

SAFETY DATA SHEET



Lambda EMBL 3 BamHI Vector Kit, Part Number 241211

Section 1. Identification

Product identifier : Lambda EMBL 3 BamHI Vector Kit, Part Number 241211
Part No. (Chemical Kit) : 241211
Part No. : Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated 241211-51
 pME/Bam HI Test Insert 210200-53
 XL1-Blue MRA E.coli Strain 200302-81
 XL1-Blue MRA (p2) E.coli Strain 200303-81

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

Analytical reagent.

Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated 0.01 ml (10 µg 1 µg/µl)
 pME/Bam HI Test Insert 0.01 ml (2.5 µg 0.25 µg/µl)
 XL1-Blue MRA E.coli Strain 0.5 ml
 XL1-Blue MRA (p2) E.coli Strain 0.5 ml

Supplier/Manufacturer : Agilent Technologies Australia Pty Ltd
 679 Springvale Road
 Mulgrave
 Victoria 3170, Australia
 1800 802 402

Emergency telephone number (with hours of operation) : CHEMTREC®: (61)-290372994

Section 2. Hazard(s) identification

Classification of the substance or mixture

Not classified.

GHS label elements

Signal word : Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated No signal word.
 pME/Bam HI Test Insert No signal word.
 XL1-Blue MRA E.coli Strain No signal word.
 XL1-Blue MRA (p2) E.coli Strain No signal word.

Hazard statements : Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated No known significant effects or critical hazards.
 pME/Bam HI Test Insert 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.

Precautionary statements

Prevention : Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated Not applicable.
 pME/Bam HI Test Insert Not applicable.
 XL1-Blue MRA E.coli Strain Not applicable.
 XL1-Blue MRA (p2) E.coli Strain Not applicable.

Section 2. Hazard(s) identification

Response	: <input checked="" type="checkbox"/> Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Not applicable. Not applicable. Not applicable. Not applicable.
Storage	: <input checked="" type="checkbox"/> Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Not applicable. Not applicable. Not applicable. Not applicable.
Disposal	: <input checked="" type="checkbox"/> Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Not applicable. Not applicable. Not applicable. Not applicable.
Supplemental label elements	: <input checked="" type="checkbox"/> Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Not applicable. Not applicable. Not applicable. Not applicable.
Other hazards which do not result in classification	: <input checked="" type="checkbox"/> Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	None known. None known. None known. None known.

Section 3. Composition and ingredient information

Substance/mixture	: <input checked="" type="checkbox"/> Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Mixture Mixture Mixture Mixture
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CAS number/other identifiers





Ingredient name	% (w/w)	CAS number
<input checked="" type="checkbox"/> XL1-Blue MRA E.coli Strain Glycerol	≥10 - ≤30	56-81-5
XL1-Blue MRA (p2) E.coli Strain Glycerol	≥10 - ≤30	56-81-5

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	:  Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		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.
		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.
		Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	:  Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	:  Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain 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.
		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.
Ingestion	:  Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		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.
		Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Section 4. First aid measures

XL1-Blue MRA (p2) E.coli Strain

Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Inhalation	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	No specific data. No specific data. No specific data. No specific data.
Inhalation	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	No specific data. No specific data. No specific data. No specific data.
Skin contact	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	No specific data. No specific data. No specific data. No specific data.

Section 4. First aid measures

Ingestion	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	No specific data. No specific data. No specific data. No specific data.
<u>Indication of immediate medical attention and special treatment needed, if necessary</u>		
Notes to physician	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	No specific treatment. No specific treatment. No specific treatment.
Protection of first-aiders	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training.





See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	None known. None known. None known. None known.

Section 5. Firefighting measures

<p>Specific hazards arising from the chemical</p>	<p>:  Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert</p>	<p>In a fire or if heated, a pressure increase will occur and the container may burst.</p>
	<p>XL1-Blue MRA E.coli Strain</p>	<p>In a fire or if heated, a pressure increase will occur and the container may burst.</p>
	<p>XL1-Blue MRA (p2) E.coli Strain</p>	<p>In a fire or if heated, a pressure increase will occur and the container may burst.</p>
<p>Hazardous thermal decomposition products</p>	<p>:  Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain</p>	<p>No specific data.</p>
	<p>XL1-Blue MRA (p2) E.coli Strain</p>	<p>No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides</p>
<p>Special protective actions for fire-fighters</p>	<p>:  Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert</p>	<p>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.</p>
	<p>XL1-Blue MRA E.coli Strain</p>	<p>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.</p>
	<p>XL1-Blue MRA (p2) E.coli Strain</p>	<p>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.</p>
<p>Special protective equipment for fire-fighters</p>	<p>:  Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert</p>	<p>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</p>
	<p>XL1-Blue MRA E.coli Strain</p>	<p>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</p>
	<p>XL1-Blue MRA (p2) E.coli Strain</p>	<p>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</p>

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	pME/Bam HI Test Insert	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	XL1-Blue MRA E.coli Strain	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	XL1-Blue MRA (p2) E.coli Strain	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
For emergency responders	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	pME/Bam HI Test Insert	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	XL1-Blue MRA E.coli Strain	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	XL1-Blue MRA (p2) E.coli Strain	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	pME/Bam HI Test Insert	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	XL1-Blue MRA E.coli Strain	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	XL1-Blue MRA (p2) E.coli Strain	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Section 6. Accidental release measures

Methods and material for containment and cleaning up

Methods for cleaning up	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	pME/Bam HI Test Insert	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and 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.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	Put on appropriate personal protective equipment (see Section 8).
	pME/Bam HI Test Insert	Put on appropriate personal protective equipment (see Section 8).
	XL1-Blue MRA E.coli Strain	Put on appropriate personal protective equipment (see Section 8).
	XL1-Blue MRA (p2) E.coli Strain	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated	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.
	pME/Bam HI Test Insert	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	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	Potentially biohazardous material. Eating, drinking

Section 7. Handling and storage

	Strain	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>Conditions for safe storage, including any incompatibilities</p>	<p>: <input checked="" type="checkbox"/> Lambda EMBL3 Vector <input checked="" type="checkbox"/> Double Digested With EcoRI <input checked="" type="checkbox"/> And BamHI 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 unlabelled containers. Use appropriate containment to avoid environmental contamination.</p>
	pME/Bam HI Test Insert	<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 unlabelled containers. Use appropriate containment to avoid environmental contamination.</p>
	XL1-Blue MRA E.coli Strain	<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 unlabelled containers. Use appropriate containment to avoid environmental contamination.</p>
	XL1-Blue MRA (p2) E.coli Strain	<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 unlabelled containers. Use appropriate containment to avoid environmental contamination.</p>

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
<input checked="" type="checkbox"/> XL1-Blue MRA E.coli Strain Glycerol	<p>Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m³ 8 hours.</p>
<input checked="" type="checkbox"/> XL1-Blue MRA (p2) E.coli Strain Glycerol	<p>Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m³ 8 hours.</p>

Section 8. Exposure controls and personal protection

- 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** :
- | | |
|--|---------|
| Lambda EMBL3 Vector | Liquid. |
| Double Digested With EcoR
I And BamH I CIAP Treated
pME/Bam HI Test Insert | Liquid. |
| XL1-Blue MRA E.coli Strain | Liquid. |
| XL1-Blue MRA (p2) E.coli
Strain | Liquid. |
- Colour** :
- | | |
|--|----------------|
| Lambda EMBL3 Vector | Not available. |
| Double Digested With EcoR
I And BamH I CIAP Treated
pME/Bam HI Test Insert | Not available. |
| XL1-Blue MRA E.coli Strain | Not available. |
| XL1-Blue MRA (p2) E.coli
Strain | Not available. |
- Odour** :
- | | |
|--|----------------|
| Lambda EMBL3 Vector | Not available. |
| Double Digested With EcoR
I And BamH I CIAP Treated
pME/Bam HI Test Insert | Not available. |
| XL1-Blue MRA E.coli Strain | Not available. |
| XL1-Blue MRA (p2) E.coli
Strain | Not available. |

Section 9. Physical and chemical properties

Odour threshold	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Not available. Not available. Not available. Not available.
pH	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	7 7.5 7 7
Melting point	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	0°C (32°F) 0°C (32°F) Not available. Not available.
Boiling point	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	100°C (212°F) 100°C (212°F) Not available. Not available.
Flash point	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Not available. Not available. Not available. Not available.
Evaporation rate	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Not available. Not available. Not available. Not available.
Flammability (solid, gas)	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Not applicable. Not applicable. Not applicable. Not applicable.
Lower and upper explosive (flammable) limits	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Not available. Not available. Not available. Not available.

Section 9. Physical and chemical properties

Vapour pressure	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Not available. Not available. Not available. Not available.
Vapour density	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Not available. Not available. Not available. Not available.
Relative density	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Not available. Not available. Not available. Not available.
Solubility	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Soluble in the following materials: cold water and hot water. Soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Not available. Not available. Not available. Not available.
Auto-ignition temperature	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Not available. Not available. Not available. Not available.
Decomposition temperature	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Not available. Not available. Not available. Not available.
Viscosity	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	Not available. Not available. Not available. Not available.

Section 10. Stability and reactivity

Reactivity	<ul style="list-style-type: none"> : Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain 	<p>No specific test data related to reactivity available for this product or its ingredients.</p> <p>No specific test data related to reactivity available for this product or its ingredients.</p> <p>No specific test data related to reactivity available for this product or its ingredients.</p> <p>No specific test data related to reactivity available for this product or its ingredients.</p>
Chemical stability	<ul style="list-style-type: none"> : Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain 	<p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p>
Possibility of hazardous reactions	<ul style="list-style-type: none"> : Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain 	<p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p>
Conditions to avoid	<ul style="list-style-type: none"> : Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain 	<p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p>
Incompatible materials	<ul style="list-style-type: none"> : Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain 	<p>May react or be incompatible with oxidising materials.</p> <p>May react or be incompatible with oxidising materials.</p> <p>May react or be incompatible with oxidising materials.</p> <p>May react or be incompatible with oxidising materials.</p>
Hazardous decomposition products	<ul style="list-style-type: none"> : Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain 	<p>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</p> <p>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</p> <p>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</p> <p>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</p>

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

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

Irritation/Corrosion

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

Sensitisation

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure : **Lambda EMBL3 Vector** Not available.

Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert
XL1-Blue MRA E.coli Strain
XL1-Blue MRA (p2) E.coli Strain

Not available.

Routes of entry anticipated: Oral, Dermal, Inhalation.
Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Section 11. Toxicological information

Eye contact	: Lambda EMBL3 Vector	No known significant effects or critical hazards.
	Double Digested With EcoR	
	I And BamH I CIAP Treated	No known significant effects or critical hazards.
	pME/Bam HI Test Insert	No known significant effects or critical hazards.
Inhalation	: Lambda EMBL3 Vector	No known significant effects or critical hazards.
	Double Digested With EcoR	
	I And BamH I CIAP Treated	No known significant effects or critical hazards.
	pME/Bam HI Test Insert	No known significant effects or critical hazards.
Skin contact	: Lambda EMBL3 Vector	No known significant effects or critical hazards.
	Double Digested With EcoR	
	I And BamH I CIAP Treated	No known significant effects or critical hazards.
	pME/Bam HI Test Insert	No known significant effects or critical hazards.
Ingestion	: Lambda EMBL3 Vector	No known significant effects or critical hazards.
	Double Digested With EcoR	
	I And BamH I CIAP Treated	No known significant effects or critical hazards.
	pME/Bam HI Test Insert	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: Lambda EMBL3 Vector	No specific data.
	Double Digested With EcoR	
	I And BamH I CIAP Treated	No specific data.
	pME/Bam HI Test Insert	No specific data.
Inhalation	: Lambda EMBL3 Vector	No specific data.
	Double Digested With EcoR	
	I And BamH I CIAP Treated	No specific data.
	pME/Bam HI Test Insert	No specific data.
Skin contact	: Lambda EMBL3 Vector	No specific data.
	Double Digested With EcoR	
	I And BamH I CIAP Treated	No specific data.
	pME/Bam HI Test Insert	No specific data.
Ingestion	: Lambda EMBL3 Vector	No specific data.
	Double Digested With EcoR	
	I And BamH I CIAP Treated	No specific data.
	pME/Bam HI Test Insert	No specific data.

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

Section 11. Toxicological information

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

Not available.

General	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Carcinogenicity	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Teratogenicity	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Developmental effects	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Fertility effects	: Lambda EMBL3 Vector Double Digested With EcoR I And BamH I CIAP Treated pME/Bam HI Test Insert XL1-Blue MRA E.coli Strain XL1-Blue MRA (p2) E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 11. Toxicological information

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
XL1-Blue MRA E.coli Strain Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
XL1-Blue MRA (p2) E.coli Strain Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Not available.

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

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 minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Regulatory information

ADG / IMDG / IATA : Not regulated as Dangerous Goods according to the ADG Code .

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

Standard Uniform Schedule of Medicine and Poisons

Not regulated.

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

Australia inventory (AICS) : All components are listed or exempted.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Canada	: All components are listed or exempted.
China	: All components are listed or exempted.
Europe	: All components are listed or exempted.
Japan	: Japan inventory (ENCS) : All components are listed or exempted. Japan inventory (ISHL) : All components are listed or exempted.
Malaysia	: Not determined.
New Zealand	: All components are listed or exempted.
Philippines	: All components are listed or exempted.
Republic of Korea	: All components are listed or exempted.
Taiwan	: All components are listed or exempted.
Turkey	: Not determined.
United States	: All components are listed or exempted.

Section 16. Any other relevant information

History

Date of issue/Date of revision : 21/04/2017

Date of previous issue : 28/10/2015.

Version : 4

Key to abbreviations : ADG = Australian Dangerous Goods
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
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)
NOHSC = National Occupational Health and Safety Commission
SUSMP = Standard Uniform Schedule of Medicine and Poisons
UN = United Nations

Section 16. Any other relevant information

[Procedure used to derive the classification](#)

Classification	Justification
Not classified.	

References : Not available.

✔ Indicates information that has changed from previously issued version.

[Notice to reader](#)

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