	Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available.
Auto-ignition temperature	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pMF/BamH I Test Insert	Not available. Not available. Not available. Not available. Not available. Not available. Not available.
Decomposition temperature	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pMF/BamH I Test Insert	Not available. Not available. Not available. Not available. Not available. Not available. Not available.
Viscosity	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pMF/BamH I Test Insert	Not available. Not available. Not available. Not available. Not available. Not available. Not available.

Section 10. Stability and reactivity

Reactivity	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	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

	pMF/BamH I Test Insert	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: Gigapack III packaging extract	The product is stable.
	VCS257 E. coli Strain	The product is stable.
	Wild-Type Lambda DNA	The product is stable.
	c1857ind 1 Sam7	
	Lambda FixII Vector	The product is stable.
	Predigested With Xho I	
	XL1-Blue MRA E.coli Strain	The product is stable.
	XL1-Blue MRA (p2) E.coli Strain	The product is stable.
	pMF/BamH I Test Insert	The product is stable.
Possibility of hazardous reactions	: Gigapack III packaging extract	Under normal conditions of storage and use, hazardous reactions will not occur.
	VCS257 E. coli Strain	Under normal conditions of storage and use, hazardous reactions will not occur.
	Wild-Type Lambda DNA	Under normal conditions of storage and use, hazardous reactions will not occur.
	c1857ind 1 Sam7	Under normal conditions of storage and use, hazardous reactions will not occur.
	Lambda FixII Vector	Under normal conditions of storage and use, hazardous reactions will not occur.
	Predigested With Xho I	Under normal conditions of storage and use, hazardous reactions will not occur.
	XL1-Blue MRA E.coli Strain	Under normal conditions of storage and use, hazardous reactions will not occur.
	XL1-Blue MRA (p2) E.coli Strain	Under normal conditions of storage and use, hazardous reactions will not occur.
	pMF/BamH I Test Insert	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Gigapack III packaging extract	No specific data.
	VCS257 E. coli Strain	No specific data.
	Wild-Type Lambda DNA	No specific data.
	c1857ind 1 Sam7	
	Lambda FixII Vector	No specific data.
	Predigested With Xho I	
	XL1-Blue MRA E.coli Strain	No specific data.
	XL1-Blue MRA (p2) E.coli Strain	No specific data.
	pMF/BamH I Test Insert	No specific data.
Incompatible materials	: Gigapack III packaging extract	May react or be incompatible with oxidizing materials.
	VCS257 E. coli Strain	May react or be incompatible with oxidizing materials.
	Wild-Type Lambda DNA	May react or be incompatible with oxidizing materials.
	c1857ind 1 Sam7	
	Lambda FixII Vector	May react or be incompatible with oxidizing materials.
	Predigested With Xho I	
	XL1-Blue MRA E.coli Strain	May react or be incompatible with oxidizing materials.
	XL1-Blue MRA (p2) E.coli Strain	May react or be incompatible with oxidizing materials.
	pMF/BamH I Test Insert	May react or be incompatible with oxidizing materials.

Section 10. Stability and reactivity

Hazardous decomposition products	: Gigapack III packaging extract	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	VCS257 E. coli Strain	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Wild-Type Lambda DNA c1857ind 1 Sam7	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Lambda FixII Vector Predigested With Xho I	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	XL1-Blue MRA E.coli Strain	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	XL1-Blue MRA (p2) E.coli Strain	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	pMF/BamH I Test Insert	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
VCS257 E. coli Strain Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
XL1-Blue MRA E.coli Strain Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
XL1-Blue MRA (p2) E.coli Strain Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-

Irritation/Corrosion

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

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Sodium chloride	Skin - Mild irritant	Rabbit	-	mg 24 hours 500	-
	Eyes - Moderate irritant	Rabbit	-	mg 24 hours 100	-
	Eyes - Moderate irritant	Rabbit	-	mg 10 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
XL1-Blue MRA (p2) E.coli Strain					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Moderate irritant	Rabbit	-	10 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-

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	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I	Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available. Not available.
	: XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain Strain pMF/BamH I Test Insert	Routes of entry anticipated: Oral, Dermal, Inhalation. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available.

Potential acute health effects

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Eye contact	: Gigapack III packaging extract	No known significant effects or critical hazards.
	VCS257 E. coli Strain	Causes serious eye irritation.
	Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.
	Lambda FixII Vector Predigested With Xho I	No known significant effects or critical hazards.
	XL1-Blue MRA E.coli Strain	Causes serious eye irritation.
Inhalation	: Gigapack III packaging extract	No known significant effects or critical hazards.
	VCS257 E. coli Strain	No known significant effects or critical hazards.
	Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.
	Lambda FixII Vector Predigested With Xho I	No known significant effects or critical hazards.
	XL1-Blue MRA E.coli Strain	No known significant effects or critical hazards.
Skin contact	: Gigapack III packaging extract	No known significant effects or critical hazards.
	VCS257 E. coli Strain	No known significant effects or critical hazards.
	Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.
	Lambda FixII Vector Predigested With Xho I	No known significant effects or critical hazards.
	XL1-Blue MRA E.coli Strain	No known significant effects or critical hazards.
Ingestion	: Gigapack III packaging extract	No known significant effects or critical hazards.
	VCS257 E. coli Strain	No known significant effects or critical hazards.
	Wild-Type Lambda DNA c1857ind 1 Sam7	No known significant effects or critical hazards.
	Lambda FixII Vector Predigested With Xho I	No known significant effects or critical hazards.
	XL1-Blue MRA E.coli Strain	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: 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.
	Lambda FixII Vector Predigested With Xho I	No specific data.
	XL1-Blue MRA E.coli Strain	Adverse symptoms may include the following:

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		pain or irritation watering redness
	XL1-Blue MRA (p2) E.coli Strain	Adverse symptoms may include the following:
		pain or irritation watering redness
Inhalation	: pMF/BamH I 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.
	Lambda FixII Vector	No specific data.
	Predigested With Xho I	
	XL1-Blue MRA E.coli Strain	No specific data.
	XL1-Blue MRA (p2) E.coli Strain	No specific data.
Skin contact	: pMF/BamH I 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.
	Lambda FixII Vector	No specific data.
	Predigested With Xho I	
	XL1-Blue MRA E.coli Strain	No specific data.
	XL1-Blue MRA (p2) E.coli Strain	No specific data.
Ingestion	: pMF/BamH I 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.
	Lambda FixII Vector	No specific data.
	Predigested With Xho I	
	XL1-Blue MRA E.coli Strain	No specific data.
	XL1-Blue MRA (p2) E.coli Strain	No specific data.
	pMF/BamH I Test Insert	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

Section 11. Toxicological information

General	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pMF/BamH I Test Insert	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.
Carcinogenicity	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pMF/BamH I Test Insert	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.
Mutagenicity	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pMF/BamH I Test Insert	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.
Teratogenicity	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pMF/BamH I Test Insert	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.
Developmental effects	: Gigapack III packaging extract VCS257 E. coli Strain Wild-Type Lambda DNA c1857ind 1 Sam7 Lambda FixII Vector Predigested With Xho I XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain pMF/BamH I Test Insert	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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Fertility effects	: 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	No known significant effects or critical hazards.
	c1857ind 1 Sam7	
	Lambda FixII Vector	No known significant effects or critical hazards.
	Predigested With Xho I	
	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.
	pMF/BamH I Test Insert	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
VCS257 E. coli Strain					
VCS257 E. coli Strain	300000	N/A	N/A	N/A	N/A
Glycerol	12600	N/A	N/A	N/A	N/A
Sodium chloride	3000	N/A	N/A	N/A	N/A
XL1-Blue MRA E.coli Strain					
XL1-Blue MRA E.coli Strain	300000	N/A	N/A	N/A	N/A
Glycerol	12600	N/A	N/A	N/A	N/A
Sodium chloride	3000	N/A	N/A	N/A	N/A
XL1-Blue MRA (p2) E.coli Strain					
XL1-Blue MRA (p2) E.coli Strain	300000	N/A	N/A	N/A	N/A
Glycerol	12600	N/A	N/A	N/A	N/A
Sodium chloride	3000	N/A	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
VCS257 E. coli Strain			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
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	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

Section 12. Ecological information

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 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 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	

Persistence and degradability

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

Bioaccumulative potential

Section 12. Ecological information

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

Mobility in soil

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

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

Section 13. Disposal considerations

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.

Section 14. Transport information

TDG / 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 IMO instruments : Not available.

Section 15. Regulatory information

Canadian lists

Canadian NPRI : None of the components are listed.

CEPA Toxic substances : None of the components are listed.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Section 15. Regulatory information

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

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.
New Zealand	: All components are listed or exempted.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: All components are listed or exempted.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: <input checked="" type="checkbox"/> All components are active or exempted.
Viet Nam	: Not determined.

Section 16. Other information

History

Date of issue/Date of revision : 07/20/2020

Date of previous issue : 04/30/2018

Version : 5

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
HPR = Hazardous Products Regulations
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
UN = United Nations

Procedure used to derive the classification

Section 16. Other information

Classification	Justification
✓CS257 E. coli Strain EYE IRRITATION - Category 2A	Calculation method
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

References : Not available.

✓ Indicates information that has changed from previously issued version.

Notice to reader

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