
SAFETY DATA SHEET

pBluescript II SK(-) Phagemid, Part Number 212206

Section 1. Identification

1.1 Product identifier

Product name: pBluescript II SK(-) Phagemid, Part Number 212206
Part No. (Chemical Kit): 212206
Part No.: pBluescript II SK(-) Phagemid 212206-51
          XL1-Blue MRF’ Strain 200301-81
Validation date: 6/30/2015.

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

Material uses: pBluescript II SK(-) Phagemid 0.02 ml
           XL1-Blue MRF’ 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: pBluescript II SK(-) Phagemid
                  XL1-Blue MRF’ Strain
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’ Strain
H320 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B

2.2 GHS label elements

Signal word: pBluescript II SK(-) Phagemid No signal word.
            XL1-Blue MRF’ Strain Warning

Hazard statements: pBluescript II SK(-) Phagemid No known significant effects or critical hazards.
                   XL1-Blue MRF’ Strain H320 - Causes eye irritation.

Precautionary statements

Prevention: pBluescript II SK(-) Phagemid Not applicable.
            XL1-Blue MRF’ Strain P280 - Wear eye or face protection.
                             P264 - Wash hands thoroughly after handling.
Section 2. Hazards identification

**Response**

- **pBluescript II SK(-) Phagemid**
- **Not applicable.**
- **XL1-Blue MRF' Strain**
- **P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**
- **P337 + P313 - If eye irritation persists: Get medical attention.**

**Storage**

- **pBluescript II SK(-) Phagemid**
- **Not applicable.**
- **XL1-Blue MRF' Strain**
- **Not applicable.**

**Disposal**

- **pBluescript II SK(-) Phagemid**
- **Not applicable.**
- **XL1-Blue MRF' Strain**
- **Not applicable.**

### 2.3 Other hazards

**Hazards not otherwise classified**

- **pBluescript II SK(-) Phagemid**
- **None known.**
- **XL1-Blue MRF' Strain**
- **None known.**

Section 3. Composition/information on ingredients

**Substance/mixture**

- **pBluescript II SK(-) Phagemid**
- **XL1-Blue MRF' Strain**
- **Mixture**

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL1-Blue MRF' Strain</td>
<td>10 - 30</td>
<td>56-81-5</td>
</tr>
<tr>
<td>Glycerol</td>
<td>0.1 - 1</td>
<td>7647-14-5</td>
</tr>
</tbody>
</table>

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

**Eye contact**

- **pBluescript II SK(-) Phagemid**
  - **XL1-Blue MRF' 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.

**Inhalation**

- **pBluescript II SK(-) Phagemid**
  - **XL1-Blue MRF' Strain**
  - Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

  - **pBluescript II SK(-) Phagemid**
  - **XL1-Blue MRF' 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.
Section 4. First aid measures

<table>
<thead>
<tr>
<th>Skin contact</th>
<th>pBluescript II SK(-) Phagemid</th>
<th>XL1-Blue MRF' Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingestion</td>
<td>pBluescript II SK(-) Phagemid</td>
<td>XL1-Blue MRF' Strain</td>
</tr>
<tr>
<td>Skin contact</td>
<td>pBluescript II SK(-) Phagemid</td>
<td>XL1-Blue MRF' Strain</td>
</tr>
</tbody>
</table>

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

#### Potential acute health effects

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>pBluescript II SK(-) Phagemid</th>
<th>XL1-Blue MRF' Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>pBluescript II SK(-) Phagemid</td>
<td>XL1-Blue MRF' Strain</td>
</tr>
<tr>
<td>Skin contact</td>
<td>pBluescript II SK(-) Phagemid</td>
<td>XL1-Blue MRF' Strain</td>
</tr>
<tr>
<td>Ingestion</td>
<td>pBluescript II SK(-) Phagemid</td>
<td>XL1-Blue MRF' Strain</td>
</tr>
</tbody>
</table>

#### Over-exposure signs/symptoms

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>pBluescript II SK(-) Phagemid</th>
<th>XL1-Blue MRF' Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>pBluescript II SK(-) Phagemid</td>
<td>XL1-Blue MRF' Strain</td>
</tr>
<tr>
<td>Skin contact</td>
<td>pBluescript II SK(-) Phagemid</td>
<td>XL1-Blue MRF' Strain</td>
</tr>
</tbody>
</table>

No known significant effects or critical hazards.

Causes eye irritation.

No known significant effects or critical hazards.

No known significant effects or critical hazards.

No known significant effects or critical hazards.

No specific data.

Adverse symptoms may include the following: irritation, watering, redness.

No specific data.

No specific data.

No specific data.
Section 4. First aid measures

**Ingestion**
- **pBluescript II SK(-) Phagemid**
- **XL1-Blue MRF' Strain**
  - No specific data.

**Notes to physician**
- **pBluescript II SK(-) Phagemid**
- **XL1-Blue MRF' Strain**
  - Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments**
- **pBluescript II SK(-) Phagemid**
- **XL1-Blue MRF' Strain**
  - No specific treatment.

**Protection of first-aiders**
- **pBluescript II SK(-) Phagemid**
- **XL1-Blue MRF' Strain**
  - No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**See toxicological information (Section 11)**

Section 5. Fire-fighting measures

**5.1 Extinguishing media**
- **Suitable extinguishing media**
  - **pBluescript II SK(-) Phagemid**
  - **XL1-Blue MRF' Strain**
    - Use an extinguishing agent suitable for the surrounding fire.

- **Unsuitable extinguishing media**
  - **pBluescript II SK(-) Phagemid**
  - **XL1-Blue MRF' Strain**
    - None known.

**5.2 Special hazards arising from the substance or mixture**
- **Specific hazards arising from the chemical**
  - **pBluescript II SK(-) Phagemid**
  - **XL1-Blue MRF' Strain**
    - In a fire or if heated, a pressure increase will occur and the container may burst.

- **Hazardous thermal decomposition products**
  - **pBluescript II SK(-) Phagemid**
  - **XL1-Blue MRF' Strain**
    - No specific data.
    - Decomposition products may include the following materials:
      - carbon dioxide
      - carbon monoxide
      - halogenated compounds
      - metal oxide/oxides

**5.3 Advice for firefighters**
- **Special protective actions for fire-fighters**
  - **pBluescript II SK(-) Phagemid**
  - **XL1-Blue MRF' 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.
Section 5. Fire-fighting measures

Special protective equipment for fire-fighters: pBluescript II SK(-) Phagemid
- Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Special protective equipment for fire-fighters: XL1-Blue MRF’ Strain
- 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

For non-emergency personnel: pBluescript II SK(-) Phagemid
- 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.

For non-emergency personnel: XL1-Blue MRF’ 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.

For emergency responders: pBluescript II SK(-) Phagemid
- 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".

For emergency responders: XL1-Blue MRF’ 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".

6.2 Environmental precautions: pBluescript II SK(-) Phagemid
- 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).

6.2 Environmental precautions: XL1-Blue MRF’ 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).

6.3 Methods and materials for containment and cleaning up

pBluescript II 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.

pBluescript II 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.

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Section 7. Handling and storage

7.1 Precautions for safe handling

**Protective measures**
- pBluescript II SK(-) Phagemid
- XL1-Blue MRF' Strain
  - Put on appropriate personal protective equipment (see Section 8).
  - 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**
  - 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**
- pBluescript II SK(-) Phagemid
- XL1-Blue MRF' 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.
  - 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.

7.3 Specific end use(s)

**Recommendations**
- pBluescript II SK(-) Phagemid
  - Industrial applications, Professional applications.
- XL1-Blue MRF' Strain
  - Industrial applications, Professional applications.

**Industrial sector specific solutions**
- Not applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

**Occupational exposure limits**
Section 8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>TWA: 5 mg/m³ 8 hours. Form: Respirable fraction</td>
</tr>
<tr>
<td></td>
<td>TWA: 10 mg/m³ 8 hours. Form: Total dust</td>
</tr>
<tr>
<td></td>
<td>OSHA PEL (United States, 2/2013).</td>
</tr>
<tr>
<td></td>
<td>TWA: 5 mg/m³ 8 hours. Form: Respirable fraction</td>
</tr>
<tr>
<td></td>
<td>TWA: 15 mg/m³ 8 hours. Form: Total dust</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Appropriate engineering controls: Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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: 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. Handle as biohazard material (Biosafety level 1).

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. 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: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

**Appearance**

<table>
<thead>
<tr>
<th>Property</th>
<th>pBluescript II SK(-) Phagemid</th>
<th>XL1-Blue MRF' Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid.</td>
<td>Liquid.</td>
</tr>
<tr>
<td>Color</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odor</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting point</td>
<td>0°C (32°F)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Boiling point</td>
<td>100°C (212°F)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Lower and upper explosive (flammable) limits</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility</td>
<td>Easily soluble in the following materials: cold water and hot water.</td>
<td>Soluble in the following materials: cold water and hot water.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

**Section 10. Stability and reactivity**

10.1 Reactivity

- pBluescript II SK(-) Phagemid
  - XL1-Blue MRF' Strain
  - No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability

- pBluescript II SK(-) Phagemid
  - XL1-Blue MRF' Strain
  - The product is stable.
Section 10. Stability and reactivity

10.3 Possibility of hazardous reactions

: pBluescript II SK(-) Phagemid

XL1-Blue MRF' Strain

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

: pBluescript II SK(-) Phagemid

XL1-Blue MRF' Strain

No specific data.

10.5 Incompatible materials

: pBluescript II SK(-) Phagemid

XL1-Blue MRF' Strain

May react or be incompatible with oxidizing materials.

10.6 Hazardous decomposition products

: pBluescript II SK(-) Phagemid

XL1-Blue MRF' 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

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL1-Blue MRF' Strain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>12600 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>LC50 Inhalation Dusts and mists</td>
<td>Rat</td>
<td>&gt;42 g/m³</td>
<td>1 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>3000 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL1-Blue MRF' Strain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>10 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.
Section 11. Toxicological information

**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**

<table>
<thead>
<tr>
<th>Routes of exposure</th>
<th>pBluescript II SK(-) Phagemid</th>
<th>XL1-Blue MRF' Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>No known significant effects or critical hazards.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Potential acute health effects**

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>pBluescript II SK(-) Phagemid</th>
<th>XL1-Blue MRF' Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>No known significant effects or critical hazards.</td>
<td></td>
</tr>
<tr>
<td>Inhalation</td>
<td>No known significant effects or critical hazards.</td>
<td></td>
</tr>
<tr>
<td>Skin contact</td>
<td>No known significant effects or critical hazards.</td>
<td></td>
</tr>
<tr>
<td>Ingestion</td>
<td>No known significant effects or critical hazards.</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>pBluescript II SK(-) Phagemid</th>
<th>XL1-Blue MRF' Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>No specific data.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adverse symptoms may include the following:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>irritation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>watering</td>
<td></td>
</tr>
<tr>
<td></td>
<td>redness</td>
<td></td>
</tr>
<tr>
<td>Inhalation</td>
<td>No specific data.</td>
<td></td>
</tr>
<tr>
<td>Skin contact</td>
<td>No specific data.</td>
<td></td>
</tr>
<tr>
<td>Ingestion</td>
<td>No specific data.</td>
<td></td>
</tr>
</tbody>
</table>

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

**Short term exposure**

| Potential immediate effects | Not available. |
| Potential delayed effects  | Not available. |

**Long term exposure**

| Potential immediate effects | Not available. |
| Potential delayed effects  | Not available. |

**Potential chronic health effects**

<table>
<thead>
<tr>
<th>pBluescript II SK(-) Phagemid</th>
<th>XL1-Blue MRF' Strain</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
</table>

**Date of issue**: 06/30/2015
Section 11. Toxicological information

**Mutagenicity**
- pBluescript II SK(-) Phagemid
  - No known significant effects or critical hazards.
- XL1-Blue MRF’ Strain
  - No known significant effects or critical hazards.

**Teratogenicity**
- pBluescript II SK(-) Phagemid
  - No known significant effects or critical hazards.
- XL1-Blue MRF’ Strain
  - No known significant effects or critical hazards.

**Developmental effects**
- pBluescript II SK(-) Phagemid
  - No known significant effects or critical hazards.
- XL1-Blue MRF’ Strain
  - No known significant effects or critical hazards.

**Fertility effects**
- pBluescript II SK(-) Phagemid
  - No known significant effects or critical hazards.
- XL1-Blue MRF’ Strain
  - No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL1-Blue MRF’ Strain</td>
<td>300000 mg/kg</td>
</tr>
<tr>
<td>Oral</td>
<td></td>
</tr>
</tbody>
</table>

**Other information**
- pBluescript II SK(-) Phagemid
  - Not available.
- XL1-Blue MRF’ Strain
  - Not available.

Section 12. Ecological information

### 12.1 Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL1-Blue MRF’ Strain</td>
<td>Acute EC50 2430000 µg/l Fresh water</td>
<td>Algae - Navicula seminulum</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 28.85 mg/dm³ Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 519.6 mg/l Fresh water</td>
<td>Crustaceans - Cypris subglobosa</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute IC50 6.87 g/L Fresh water</td>
<td>Aquatic plants - Lemna minor</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1661 mg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1000000 µg/l Fresh water</td>
<td>Fish - Morone saxatilis - Larvae</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic LC10 781 mg/l Fresh water</td>
<td>Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatching, Weanling)</td>
<td>3 weeks</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 6 g/L Fresh water</td>
<td>Aquatic plants - Lemna minor</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.314 g/L Fresh water</td>
<td>Daphnia - Daphnia pulex</td>
<td>21 days</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 100 mg/l Fresh water</td>
<td>Fish - Gambusia holbrooki - Adult</td>
<td>8 weeks</td>
</tr>
</tbody>
</table>

### 12.2 Persistence and degradability

Not available.

### 12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL1-Blue MRF’ Strain</td>
<td>-1.76</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 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

Regulatory information

DOT / IMDG / IATA: Not regulated.

Section 15. Regulatory information

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


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: Immediate (acute) health hazard

Date of issue: 06/30/2015
Section 15. Regulatory information

### Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Fire hazard</th>
<th>Sudden release of pressure</th>
<th>Reactive</th>
<th>Immediate (acute) health hazard</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium chloride</td>
<td>0.1 - 1</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
</tbody>
</table>

### 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 a chemical known to the State of California to cause birth defects or other reproductive harm.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Cancer</th>
<th>Reproductive</th>
<th>No significant risk level</th>
<th>Maximum acceptable dosage level</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL1-Blue MRF' Strain Tetracycline</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
<td>No.</td>
</tr>
</tbody>
</table>

### Canada inventory

- **Not determined.**

### International regulations

#### International lists

- **Australia inventory (AICS)**: All components are listed or exempted.
- **China inventory (IECSC)**: All components are listed or exempted.
- **Japan inventory**: All components are listed or exempted.
- **Korea inventory**: All components are listed or exempted.
- **Malaysia Inventory (EHS Register)**: Not determined.
- **New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.
- **Philippines inventory (PICCS)**: Not determined.
- **Taiwan inventory (CSNN)**: All components are listed or exempted.

#### Chemical Weapons

- **Convention List Schedule I Chemicals**: Not listed
- **Convention List Schedule II Chemicals**: Not listed
- **Convention List Schedule III Chemicals**: Not listed

### Section 16. Other information

#### History

- **Date of issue**: 6/30/2015.
- **Date of previous issue**: No previous validation.
- **Version**: 1

**Indicates information that has changed from previously issued version.

#### Notice to reader

**Date of issue**: 06/30/2015
Section 16. Other information

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