

# SAFETY DATA SHEET



pBK-CMV Phagemid Vector, Part Number 212209

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

### 1.1 Product identifier

**Product name** : pBK-CMV Phagemid Vector, Part Number 212209  
**Part no. (chemical kit)** : 212209  
**Part no.** : pBK-CMV Phagemid Vector 212209-51  
XL1-Blue MRF<sup>+</sup> E.coli Strain 200301-81  
R408 Interference-Resistant Helper Phage 200252-81

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

**Material uses** : Analytical reagent.  
pBK-CMV Phagemid Vector 20 µl (20 µg 1 µg/µl)  
XL1-Blue MRF<sup>+</sup> E.coli Strain 500 µl  
R408 Interference-Resistant Helper Phage 1000 µl

### 1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG  
Hewlett-Packard-Str. 8  
76337 Waldbronn  
Germany  
0800 603 1000

**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

### 1.4 Emergency telephone number

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +(44)-870-8200418

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : pBK-CMV Phagemid Vector Mixture  
XL1-Blue MRF<sup>+</sup> E.coli Strain Mixture  
R408 Interference-Resistant Helper Phage Mixture

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

Not classified.

**Ingredients of unknown toxicity** :  XL1-Blue MRF<sup>+</sup> E.coli Strain Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 10 - 30%

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

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## SECTION 2: Hazards identification

<b>Signal word</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	No signal word. No signal word. No signal word.
<b>Hazard statements</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b><u>Precautionary statements</u></b>		
<b>Prevention</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Not applicable. Not applicable. Not applicable.
<b>Response</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Not applicable. Not applicable. Not applicable.
<b>Storage</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Not applicable. Not applicable. Not applicable.
<b>Disposal</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Not applicable. Not applicable. Not applicable.
<b>Hazardous ingredients</b>	: XL1-Blue MRF' E.coli Strain	Not applicable.
<b>Supplemental label elements</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Not applicable. Safety data sheet available on request. Not applicable.
<b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Not applicable. Not applicable. Not applicable.
<b><u>Special packaging requirements</u></b>		
<b>Tactile warning of danger</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Not applicable. Not applicable. Not applicable.

### 2.3 Other hazards

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## SECTION 2: Hazards identification

<b>Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	This mixture does not contain any substances that are assessed to be a PBT or a vPvB. This mixture does not contain any substances that are assessed to be a PBT or a vPvB. This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
<b>Other hazards which do not result in classification</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	None known. None known. None known.

## SECTION 3: Composition/information on ingredients

<b>3.1 Substances</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Mixture Mixture Mixture
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Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
XL1-Blue MRF' E.coli Strain	REACH #: Annex V	≥10 - ≤25	Not classified.	[2]
Glycerol	EC: 200-289-5			
	CAS: 56-81-5			
Sodium chloride	EC: 231-598-3	≤3	Eye Irrit. 2, H319	[1]
	CAS: 7647-14-5			
			<b>See Section 16 for the full text of the H statements declared above.</b>	

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

### Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

<b>Eye contact</b>	: pBK-CMV Phagemid Vector  XL1-Blue MRF' E.coli Strain  R408 Interference-Resistant Helper Phage	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.
<b>Inhalation</b>	: pBK-CMV Phagemid Vector  XL1-Blue MRF' E.coli Strain  R408 Interference-Resistant Helper Phage	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

## SECTION 4: First aid measures

<b>Skin contact</b>	: pBK-CMV Phagemid Vector  XL1-Blue MRF' E.coli Strain  R408 Interference-Resistant Helper Phage	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. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
<b>Ingestion</b>	: pBK-CMV Phagemid Vector  XL1-Blue MRF' E.coli Strain  R408 Interference-Resistant Helper Phage	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.
<b>Protection of first-aiders</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	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.

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

#### Potential acute health effects

<b>Eye contact</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Inhalation</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Skin contact</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Ingestion</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

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## SECTION 4: First aid measures

### Over-exposure signs/symptoms

<b>Eye contact</b>	: pBK-CMV Phagemid Vector	No specific data.
	: XL1-Blue MRF' E.coli Strain	No specific data.
	: R408 Interference-Resistant Helper Phage	No specific data.
<b>Inhalation</b>	: pBK-CMV Phagemid Vector	No specific data.
	: XL1-Blue MRF' E.coli Strain	No specific data.
	: R408 Interference-Resistant Helper Phage	No specific data.
<b>Skin contact</b>	: pBK-CMV Phagemid Vector	No specific data.
	: XL1-Blue MRF' E.coli Strain	No specific data.
	: R408 Interference-Resistant Helper Phage	No specific data.
<b>Ingestion</b>	: pBK-CMV Phagemid Vector	No specific data.
	: XL1-Blue MRF' E.coli Strain	No specific data.
	: R408 Interference-Resistant Helper Phage	No specific data.

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

<b>Notes to physician</b>	: pBK-CMV Phagemid Vector	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	: XL1-Blue MRF' E.coli Strain	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	: R408 Interference-Resistant Helper Phage	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	: pBK-CMV Phagemid Vector	No specific treatment.
	: XL1-Blue MRF' E.coli Strain	No specific treatment.
	: R408 Interference-Resistant Helper Phage	No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	: pBK-CMV Phagemid Vector	Use an extinguishing agent suitable for the surrounding fire.
	: XL1-Blue MRF' E.coli Strain	Use an extinguishing agent suitable for the surrounding fire.
	: R408 Interference-Resistant Helper Phage	Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	: pBK-CMV Phagemid Vector	None known.
	: XL1-Blue MRF' E.coli Strain	None known.
	: R408 Interference-Resistant Helper Phage	None known.

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

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## SECTION 5: Firefighting measures

<b>Hazards from the substance or mixture</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous combustion products</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain  R408 Interference-Resistant Helper Phage	No specific data.  Decomposition products may include the following materials:  carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides No specific data.

### 5.3 Advice for firefighters

<b>Special precautions for fire-fighters</b>	: pBK-CMV Phagemid Vector  XL1-Blue MRF' E.coli Strain  R408 Interference-Resistant Helper Phage	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. 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. 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.
<b>Special protective equipment for fire-fighters</b>	: pBK-CMV Phagemid Vector  XL1-Blue MRF' E.coli Strain  R408 Interference-Resistant Helper Phage	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

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

<b>For non-emergency personnel</b>	: pBK-CMV Phagemid Vector  XL1-Blue MRF' E.coli Strain  R408 Interference-Resistant Helper Phage	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. 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. 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.
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## SECTION 6: Accidental release measures

<b>For emergency responders</b>	: pBK-CMV Phagemid Vector	appropriate personal protective equipment. 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 MRF' 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".
	R408 Interference-Resistant Helper Phage	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".
<b>6.2 Environmental precautions</b>	: pBK-CMV Phagemid Vector	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 MRF' 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).
	R408 Interference-Resistant Helper Phage	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).
<b>6.3 Methods and material for containment and cleaning up</b>		
<b>Methods for cleaning up</b>	: pBK-CMV Phagemid Vector	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 MRF' 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.
	R408 Interference-Resistant Helper Phage	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.
<b>6.4 Reference to other sections</b>	: See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.	

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

<b>Protective measures</b>	: pBK-CMV Phagemid Vector	Put on appropriate personal protective equipment (see Section 8).
	XL1-Blue MRF' E.coli Strain	Put on appropriate personal protective equipment (see Section 8).
	R408 Interference-Resistant Helper Phage	Put on appropriate personal protective equipment (see Section 8).

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## SECTION 7: Handling and storage

<b>Advice on general occupational hygiene</b>	: pBK-CMV Phagemid Vector	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 MRF' 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.
	R408 Interference-Resistant Helper Phage	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

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

<b>Storage</b>	: pBK-CMV Phagemid Vector	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	XL1-Blue MRF' E.coli Strain	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	R408 Interference-Resistant Helper Phage	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### 7.3 Specific end use(s)

<b>Recommendations</b>	: pBK-CMV Phagemid Vector	Industrial applications, Professional applications.
	XL1-Blue MRF' E.coli Strain	Industrial applications, Professional applications.
	R408 Interference-Resistant Helper Phage	Industrial applications, Professional applications.

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## SECTION 7: Handling and storage

<b>Industrial sector specific solutions</b>	<b>pBK-CMV Phagemid Vector</b>	Not available.
	<b>XL1-Blue MRF' E.coli Strain</b>	Not available.
	<b>R408 Interference-Resistant Helper Phage</b>	Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
<b>XL1-Blue MRF' E.coli Strain</b> Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
<b>XL1-Blue MRF' E.coli Strain</b> Sodium chloride	DNEL	Short term Oral	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	295.52 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	295.52 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	443.28 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	443.28 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Short term Inhalation	2068.62 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	2068.62 mg/m <sup>3</sup>	Workers	Systemic

#### PNECs

No PNECs available

### 8.2 Exposure controls

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

#### Individual protection measures

## SECTION 8: Exposure controls/personal protection

- Hygiene measures** : Handle as biohazard material (Biosafety level 1). Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	: pBK-CMV Phagemid Vector	Liquid.
	XL1-Blue MRF' E.coli Strain	Liquid.
	R408 Interference-Resistant Helper Phage	Liquid.
<b>Colour</b>	: pBK-CMV Phagemid Vector	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
	R408 Interference-Resistant Helper Phage	Not available.
<b>Odour</b>	: pBK-CMV Phagemid Vector	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
	R408 Interference-Resistant Helper Phage	Not available.
<b>Odour threshold</b>	: pBK-CMV Phagemid Vector	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
	R408 Interference-Resistant Helper Phage	Not available.

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## SECTION 9: Physical and chemical properties

<b>pH</b>	: pBK-CMV Phagemid Vector	7.5
	XL1-Blue MRF' E.coli Strain	7
	R408 Interference-Resistant Helper Phage	7.5
<b>Melting point/freezing point</b>	: pBK-CMV Phagemid Vector	0°C
	XL1-Blue MRF' E.coli Strain	Not available.
	R408 Interference-Resistant Helper Phage	0°C
<b>Initial boiling point and boiling range</b>	: pBK-CMV Phagemid Vector	100°C
	XL1-Blue MRF' E.coli Strain	Not available.
	R408 Interference-Resistant Helper Phage	100°C
<b>Flash point</b>	: pBK-CMV Phagemid Vector	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
	R408 Interference-Resistant Helper Phage	Not available.
<b>Evaporation rate</b>	: pBK-CMV Phagemid Vector	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
	R408 Interference-Resistant Helper Phage	Not available.
<b>Flammability (solid, gas)</b>	: pBK-CMV Phagemid Vector	Not applicable.
	XL1-Blue MRF' E.coli Strain	Not applicable.
	R408 Interference-Resistant Helper Phage	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	: pBK-CMV Phagemid Vector	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
	R408 Interference-Resistant Helper Phage	Not available.
<b>Vapour pressure</b>	: pBK-CMV Phagemid Vector	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
	R408 Interference-Resistant Helper Phage	Not available.
<b>Vapour density</b>	: pBK-CMV Phagemid Vector	Not available.
	XL1-Blue MRF' E.coli Strain	Not available.
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<b>Relative density</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Not available. Not available. Not available.
<b>Solubility(ies)</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Easily 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.
<b>Partition coefficient: n-octanol/water</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Not available. Not available. Not available.
<b>Auto-ignition temperature</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Not available. Not available. Not available.
<b>Decomposition temperature</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Not available. Not available. Not available.
<b>Viscosity</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Not available. Not available. Not available.
<b>Explosive properties</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Not available. Not available. Not available.
<b>Oxidising properties</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Not available. Not available. Not available.

### 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	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

<b>10.2 Chemical stability</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	The product is stable. The product is stable. The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	No specific data. No specific data. No specific data.
<b>10.5 Incompatible materials</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials.
<b>10.6 Hazardous decomposition products</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
XL1-Blue MRF' E.coli Strain Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
XL1-Blue MRF' E.coli Strain Sodium chloride	3000	N/A	N/A	N/A	N/A

#### Irritation/Corrosion

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

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## SECTION 11: Toxicological information

### Sensitiser

**Conclusion/Summary** : Not available.

### Mutagenicity

**Conclusion/Summary** : Not available.

### Carcinogenicity

**Conclusion/Summary** : Not available.

### Reproductive toxicity

**Conclusion/Summary** : Not available.

### Teratogenicity

**Conclusion/Summary** : Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

### Information on likely routes of exposure

: pBK-CMV Phagemid Vector	Not available.
XL1-Blue MRF' E.coli Strain	Routes of entry anticipated: Oral, Dermal, Inhalation.
R408 Interference-Resistant Helper Phage	Not available.

### Potential acute health effects

<b>Inhalation</b>	: pBK-CMV Phagemid Vector	No known significant effects or critical hazards.
	XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards.
	R408 Interference-Resistant Helper Phage	No known significant effects or critical hazards.
<b>Ingestion</b>	: pBK-CMV Phagemid Vector	No known significant effects or critical hazards.
	XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards.
	R408 Interference-Resistant Helper Phage	No known significant effects or critical hazards.
<b>Skin contact</b>	: pBK-CMV Phagemid Vector	No known significant effects or critical hazards.
	XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards.
	R408 Interference-Resistant Helper Phage	No known significant effects or critical hazards.
<b>Eye contact</b>	: pBK-CMV Phagemid Vector	No known significant effects or critical hazards.
	XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards.
	R408 Interference-Resistant Helper Phage	No known significant effects or critical hazards.

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

<b>Inhalation</b>	: pBK-CMV Phagemid Vector	No specific data.
	XL1-Blue MRF' E.coli Strain	No specific data.
	R408 Interference-Resistant Helper Phage	No specific data.

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## SECTION 11: Toxicological information

<b>Ingestion</b>	: pBK-CMV Phagemid Vector	No specific data.
	: XL1-Blue MRF' E.coli Strain	No specific data.
	: R408 Interference-Resistant Helper Phage	No specific data.
<b>Skin contact</b>	: pBK-CMV Phagemid Vector	No specific data.
	: XL1-Blue MRF' E.coli Strain	No specific data.
	: R408 Interference-Resistant Helper Phage	No specific data.
<b>Eye contact</b>	: pBK-CMV Phagemid Vector	No specific data.
	: XL1-Blue MRF' E.coli Strain	No specific data.
	: R408 Interference-Resistant Helper Phage	No specific data.

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

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

<b>General</b>	: pBK-CMV Phagemid Vector	No known significant effects or critical hazards.
	: XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards.
	: R408 Interference-Resistant Helper Phage	No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: pBK-CMV Phagemid Vector	No known significant effects or critical hazards.
	: XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards.
	: R408 Interference-Resistant Helper Phage	No known significant effects or critical hazards.
<b>Mutagenicity</b>	: pBK-CMV Phagemid Vector	No known significant effects or critical hazards.
	: XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards.
	: R408 Interference-Resistant Helper Phage	No known significant effects or critical hazards.
<b>Reproductive toxicity</b>	: pBK-CMV Phagemid Vector	No known significant effects or critical hazards.
	: XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards.
	: R408 Interference-Resistant Helper Phage	No known significant effects or critical hazards.

## SECTION 12: Ecological information

### 12.1 Toxicity

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

### 12.2 Persistence and degradability

Not available.

### 12.3 Bioaccumulative potential

Not available.

### 12.4 Mobility in soil

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

Mobility : Not available.

### 12.5 Results of PBT and vPvB assessment

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

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

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

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

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

#### Packaging

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

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

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## SECTION 14: Transport information

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

### Additional information

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

**14.7 Transport in bulk according to IMO instruments** : Not available.

## SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

**Label** : pBK-CMV Phagemid Vector Not applicable.  
 XL1-Blue MRF<sup>+</sup> E.coli Strain Not applicable.  
 R408 Interference-Resistant Helper Phage Not applicable.

Other EU regulations

Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

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## SECTION 15: Regulatory information

Not listed.

### Stockholm Convention on Persistent Organic Pollutants

Not listed.

### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

<b>Australia</b>	: All components are listed or exempted.
<b>Canada</b>	: All components are listed or exempted.
<b>China</b>	: All components are listed or exempted.
<b>Europe</b>	: All components are listed or exempted.
<b>Japan</b>	: <b>Japan inventory (ENCS)</b> : All components are listed or exempted. <b>Japan inventory (ISHL)</b> : All components are listed or exempted.
<b>New Zealand</b>	: All components are listed or exempted.
<b>Philippines</b>	: All components are listed or exempted.
<b>Republic of Korea</b>	: All components are listed or exempted.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: <input checked="" type="checkbox"/> All components are active or exempted.
<b>Viet Nam</b>	: <input checked="" type="checkbox"/> All components are listed or exempted.

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments might still be required.

## SECTION 16: Other information

Indicates information that has changed from previously issued version.

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

Classification	Justification
Not classified.	

### Full text of abbreviated H statements

<b>XL1-Blue MRF' E.coli Strain</b> H319	Causes serious eye irritation.
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### Full text of classifications [CLP/GHS]

<input checked="" type="checkbox"/> <b>L1-Blue MRF' E.coli Strain</b> Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
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**Date of issue/ Date of revision** : 19/03/2021

*pBK-CMV Phagemid Vector, Part Number 212209*

## **SECTION 16: Other information**

**Date of previous issue** : 24/09/2018

**Version** : 3

### Notice to reader

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