SAFETY DATA SHEET
pSG5 Vector, Part Number 216201

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

1.1 Product identifier
Product name: pSG5 Vector, Part Number 216201
Part no. (chemical kit): 216201
Part no.: pSG5 Expression Vector 216201-51
AG1 E. coli Strain 200274-81

1.2 Relevant identified uses of the substance or mixture and uses advised against
Material uses:
- pSG5 Expression Vector: Analytical reagent.
- AG1 E. coli Strain: 0.02 ml (20 µg 1 µg/µl)
- AG1 E. coli Strain: 0.5 ml

1.3 Details of the supplier of the safety data sheet
Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76377 Waldbronn
Germany
0800 603 1000

E-mail address of person responsible for this SDS:
pdl-msds_author@agilent.com

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Product definition:
- pSG5 Expression Vector: Mixture
- AG1 E. coli Strain: Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
Not classified.

Ingredients of unknown toxicity:
- AG1 E. coli Strain: Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 10 - 30%

See Section 16 for the full text of the H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements
Signal word:
- pSG5 Expression Vector: No signal word.
- AG1 E. coli Strain: No signal word.

Hazard statements:
- pSG5 Expression Vector: No known significant effects or critical hazards.
- AG1 E. coli Strain: No known significant effects or critical hazards.

Precautionary statements:
Prevention:
- pSG5 Expression Vector: Not applicable.
- AG1 E. coli Strain: Not applicable.

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SECTION 2: Hazards identification

**Response**
- pSG5 Expression Vector: Not applicable.
- AG1 E. coli Strain: Not applicable.

**Storage**
- pSG5 Expression Vector: Not applicable.
- AG1 E. coli Strain: Not applicable.

**Disposal**
- pSG5 Expression Vector: Not applicable.
- AG1 E. coli Strain: Not applicable.

**Hazardous ingredients**
- AG1 E. coli Strain: Not applicable.

**Supplemental label elements**
- pSG5 Expression Vector: Not applicable.
- AG1 E. coli Strain: Not applicable.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**
- pSG5 Expression Vector: Not applicable.
- AG1 E. coli Strain: Not applicable.

**Special packaging requirements**
- Tactile warning of danger: Not applicable.

2.3 Other hazards
- **Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII**
- pSG5 Expression Vector: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
- AG1 E. coli Strain: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

- **Other hazards which do not result in classification**
  - pSG5 Expression Vector: None known.
  - AG1 E. coli Strain: None known.

SECTION 3: Composition/information on ingredients

**3.1 Substances**
- pSG5 Expression Vector: Mixture
- AG1 E. coli Strain: Mixture

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>%</th>
<th>Regulation (EC) No. 1272/2008 [CLP]</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>AG1 E. coli Strain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC: 200-289-5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CAS: 56-81-5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC: 231-598-3</td>
<td>≤3</td>
<td>Eye Irrit. 2, H319</td>
<td>[1]</td>
</tr>
<tr>
<td></td>
<td>CAS: 7647-14-5</td>
<td></td>
<td>See Section 16 for the full text of the H statements declared above.</td>
<td></td>
</tr>
<tr>
<td>Sodium chloride</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**Type**
- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy
SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact
- **pSG5 Expression 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.
- **AG1 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.

Inhalation
- **pSG5 Expression Vector**: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- **AG1 E. coli Strain**: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact
- **pSG5 Expression Vector**: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- **AG1 E. coli Strain**: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion
- **pSG5 Expression 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.
- **AG1 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.

Protection of first-aiders
- **pSG5 Expression Vector**: No action shall be taken involving any personal risk or without suitable training.
- **AG1 E. coli Strain**: No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

<table>
<thead>
<tr>
<th>Mode of Exposure</th>
<th>pSG5 Expression Vector</th>
<th>AG1 E. coli Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

Over-exposure signs/symptoms

<table>
<thead>
<tr>
<th>Mode of Exposure</th>
<th>pSG5 Expression Vector</th>
<th>AG1 E. coli Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>
SECTION 4: First aid measures

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

- **pSG5 Expression Vector**: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- **AG1 E. coli Strain**: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments

- **pSG5 Expression Vector**: No specific treatment.
- **AG1 E. coli Strain**: No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- **pSG5 Expression Vector**
  - Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.
  - Unsuitable extinguishing media: None known.

- **AG1 E. coli Strain**
  - Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.
  - Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture

- **pSG5 Expression Vector**
  - Hazards from the substance or mixture
    - In a fire or if heated, a pressure increase will occur and the container may burst.
  - Hazardous combustion products
    - Decomposition products may include the following materials: carbon dioxide, carbon monoxide, halogenated compounds, metal oxide/oxides.

- **AG1 E. coli Strain**
  - Hazards from the substance or mixture
    - In a fire or if heated, a pressure increase will occur and the container may burst.
  - Hazardous combustion products
    - No specific data.

5.3 Advice for firefighters

- **pSG5 Expression Vector**
  - Special precautions for fire-fighters
    - 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.
  - Special protective equipment for fire-fighters
    - Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

- **AG1 E. coli Strain**
  - Special precautions for fire-fighters
    - 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.
  - Special protective equipment for fire-fighters
    - Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- **pSG5 Expression Vector**
  - For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

- **AG1 E. coli Strain**
  - For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas.
## SECTION 6: Accidental release measures

### 6.2 Environmental precautions

**For emergency responders**
- **pSG5 Expression Vector**
  - Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- **AG1 E. coli Strain**
  - Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

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

**Methods for cleaning up**
- **pSG5 Expression 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.
- **AG1 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.

### 6.4 Reference to other sections
- **pSG5 Expression Vector**
  - See Section 1 for emergency contact information.
  - See Section 8 for information on appropriate personal protective equipment.
  - See Section 13 for additional waste treatment information.
- **AG1 E. coli Strain**
  - Potentially biohazardous material. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

**Protective measures**
- **pSG5 Expression Vector**
  - Put on appropriate personal protective equipment (see Section 8).
- **AG1 E. coli Strain**
  - Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene**
- **pSG5 Expression 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.
- **AG1 E. coli Strain**
  - Potentially biohazardous material. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

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

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SECTION 7: Handling and storage

Storage:
- **pSG5 Expression Vector**
  - Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

- **AG1 E. coli Strain**
  - Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

**Recommendations**
- **pSG5 Expression Vector**
  - Industrial applications, Professional applications.
- **AG1 E. coli Strain**
  - Industrial applications, Professional applications.

**Industrial sector specific solutions**
- **pSG5 Expression Vector**
  - Not applicable.
- **AG1 E. coli Strain**
  - Not applicable.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

**Occupational exposure limits**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Exposure limit values</th>
</tr>
</thead>
<tbody>
<tr>
<td>AG1 E. coli Strain Glycerol</td>
<td>EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 10 mg/m³ 8 hours. Form: Mist</td>
</tr>
</tbody>
</table>

**Recommended monitoring procedures**

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

**DNELs/DMELs**

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SECTION 8: Exposure controls/personal protection

**Hand protection**

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Ensure that it is properly fitted and used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

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.

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to protect the eyes.

**Eye/face protection**

**Skin 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.

**Hygiene measures**

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection**

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

**Skin protection**

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.

**Hand protection**

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.

**Date of issue/Date of revision**

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**Product/ingredient name**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Type</th>
<th>Exposure</th>
<th>Value</th>
<th>Population</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>AG1 E. coli Strain</td>
<td>DNEL</td>
<td>Short term Oral</td>
<td>126.65 mg/kg bw/day</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td>AG1 E. coli Strain</td>
<td>DNEL</td>
<td>Long term Oral</td>
<td>126.65 mg/kg bw/day</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td>AG1 E. coli Strain</td>
<td>DNEL</td>
<td>Short term Dermal</td>
<td>126.65 mg/kg bw/day</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td>AG1 E. coli Strain</td>
<td>DNEL</td>
<td>Long term Dermal</td>
<td>126.65 mg/kg bw/day</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td>AG1 E. coli Strain</td>
<td>DNEL</td>
<td>Short term Dermal</td>
<td>295.52 mg/kg bw/day</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td>AG1 E. coli Strain</td>
<td>DNEL</td>
<td>Long term Dermal</td>
<td>295.52 mg/kg bw/day</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td>AG1 E. coli Strain</td>
<td>DNEL</td>
<td>Short term Inhalation</td>
<td>443.28 mg/m³</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td>AG1 E. coli Strain</td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>443.28 mg/m³</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td>AG1 E. coli Strain</td>
<td>DNEL</td>
<td>Short term Inhalation</td>
<td>2068.62 mg/m³</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td>AG1 E. coli Strain</td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>2068.62 mg/m³</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
</tbody>
</table>

**PNECs**

No PNECs available
### SECTION 8: Exposure controls/personal protection

**Environmental exposure controls**: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>pSG5 Expression Vector</th>
<th>AG1 E. coli Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Odour</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>7.5</td>
<td>7.5</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Solubility(ies)</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>
</tbody>
</table>

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**pSG5 Vector, Part Number 216201**

### SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>pSG5 Expression Vector</th>
<th>AG1 E. coli Strain</th>
</tr>
</thead>
<tbody>
<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>
<tr>
<td>Explosive properties</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

9.2 Other information

No additional information.

### SECTION 10: Stability and reactivity

10.1 Reactivity

<table>
<thead>
<tr>
<th>pSG5 Expression Vector</th>
<th>AG1 E. coli Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
</tr>
</tbody>
</table>

10.2 Chemical stability

<table>
<thead>
<tr>
<th>pSG5 Expression Vector</th>
<th>AG1 E. coli Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>The product is stable.</td>
<td>The product is stable.</td>
</tr>
</tbody>
</table>

10.3 Possibility of hazardous reactions

<table>
<thead>
<tr>
<th>pSG5 Expression Vector</th>
<th>AG1 E. coli Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
</tbody>
</table>

10.4 Conditions to avoid

<table>
<thead>
<tr>
<th>pSG5 Expression Vector</th>
<th>AG1 E. coli Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

10.5 Incompatible materials

<table>
<thead>
<tr>
<th>pSG5 Expression Vector</th>
<th>AG1 E. coli Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>May react or be incompatible with oxidising materials.</td>
<td>May react or be incompatible with oxidising materials.</td>
</tr>
</tbody>
</table>

10.6 Hazardous decomposition products

<table>
<thead>
<tr>
<th>pSG5 Expression Vector</th>
<th>AG1 E. coli Strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</td>
<td>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</td>
</tr>
</tbody>
</table>

### 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>AG1 E. coli Strain</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>3000 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Acute toxicity estimates**

Date of issue/Date of revision : 27/03/2019
SECTION 11: Toxicological information

### Carcinogenicity

- **Conclusion/Summary**: Not available.

### Mutagenicity

- **Conclusion/Summary**: Not available.

### Carcinogenicity

- **Conclusion/Summary**: Not available.

## Reproductive toxicity

- **Conclusion/Summary**: Not available.

### Teratogenicity

- **Conclusion/Summary**: Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

### Information on likely routes of exposure

<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>AG1 E. coli Strain</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>10 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

### Sensitiser

- **Conclusion/Summary**: Not available.

### 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>AG1 E. coli Strain</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>10 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

### Product/ingredient name

<table>
<thead>
<tr>
<th>Oral (mg/kg)</th>
<th>Dermal (mg/kg)</th>
<th>Inhalation (gases) (ppm)</th>
<th>Inhalation (vapours) (mg/l)</th>
<th>Inhalation (dusts and mists) (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3000</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Potential acute health effects

- **Inhalation**: pSG5 Expression Vector No known significant effects or critical hazards.
- **Ingestion**: pSG5 Expression Vector No known significant effects or critical hazards.
- **Skin contact**: pSG5 Expression Vector No known significant effects or critical hazards.
- **Eye contact**: pSG5 Expression Vector No known significant effects or critical hazards.

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

- **Inhalation**: pSG5 Expression Vector No specific data.
- **Ingestion**: pSG5 Expression Vector No specific data.
- **Skin contact**: pSG5 Expression Vector No specific data.
**SECTION 11: Toxicological information**

**Eye contact**
- pSG5 Expression Vector: No specific data.
- AG1 E. coli Strain: No specific data.

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

**Short term exposure**
- **Potential immediate effects**
  - pSG5 Expression Vector: Not available.
  - AG1 E. coli Strain: Not available.

- **Potential delayed effects**
  - pSG5 Expression Vector: Not available.
  - AG1 E. coli Strain: Not available.

**Long term exposure**
- **Potential immediate effects**
  - pSG5 Expression Vector: Not available.
  - AG1 E. coli Strain: Not available.

- **Potential delayed effects**
  - pSG5 Expression Vector: Not available.
  - AG1 E. coli Strain: Not available.

**Potential chronic health effects**

**General**
- pSG5 Expression Vector: No known significant effects or critical hazards.
- AG1 E. coli Strain: No known significant effects or critical hazards.

**Carcinogenicity**
- pSG5 Expression Vector: No known significant effects or critical hazards.
- AG1 E. coli Strain: No known significant effects or critical hazards.

**Mutagenicity**
- pSG5 Expression Vector: No known significant effects or critical hazards.
- AG1 E. coli Strain: No known significant effects or critical hazards.

**Teratogenicity**
- pSG5 Expression Vector: No known significant effects or critical hazards.
- AG1 E. coli Strain: No known significant effects or critical hazards.

**Developmental effects**
- pSG5 Expression Vector: No known significant effects or critical hazards.
- AG1 E. coli Strain: No known significant effects or critical hazards.

**Fertility effects**
- pSG5 Expression Vector: No known significant effects or critical hazards.
- AG1 E. coli Strain: No known significant effects or critical hazards.

**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>AG1 E. coli Strain Sodium chloride</td>
<td>Acute EC50 4.74 g/L Fresh water</td>
<td>Algae - Chlamydomonas reinhardtii</td>
<td>96 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 EC50 402.6 mg/l Fresh water</td>
<td>Daphnia - Daphnia magna</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 100000 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, Hatchling, 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**

Not available.

**Date of issue/Date of revision**: 27/03/2019
SECTION 12: Ecological information

12.4 Mobility in soil

Soil/water partition coefficient ($K_{oc}$): Not available.

Mobility: Not available.

12.5 Results of PBT and vPvB assessment

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

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

**Product**

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

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

**Packaging**

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

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

SECTION 14: Transport information

<table>
<thead>
<tr>
<th></th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>14.2 UN proper shipping name</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>14.3 Transport hazard class(es)</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>14.4 Packing group</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>14.5 Environmental hazards</strong></td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
</tbody>
</table>

**Additional information**

14.6 Special precautions for user: **Transport within user’s premises**: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
SECTION 14: Transport information

14.7 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

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

Annex XIV - List of substances subject to authorisation

Annex XIV
None of the components are listed.

Substances of very high concern
None of the components are listed.

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

: pSG5 Expression Vector Not applicable.
AG1 E. coli Strain Not applicable.

Other EU regulations

Ozone depleting substances (1005/2009/EU)
Not listed.

Prior Informed Consent (PIC) (649/2012/EU)
Not listed.

Seveso Directive
This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals
Not listed.

Montreal Protocol (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

Australia
: All components are listed or exempted.
Canada
: All components are listed or exempted.
China
: All components are listed or exempted.
Europe
: All components are listed or exempted.
Japan
: Japan inventory (ENCS): All components are listed or exempted.
: Japan inventory (ISHL): All components are listed or exempted.
New Zealand
: All components are listed or exempted.
Philippines
: All components are listed or exempted.
Republic of Korea
: All components are listed or exempted.
Taiwan
: All components are listed or exempted.
SECTION 15: Regulatory information

15.2 Chemical safety assessment

Thailand: Not determined.
Turkey: Not determined.
United States: All components are listed or exempted.
Viet Nam: Not determined.

This product contains substances for which Chemical Safety Assessments might still be required.

SECTION 16: Other information

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

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not classified.</td>
<td></td>
</tr>
</tbody>
</table>

Full text of abbreviated H statements

AG1 E. coli Strain
H319
Causes serious eye irritation.

Full text of classifications [CLP/GHS]

AG1 E. coli Strain
Eye Irrit. 2, H319
SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2

Date of issue/Date of revision
27/03/2019

Date of previous issue
24/03/2017

Version
2

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