

# SAFETY DATA SHEET

pBK-CMV Phagemid Vector, Part Number 212209

## Section 1. Identification

### 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' E.coli Strain 200301-81  
 R408 Interference-Resistant Helper Phage 200252-81  
**Validation date** : 3/19/2021

### 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' E.coli Strain 500 µl  
 R408 Interference-Resistant Helper Phage 1000 µl

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

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

### 1.4 Emergency telephone number

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

## Section 2. Hazards identification

### 2.1 Classification of the substance or mixture

**OSHA/HCS status** : pBK-CMV Phagemid Vector While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.  
 XL1-Blue MRF' E.coli Strain This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).  
 R408 Interference-Resistant Helper Phage While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

### Classification of the substance or mixture

**XL1-Blue MRF' E.coli Strain**  
 H319 EYE IRRITATION - Category 2A

### 2.2 GHS label elements

**Hazard pictograms** : XL1-Blue MRF' E.coli Strain



**Signal word** : pBK-CMV Phagemid Vector No signal word.  
 XL1-Blue MRF' E.coli Strain Warning  
 R408 Interference-Resistant Helper Phage No signal word.

## Section 2. Hazards identification

<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. H319 - Causes serious eye irritation. No known significant effects or critical hazards.
<b>Precautionary statements</b>		
<b>Prevention</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Not applicable. P280 - Wear eye or face protection. Not applicable.
<b>Response</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain	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.
<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>Supplemental label elements</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	None known. None known. None known.
<b>2.3 Other hazards</b>		
<b>Hazards not otherwise classified</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>Substance/mixture</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Mixture Mixture Mixture
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Ingredient name	%	CAS number
<b>XL1-Blue MRF' E.coli Strain</b>		
Glycerol	≥10 - ≤25	56-81-5
Sodium chloride	≤3	7647-14-5

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

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

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

## Section 4. First aid measures

### 4.1 Description of necessary first aid measures

<b>Eye contact</b>	: pBK-CMV Phagemid Vector	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 MRF' 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.
	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.
<b>Inhalation</b>	: pBK-CMV Phagemid Vector	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	XL1-Blue MRF' 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.
	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.
<b>Skin contact</b>	: pBK-CMV Phagemid Vector	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	XL1-Blue MRF' 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.
	R408 Interference-Resistant Helper Phage	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	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 MRF' 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

## Section 4. First aid measures

R408 Interference-Resistant  
Helper Phage

airway. Loosen tight clothing such as a collar, tie, belt or waistband.

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

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

#### Potential acute health effects

<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. Causes serious eye irritation. 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.

#### Over-exposure signs/symptoms

<b>Eye contact</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain  R408 Interference-Resistant Helper Phage	No specific data. Adverse symptoms may include the following: pain or irritation watering redness No specific data.
<b>Inhalation</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>Skin contact</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>Ingestion</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.

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

<b>Notes to physician</b>	: pBK-CMV Phagemid Vector  XL1-Blue MRF' E.coli Strain  R408 Interference-Resistant Helper Phage	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.
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## Section 4. First aid measures

<b>Specific treatments</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	No specific treatment. No specific treatment. No specific treatment.
<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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain  R408 Interference-Resistant Helper Phage	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.
<b>Unsuitable extinguishing media</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	None known. None known. None known.

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

<b>Specific hazards arising from the chemical</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 thermal decomposition 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 protective actions 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.
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## Section 5. Fire-fighting measures

<b>Special protective equipment for fire-fighters</b>	: pBK-CMV Phagemid Vector	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 MRF' 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.
	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.

## Section 6. Accidental release measures

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

<b>For non-emergency personnel</b>	: pBK-CMV Phagemid Vector	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
	XL1-Blue MRF' 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.
	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 spilled material. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	: pBK-CMV Phagemid Vector	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	XL1-Blue MRF' E.coli Strain	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	R408 Interference-Resistant Helper Phage	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".

### 6.2 Environmental precautions

: pBK-CMV Phagemid Vector	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 MRF' 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).
R408 Interference-Resistant Helper Phage	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).

## Section 6. Accidental release measures

### 6.3 Methods and materials for containment and cleaning up

**Methods for cleaning up** : 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.

## Section 7. Handling and storage

### 7.1 Precautions for safe handling

**Protective measures** : 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). 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.

R408 Interference-Resistant Helper Phage

Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene** : 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. 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 MRF' E.coli Strain

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

**7.2 Conditions for safe storage, including any incompatibilities** :



## Section 8. Exposure controls/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: chemical splash goggles.
- 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- 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

### 9.1 Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Liquid. Liquid. Liquid.
<b>Color</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Not available. Not available. Not available.
<b>Odor</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Not available. Not available. Not available.
<b>Odor threshold</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	Not available. Not available. Not available.
<b>pH</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF' E.coli Strain R408 Interference-Resistant Helper Phage	7.5 7 7.5

## Section 9. Physical and chemical properties

<b>Melting point</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF <sup>+</sup> E.coli Strain R408 Interference-Resistant Helper Phage	0°C (32°F) Not available. 0°C (32°F)
<b>Boiling point</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF <sup>+</sup> E.coli Strain R408 Interference-Resistant Helper Phage	100°C (212°F) Not available. 100°C (212°F)
<b>Flash point</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF <sup>+</sup> E.coli Strain R408 Interference-Resistant Helper Phage	Not available. Not available. Not available.
<b>Evaporation rate</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF <sup>+</sup> E.coli Strain R408 Interference-Resistant Helper Phage	Not available. Not available. Not available.
<b>Flammability (solid, gas)</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF <sup>+</sup> E.coli Strain R408 Interference-Resistant Helper Phage	Not applicable. Not applicable. Not applicable.
<b>Lower and upper explosive (flammable) limits</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF <sup>+</sup> E.coli Strain R408 Interference-Resistant Helper Phage	Not available. Not available. Not available.
<b>Vapor pressure</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF <sup>+</sup> E.coli Strain R408 Interference-Resistant Helper Phage	Not available. Not available. Not available.
<b>Vapor density</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF <sup>+</sup> E.coli Strain R408 Interference-Resistant Helper Phage	Not available. Not available. Not available.
<b>Relative density</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF <sup>+</sup> E.coli Strain R408 Interference-Resistant Helper Phage	Not available. Not available. Not available.
<b>Solubility</b>	: pBK-CMV Phagemid Vector  XL1-Blue MRF <sup>+</sup> 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 <sup>+</sup> 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 <sup>+</sup> 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 <sup>+</sup> E.coli Strain R408 Interference-Resistant Helper Phage	Not available. Not available. Not available.
<b>Viscosity</b>	: pBK-CMV Phagemid Vector XL1-Blue MRF <sup>+</sup> E.coli Strain R408 Interference-Resistant Helper Phage	Not available. Not available. Not available.

## 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.
<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 oxidizing materials. May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing 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	LD50 Oral	Rat	12600 mg/kg	-
Glycerol	LD50 Oral	Rat	3000 mg/kg	-
Sodium chloride				

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
XL1-Blue MRF' E.coli Strain	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
Glycerol	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	-

## Section 11. Toxicological information

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### 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

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

Not available.  
Routes of entry anticipated: Oral, Dermal,  
Inhalation.  
Not available.

### Potential acute health effects

#### Eye contact

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

No known significant effects or critical hazards.  
Causes serious eye irritation.  
No known significant effects or critical hazards.

#### Inhalation

: pBK-CMV Phagemid Vector  
XL1-Blue MRF<sup>+</sup> 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.

#### Skin contact

: pBK-CMV Phagemid Vector  
XL1-Blue MRF<sup>+</sup> 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.

#### Ingestion

: pBK-CMV Phagemid Vector  
XL1-Blue MRF<sup>+</sup> 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.

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

#### Eye contact

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

No specific data.  
Adverse symptoms may include the following:  
pain or irritation  
watering  
redness  
No specific data.

#### Inhalation

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

No specific data.  
No specific data.  
No specific data.

## Section 11. Toxicological information

<b>Skin contact</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>Ingestion</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.

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

#### Short term exposure

<b>Potential immediate effects</b>	: Not available.
<b>Potential delayed effects</b>	: Not available.

#### Long term exposure

<b>Potential immediate effects</b>	: Not available.
<b>Potential delayed effects</b>	: Not available.

#### Potential chronic health effects

<b>General</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>Carcinogenicity</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>Mutagenicity</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>Reproductive toxicity</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.

### 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)
<b>XL1-Blue MRF' E.coli Strain</b>					
XL1-Blue MRF' 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

### 12.1 Toxicity

## Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
XL1-Blue MRF' 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

### 12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
XL1-Blue MRF' E.coli Strain Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
XL1-Blue MRF' E.coli Strain Glycerol	-1.76	-	low

### 12.4 Mobility in soil

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

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

## Section 13. Disposal considerations

### 13.1 Waste treatment methods

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

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

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

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

## Section 14. Transport information

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

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

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

## Section 15. Regulatory information

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

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

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

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 302/304

#### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** : pBK-CMV Phagemid Vector Not applicable.  
XL1-Blue MRF' E.coli Strain EYE IRRITATION - Category 2A  
R408 Interference-Resistant Not applicable.  
Helper Phage

#### Composition/information on ingredients

Name	%	Classification
XL1-Blue MRF' E.coli Strain		
Glycerol	≥10 - ≤25	EYE IRRITATION - Category 2B
Sodium chloride	≤3	EYE IRRITATION - Category 2A

### State regulations

**Massachusetts** : The following components are listed: GLYCERINE MIST

**New York** : None of the components are listed.

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

**Pennsylvania** : The following components are listed: 1,2,3-PROPANETRIOL

### California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

## Section 15. Regulatory information

### Montreal Protocol

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.

## Section 16. Other information

### History

**Date of issue** : 03/19/2021

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

**Version** : 6

### Key to abbreviations

: 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)  
 N/A = Not available  
 UN = United Nations

### Procedure used to derive the classification

Classification	Justification
<input checked="" type="checkbox"/> L1-Blue MRF' E.coli Strain EYE IRRITATION - Category 2A	Calculation method

Indicates information that has changed from previously issued version.

### Notice to reader

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