SAFETY DATA SHEET
VariFlex Bacterial Protein Expression System, Part Number 240175

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

1.1 Product identifier
Product name : VariFlex Bacterial Protein Expression System, Part Number 240175
Part no. (chemical kit) : 240175
Part no. : Streptavidin Resin 240105-51
pBEc-SBP Vector 240174-51

1.2 Relevant identified uses of the substance or mixture and uses advised against
Material uses : Analytical reagent.
Streptavidin Resin 1.25 ml
pBEc-SBP Vector 0.02 ml (20 µg 1 µg/µl)

1.3 Details of the supplier of the safety data sheet
Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

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 : Streptavidin Resin Mixture
pBEc-SBP Vector Mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
Streptavidin Resin
H226 FLAMMABLE LIQUIDS - Category 3

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
Hazard pictograms : Streptavidin Resin

Signal word : Streptavidin Resin Warning
pBEc-SBP Vector No signal word.

Hazard statements : Streptavidin Resin
H226 - Flammable liquid and vapour.
pBEc-SBP Vector No known significant effects or critical hazards.

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SECTION 2: Hazards identification

Prevention:
- **Streptavidin Resin**: P280 - Wear protective gloves. Wear protective clothing. Wear eye or face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- **pBEc-SBP Vector**: Not applicable.

Response:
- **Streptavidin Resin**: P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
- **pBEc-SBP Vector**: Not applicable.

Storage:
- **Streptavidin Resin**: Not applicable.
- **pBEc-SBP Vector**: Not applicable.

Disposal:
- **Streptavidin Resin**: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- **pBEc-SBP Vector**: Not applicable.

Supplemental label elements:
- **Streptavidin Resin**: Not applicable.
- **pBEc-SBP Vector**: Not applicable.

2.3 Other hazards

Other hazards which do not result in classification:
- **Streptavidin Resin**: None known.
- **pBEc-SBP Vector**: None known.

SECTION 3: Composition/information on ingredients

### 3.1 Substances

<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>
</table>

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

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

Date of issue/Date of revision: 22/02/2018
SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

Streptavidin Resin
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 if irritation occurs.

pBEc-SBP 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.

Inhalation

Streptavidin Resin
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.

pBEc-SBP Vector
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact

Streptavidin Resin
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.

pBEc-SBP Vector
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion

Streptavidin Resin
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.

pBEc-SBP 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.

Protection of first-aiders

Streptavidin Resin
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.

pBEc-SBP Vector
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

Eye contact

Streptavidin Resin
No known significant effects or critical hazards.

pBEc-SBP Vector
No known significant effects or critical hazards.
**SECTION 4: First aid measures**

### Inhalation
- **Streptavidin Resin**
- **pBEc-SBP Vector**
  - No known significant effects or critical hazards.

### Skin contact
- **Streptavidin Resin**
- **pBEc-SBP Vector**
  - No known significant effects or critical hazards.

### Ingestion
- **Streptavidin Resin**
- **pBEc-SBP Vector**
  - No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

### Eye contact
- **Streptavidin Resin**
- **pBEc-SBP Vector**
  - No specific data.

### Inhalation
- **Streptavidin Resin**
- **pBEc-SBP Vector**
  - No specific data.

### Skin contact
- **Streptavidin Resin**
- **pBEc-SBP Vector**
  - No specific data.

### Ingestion
- **Streptavidin Resin**
- **pBEc-SBP Vector**
  - No specific data.

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

**Notes to physician**
- **Streptavidin Resin**
- **pBEc-SBP Vector**
  - Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments**
- **Streptavidin Resin**
- **pBEc-SBP Vector**
  - No specific treatment.

**SECTION 5: Firefighting measures**

### 5.1 Extinguishing media

- **Suitable extinguishing media**
  - **Streptavidin Resin**
  - **pBEc-SBP Vector**
    - Use dry chemical, CO₂, water spray (fog) or foam.

- **Unsuitable extinguishing media**
  - **Streptavidin Resin**
  - **pBEc-SBP Vector**
    - Do not use water jet.

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

- **Hazards from the substance or mixture**
  - **Streptavidin Resin**
  - **pBEc-SBP Vector**
    - Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

- **Hazardous combustion products**
  - **Streptavidin Resin**
  - **pBEc-SBP Vector**
    - Decomposition products may include the following materials: carbon dioxide, carbon monoxide

### 5.3 Advice for firefighters

- **Special precautions for fire-fighters**
  - **Streptavidin Resin**
  - **pBEc-SBP Vector**
    - 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

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: 22/02/2018
SECTION 5: Firefighting measures

Special protective equipment for fire-fighters:
- Streptavidin Resin: 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.
- pBEc-SBP Vector: 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

For non-emergency personnel:
- Streptavidin Resin: 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- pBEc-SBP Vector: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

For emergency responders:
- Streptavidin Resin: 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".
- pBEc-SBP Vector: 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:
- Streptavidin Resin: 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).
- pBEc-SBP 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).

6.3 Methods and material for containment and cleaning up

Methods for cleaning up:
- Streptavidin Resin: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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.
- pBEc-SBP 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.

Date of issue/Date of revision: 22/02/2018
SECTION 6: Accidental release measures

6.4 Reference to other sections: See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures

**Streptavidin Resin**

Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

**pBEc-SBP Vector**

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

Advice on general occupational hygiene

**Streptavidin Resin**

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.

**pBEc-SBP 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.

7.2 Conditions for safe storage, including any incompatibilities

**Storage**

**Streptavidin Resin**

Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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.

**pBEc-SBP 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.

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SECTION 7: Handling and storage

### Danger criteria

<table>
<thead>
<tr>
<th>Category</th>
<th>Notification and MAPP threshold</th>
<th>Safety report threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Streptavidin Resin</td>
<td>5000</td>
<td>50000</td>
</tr>
</tbody>
</table>

7.3 Specific end use(s)

**Recommendations**:
- Streptavidin Resin: Industrial applications, Professional applications.
- pBEc-SBP Vector: Industrial applications, Professional applications.

**Industrial sector specific solutions**:
- Streptavidin Resin: Not applicable.
- pBEc-SBP Vector: 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>Streptavidin Resin</td>
<td>EH40/2005 WELs (United Kingdom (UK), 12/2011).</td>
</tr>
<tr>
<td>Ethanol</td>
<td>TWA: 1000 ppm 8 hours.</td>
</tr>
<tr>
<td></td>
<td>TWA: 1920 mg/m³ 8 hours.</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**
No DNELs/DMELs available.

**PNECs**
No PNECs available

8.2 Exposure controls

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

#### Individual protection measures

**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.

**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**

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SECTION 8: Exposure controls/personal protection

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Streptavidin Resin</th>
<th>pBEc-SBP Vector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Odour</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>7.5</td>
<td>7.5</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not available</td>
<td>0°C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Not available.</td>
<td>100°C</td>
</tr>
<tr>
<td>Flash point</td>
<td>Closed cup: 37.8 to 61°C</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>Upper/lower flammability or explosive limits</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapour 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(ies)</td>
<td>Soluble in the following materials: cold water and hot water.</td>
<td>Easily soluble in the following materials: cold water and hot water.</td>
</tr>
</tbody>
</table>

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SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Streptavidin Resin</th>
<th>pBEc-SBP Vector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity: Streptavidin Resin and pBEc-SBP Vector. No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability: Streptavidin Resin and pBEc-SBP Vector. The product is stable.

10.3 Possibility of hazardous reactions: Streptavidin Resin and pBEc-SBP Vector. Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid: Streptavidin Resin and pBEc-SBP Vector. Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

10.5 Incompatible materials: Streptavidin Resin and pBEc-SBP Vector. Reactive or incompatible with the following materials: oxidising materials. May react or be incompatible with oxidising materials.

10.6 Hazardous decomposition products: Streptavidin Resin and pBEc-SBP Vector. 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: Not available.

Acute toxicity estimates: Not available.

Irritation/Corrosion: Not available.

Conclusion/Summary: Sensitiser: Not available.

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SECTION 11: Toxicological information

<table>
<thead>
<tr>
<th>Conclusion/Summary</th>
<th>Mutagenicity</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conclusion/Summary</td>
<td>Carcinogenicity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Conclusion/Summary</td>
<td>Reproductive toxicity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Conclusion/Summary</td>
<td>Teratogenicity</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

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
- Streptavidin Resin
- pBEc-SBP Vector
  Routes of entry anticipated: Oral, Dermal, Inhalation.
  Not available.

Potential acute health effects
- Inhalation
  Streptavidin Resin
  pBEc-SBP Vector
  No known significant effects or critical hazards.
- Ingestion
  Streptavidin Resin
  pBEc-SBP Vector
  No known significant effects or critical hazards.
- Skin contact
  Streptavidin Resin
  pBEc-SBP Vector
  No known significant effects or critical hazards.
- Eye contact
  Streptavidin Resin
  pBEc-SBP Vector
  No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics
- Inhalation
  Streptavidin Resin
  pBEc-SBP Vector
  No specific data.
- Ingestion
  Streptavidin Resin
  pBEc-SBP Vector
  No specific data.
- Skin contact
  Streptavidin Resin
  pBEc-SBP Vector
  No specific data.
- Eye contact
  Streptavidin Resin
  pBEc-SBP Vector
  No specific data.

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

Short term exposure
- Potential immediate effects: Not available.
- Potential delayed effects: Not available.

Long term exposure
- Potential immediate effects: Not available.
- Potential delayed effects: Not available.

Potential chronic health effects
- General
  Streptavidin Resin
  pBEc-SBP Vector
  No known significant effects or critical hazards.
SECTION 11: Toxicological information

<table>
<thead>
<tr>
<th></th>
<th>Streptavidin Resin</th>
<th>pBEc-SBP Vector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carcinogenicity</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Teratogenicity</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Developmental effects</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Fertility effects</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

SECTION 12: Ecological information

12.1 Toxicity
Conclusion/Summary: Not available.

12.2 Persistence and degradability
Not available.

12.3 Bioaccumulative potential
Not available.

12.4 Mobility in soil
Soil/water partition coefficient ($K_{OC}$): Not available.

Mobility: Not available.

12.5 Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

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.

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SECTION 14: Transport information

<table>
<thead>
<tr>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1 UN number</td>
<td>UN3316</td>
<td>UN3316</td>
</tr>
<tr>
<td>14.2 UN proper shipping name</td>
<td>CHEMICAL KIT</td>
<td>CHEMICAL KIT</td>
</tr>
<tr>
<td>14.3 Transport hazard class(es)</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>II</td>
<td>II</td>
</tr>
<tr>
<td>14.5 Environmental hazards</td>
<td>No.</td>
<td>No.</td>
</tr>
</tbody>
</table>

Additional information

Remarks: Excepted Quantity

ADR/RID:
- **Hazard identification number**: 90
- **Limited quantity**: See SP 251
- **Special provisions**: 251, 340
- **Tunnel code**: (E)

IMDG:
- **Emergency schedules**: F-A, S-P
- **Special provisions**: 251, 340

IATA:
- **Special provisions**: A44, A163

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

14.7 Transport in bulk according to 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**
- **Streptavidin Resin**: Not applicable.
- **pBEc-SBP Vector**: Not applicable.

Other EU regulations

Date of issue/Date of revision: 22/02/2018
SECTION 15: Regulatory information

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.

Danger criteria

<table>
<thead>
<tr>
<th>Category</th>
<th>Streptavidin Resin</th>
</tr>
</thead>
<tbody>
<tr>
<td>P5c</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Country</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Canada</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>China</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Europe</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Japan</td>
<td>Japan inventory (ENCS): All components are listed or exempted.</td>
</tr>
<tr>
<td></td>
<td>Japan inventory (ISHL): All components are listed or exempted.</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Not determined.</td>
</tr>
<tr>
<td>New Zealand</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Philippines</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Taiwan</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Thailand</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Turkey</td>
<td>Not determined.</td>
</tr>
<tr>
<td>United States</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>Not determined.</td>
</tr>
</tbody>
</table>

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

Date of issue/Date of revision: 22/02/2018
SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms:
- ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number

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>Flam. Liq. 3, H226</td>
<td>On basis of test data</td>
</tr>
</tbody>
</table>

Full text of abbreviated H statements

Streptavidin Resin
- H225: Highly flammable liquid and vapour.
- H226: Flammable liquid and vapour.

Full text of classifications [CLP/GHS]

Streptavidin Resin
- Flam. Liq. 2, H225: FLAMMABLE LIQUIDS - Category 2
- Flam. Liq. 3, H226: FLAMMABLE LIQUIDS - Category 3

Date of issue/Date of revision: 22/02/2018
Date of previous issue: 28/03/2016
Version: 2

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