

# SAFETY DATA SHEET



pBC SK (-) Phagemid, Part Number 212216

## Section 1. Identification

### 1.1 Product identifier

**Product name** : pBC SK (-) Phagemid, Part Number 212216  
**Part No. (Chemical Kit)** : 212216  
**Part No.** :  pBC SK (-) Phagemid 212216-51  
 XL1-Blue MRF' E.coli Strain 200301-81  
**Validation date** : 6/23/2017

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

**Material uses** : Analytical reagent.  
 pBC SK (-) Phagemid 0.02 ml (20 µg 1 µg/µl)  
 XL1-Blue MRF' E.coli Strain 0.5 ml

### 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** :  pBC SK (-) Phagemid 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).

### Classification of the substance or mixture

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

**Ingredients of unknown toxicity** :  XL1-Blue MRF' E.coli Strain Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 10 - 30%

### 2.2 GHS label elements

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



**Signal word** :  pBC SK (-) Phagemid No signal word.  
 XL1-Blue MRF' E.coli Strain Warning

**Hazard statements** :  pBC SK (-) Phagemid No known significant effects or critical hazards.  
 XL1-Blue MRF' E.coli Strain H319 - Causes serious eye irritation.

## Section 2. Hazards identification

### Precautionary statements

<b>Prevention</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	Not applicable. P280 - Wear eye or face protection. P264 - Wash hands thoroughly after handling.
<b>Response</b>	: pBC SK (-) Phagemid 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 attention.
<b>Storage</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	Not applicable. Not applicable.
<b>Disposal</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	Not applicable. Not applicable.
<b>Supplemental label elements</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	None known. None known.

**2.3 Other hazards**

<b>Hazards not otherwise classified</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	None known. None known.
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## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	Mixture Mixture
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Ingredient name	%	CAS number
XL1-Blue MRF' E.coli Strain		
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>	: pBC SK (-) Phagemid  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. 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. Continue to rinse for at least 10 minutes. Get medical attention.
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## Section 4. First aid measures

<b>Inhalation</b>	: pBC SK (-) Phagemid  XL1-Blue MRF' E.coli Strain	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
<b>Skin contact</b>	: pBC SK (-) Phagemid  XL1-Blue MRF' E.coli Strain	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
<b>Ingestion</b>	: pBC SK (-) Phagemid  XL1-Blue MRF' 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 dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

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

#### Potential acute health effects

<b>Eye contact</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards. Causes serious eye irritation.
<b>Inhalation</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Skin contact</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Ingestion</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards.

## Section 4. First aid measures

### Over-exposure signs/symptoms

<b>Eye contact</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No specific data. Adverse symptoms may include the following: pain or irritation watering redness
<b>Inhalation</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No specific data. No specific data.
<b>Skin contact</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No specific data. No specific data.
<b>Ingestion</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No specific data. No specific data.

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

<b>Notes to physician</b>	: pBC SK (-) Phagemid  XL1-Blue MRF' 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.
<b>Specific treatments</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No specific treatment. No specific treatment.
<b>Protection of first-aiders</b>	: pBC SK (-) Phagemid  XL1-Blue MRF' 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	: pBC SK (-) Phagemid  XL1-Blue MRF' E.coli Strain	Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	None known. None known.

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

<b>Specific hazards arising from the chemical</b>	: pBC SK (-) Phagemid  XL1-Blue MRF' E.coli Strain	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>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides

## Section 5. Fire-fighting measures

### 5.3 Advice for firefighters

<b>Special protective actions for fire-fighters</b>	: pBC SK (-) Phagemid  XL1-Blue MRF' E.coli Strain	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. 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>	: pBC SK (-) Phagemid  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. 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>	: pBC SK (-) Phagemid  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. Put on appropriate personal protective equipment. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	: pBC SK (-) Phagemid  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". 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".
<b>6.2 Environmental precautions</b>	: pBC SK (-) Phagemid  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). 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).

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

## Section 6. Accidental release measures

**Methods for cleaning up** : pBC SK (-) Phagemid

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

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## Section 7. Handling and storage

### 7.1 Precautions for safe handling

**Protective measures** : pBC SK (-) Phagemid

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.

**Advice on general occupational hygiene** : pBC SK (-) Phagemid

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

**7.2 Conditions for safe storage, including any incompatibilities** : pBC SK (-) Phagemid

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

XL1-Blue MRF' E.coli Strain

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## Section 7. Handling and storage

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### 7.3 Specific end use(s)

<b>Recommendations</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	Industrial applications, Professional applications. Industrial applications, Professional applications.
<b>Industrial sector specific solutions</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	Not applicable. Not applicable.

## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
<input checked="" type="checkbox"/> XL1-Blue MRF' E.coli Strain Glycerol	<b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Total dust
Sodium chloride	<b>OSHA PEL (United States, 6/2016).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction TWA: 15 mg/m <sup>3</sup> 8 hours. Form: Total dust None.

### 8.2 Exposure controls

<b>Appropriate engineering controls</b>	: <input checked="" type="checkbox"/> Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
<b>Environmental exposure controls</b>	: 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

<b>Hygiene measures</b>	: <input checked="" type="checkbox"/> 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.
<b>Eye/face protection</b>	: 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.
<b>Skin protection</b>	
<b>Hand protection</b>	: <input checked="" type="checkbox"/> 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.

## Section 8. Exposure controls/personal protection

- 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>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	Liquid. Liquid.
<b>Color</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	Not available. Not available.
<b>Odor</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	Not available. Not available.
<b>Odor threshold</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	Not available. Not available.
<b>pH</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	7.5 7
<b>Melting point</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	0°C (32°F) Not available.
<b>Boiling point</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	100°C (212°F) Not available.
<b>Flash point</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	Not available. Not available.
<b>Evaporation rate</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	Not available. Not available.
<b>Flammability (solid, gas)</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	Not applicable. Not applicable.
<b>Lower and upper explosive (flammable) limits</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	Not available. Not available.
<b>Vapor pressure</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	Not available. Not available.
<b>Vapor density</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	Not available. Not available.
<b>Relative density</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	Not available. Not available.
<b>Solubility</b>	: pBC SK (-) Phagemid  XL1-Blue MRF' E.coli Strain	Easily soluble in the following materials: cold water and hot water. Soluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	Not available. Not available.
<b>Auto-ignition temperature</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	Not available. Not available.
<b>Decomposition temperature</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	Not available. Not available.



## Section 9. Physical and chemical properties

**Viscosity** : pBC SK (-) Phagemid Not available.  
XL1-Blue MRF' E.coli Strain Not available.

## Section 10. Stability and reactivity

**10.1 Reactivity** : pBC SK (-) Phagemid No specific test data related to reactivity available for this product or its ingredients.  
XL1-Blue MRF' E.coli Strain No specific test data related to reactivity available for this product or its ingredients.

**10.2 Chemical stability** : pBC SK (-) Phagemid The product is stable.  
XL1-Blue MRF' E.coli Strain The product is stable.

**10.3 Possibility of hazardous reactions** : pBC SK (-) Phagemid Under normal conditions of storage and use, hazardous reactions will not occur.  
XL1-Blue MRF' E.coli Strain Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid** : pBC SK (-) Phagemid No specific data.  
XL1-Blue MRF' E.coli Strain No specific data.

**10.5 Incompatible materials** : pBC SK (-) Phagemid May react or be incompatible with oxidizing materials.  
XL1-Blue MRF' E.coli Strain May react or be incompatible with oxidizing materials.

**10.6 Hazardous decomposition products** : pBC SK (-) Phagemid Under normal conditions of storage and use, hazardous decomposition products should not be produced.  
XL1-Blue MRF' E.coli Strain 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				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-

#### Irritation/Corrosion

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

#### Sensitization

## Section 11. Toxicological information

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 the likely routes of exposure** : pBC SK (-) Phagemid  
XL1-Blue MRF' E.coli Strain

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

### Potential acute health effects

<b>Eye contact</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards. Causes serious eye irritation.
<b>Inhalation</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Skin contact</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Ingestion</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards.

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

<b>Eye contact</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No specific data. Adverse symptoms may include the following: pain or irritation watering redness
<b>Inhalation</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No specific data. No specific data.
<b>Skin contact</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No specific data. No specific data.
<b>Ingestion</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No specific data. No specific data.

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

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

## Section 11. Toxicological information

### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

<b>General</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Mutagenicity</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Teratogenicity</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Developmental effects</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Fertility effects</b>	: pBC SK (-) Phagemid XL1-Blue MRF' E.coli Strain	No known significant effects or critical hazards. No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
<input checked="" type="checkbox"/> XL1-Blue MRF' E.coli Strain Oral	300000 mg/kg

**Other information** : pBC SK (-) Phagemid  
XL1-Blue MRF' E.coli Strain

Not available.  
Not available.

## Section 12. Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<input checked="" type="checkbox"/> XL1-Blue MRF' E.coli Strain			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Sodium chloride	Acute EC50 4.74 g/L Fresh water	Algae - Chlamydomonas reinhardtii	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1.56 g/L Fresh water	Daphnia - Daphnia magna	48 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

Not available.

### 12.3 Bioaccumulative potential

## Section 12. Ecological information

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. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

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

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

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

## Section 14. Transport information

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

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

**Transport in bulk according to Annex II of MARPOL and the IBC Code** : Not available.

## Section 15. Regulatory information

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

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

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

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

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

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

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

#### SARA 302/304

##### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

#### SARA 311/312

**Classification** : pBC SK (-) Phagemid Not applicable.  
XL1-Blue MRF' E.coli Strain Immediate (acute) health hazard

##### Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
XL1-Blue MRF' E.coli Strain						
Glycerol	≥10 - ≤25	No.	No.	No.	Yes.	No.
Sodium chloride	≤3	No.	No.	No.	Yes.	No.

### 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

**WARNING:** This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
XL1-Blue MRF' E.coli Strain				
Tetracycline	No.	Yes.	-	-

### International regulations

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

Not listed.

## Section 15. Regulatory information

### 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.

### Inventory list

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

## Section 16. Other information

### History

**Date of issue** : 06/23/2017

**Date of previous issue** : 06/30/2015.

**Version** : 4

Indicates information that has changed from previously issued version.

### Notice to reader

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