SAFETY DATA SHEET
Agilent Protein 80 Kit, Part Number 5067-1515

Section 1. Identification

Product identifier : Agilent Protein 80 Kit, Part Number 5067-1515
Part No. (Chemical Kit) : 5067-1515
Part No. : Reagents P80 G2938-80025
Protein 80 Gel Matrix Not available.
Protein 80 Dye Concentrate Not available.
Reagents P80 frozen G2938-80040
Protein 80 Sample Buffer Not available.
Protein 80 Ladder Not available.

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

Analytical chemistry. Research and Development
Protein 80 Gel Matrix 4 x 0.65 ml
Protein 80 Dye Concentrate 1 x 0.09 ml
Protein 80 Sample Buffer 4 x 0.2 ml
Protein 80 Ladder 1 x 0.18 ml

Supplier/Manufacturer : Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
1800 802 402

Emergency telephone number (with hours of operation) : CHEMTREC®: +(61)-290372994

Section 2. Hazard(s) identification

Classification of the substance or mixture
Protein 80 Dye Concentrate
H227 FLAMMABLE LIQUIDS - Category 4
H318 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1

Protein 80 Gel Matrix
Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 10 - 30%
Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30%
Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%

Protein 80 Sample Buffer
Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%
Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%

Protein 80 Ladder
Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%
Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30%

Protein 80 Gel Matrix
Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 2.2%

GHS label elements
Section 2. Hazard(s) identification

Hazard pictograms: Protein 80 Dye Concentrate

Signal word:
- Protein 80 Gel Matrix: No signal word.
- Protein 80 Dye Concentrate: DANGER
- Protein 80 Sample Buffer: No signal word.
- Protein 80 Ladder: No signal word.

Hazard statements:
- Protein 80 Gel Matrix: No known significant effects or critical hazards.
- Protein 80 Dye Concentrate: H227 - Combustible liquid.
  - H318 - Causes serious eye damage.
- Protein 80 Sample Buffer: No known significant effects or critical hazards.
- Protein 80 Ladder: No known significant effects or critical hazards.

Precautionary statements

Prevention:
- Protein 80 Gel Matrix: Not applicable.
- Protein 80 Dye Concentrate: P280 - Wear protective gloves. Wear eye or face protection.
  - P210 - Keep away from flames and hot surfaces. - No smoking.
- Protein 80 Sample Buffer: Not applicable.
- Protein 80 Ladder: Not applicable.

Response:
- Protein 80 Gel Matrix: Not applicable.
- Protein 80 Dye Concentrate: P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.
- Protein 80 Sample Buffer: Not applicable.
- Protein 80 Ladder: Not applicable.

Storage:
- Protein 80 Gel Matrix: Not applicable.
- Protein 80 Dye Concentrate: P403 - Store in a well-ventilated place.
  - P235 - Keep cool.
- Protein 80 Sample Buffer: Not applicable.
- Protein 80 Ladder: Not applicable.

Disposal:
- Protein 80 Gel Matrix: Not applicable.
- Protein 80 Dye Concentrate: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Protein 80 Sample Buffer: Not applicable.
- Protein 80 Ladder: Not applicable.

Supplemental label elements:

Additional warning phrases:
- Protein 80 Gel Matrix: Not applicable.
- Protein 80 Dye Concentrate: Not applicable.
- Protein 80 Sample Buffer: Not applicable.
- Protein 80 Ladder: Not applicable.

Other hazards which do not result in classification:
- Protein 80 Gel Matrix: None known.
- Protein 80 Dye Concentrate: None known.
- Protein 80 Sample Buffer: None known.
- Protein 80 Ladder: None known.
### Section 3. Composition and ingredient information

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>Ingredient name</th>
<th>% (w/w)</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein 80 Gel Matrix</td>
<td>Dimethyl sulfoxide</td>
<td>≥90</td>
<td>67-68-5</td>
</tr>
<tr>
<td></td>
<td>Sodium dodecyl sulphate</td>
<td>&lt;10</td>
<td>151-21-3</td>
</tr>
<tr>
<td>Protein 80 Dye Concentrate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Protein 80 Sample Buffer</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Protein 80 Ladder</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Glycerol</td>
<td>≥10 - ≤30</td>
<td>56-81-5</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.

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

### Section 4. First aid measures

#### Description of necessary first aid measures

**Eye contact**
- **Protein 80 Gel Matrix**: 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.
- **Protein 80 Dye Concentrate**: Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.
- **Protein 80 Sample Buffer**: 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.
- **Protein 80 Ladder**: 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**
- **Protein 80 Gel Matrix**: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- **Protein 80 Dye Concentrate**: Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. 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.
### Section 4. First aid measures

<table>
<thead>
<tr>
<th>Material</th>
<th>Ingestion</th>
<th>Skin contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein 80 Sample Buffer</td>
<td>Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</td>
<td>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td>Protein 80 Ladder</td>
<td>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</td>
<td>Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td>Protein 80 Dye Concentrate</td>
<td>Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.</td>
<td>Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td>Protein 80 Sample Buffer</td>
<td>Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</td>
<td>Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td>Protein 80 Ladder</td>
<td>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</td>
<td>Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td>Protein 80 Ladder</td>
<td>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</td>
<td>Get medical attention if symptoms occur.</td>
</tr>
</tbody>
</table>

**Skin contact**: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

**Ingestion**: 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.
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.

**Potential acute health effects**

### Eye contact
- **Protein 80 Gel Matrix**
  - No known significant effects or critical hazards.
- **Protein 80 Dye Concentrate**
  - Causes serious eye damage.
- **Protein 80 Sample Buffer**
  - No known significant effects or critical hazards.
- **Protein 80 Ladder**
  - No known significant effects or critical hazards.

### Inhalation
- **Protein 80 Gel Matrix**
  - No known significant effects or critical hazards.
- **Protein 80 Dye Concentrate**
  - No known significant effects or critical hazards.
- **Protein 80 Sample Buffer**
  - No known significant effects or critical hazards.
- **Protein 80 Ladder**
  - No known significant effects or critical hazards.

### Skin contact
- **Protein 80 Gel Matrix**
  - No known significant effects or critical hazards.
- **Protein 80 Dye Concentrate**
  - No known significant effects or critical hazards.
- **Protein 80 Sample Buffer**
  - No known significant effects or critical hazards.
- **Protein 80 Ladder**
  - No known significant effects or critical hazards.

### Ingestion
- **Protein 80 Gel Matrix**
  - No known significant effects or critical hazards.
- **Protein 80 Dye Concentrate**
  - No known significant effects or critical hazards.
- **Protein 80 Sample Buffer**
  - No known significant effects or critical hazards.
- **Protein 80 Ladder**
  - No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

### Eye contact
- **Protein 80 Gel Matrix**
  - No specific data.
- **Protein 80 Dye Concentrate**
  - Adverse symptoms may include the following:
    - pain
    - watering
    - redness
- **Protein 80 Sample Buffer**
  - No specific data.
- **Protein 80 Ladder**
  - No specific data.

### Inhalation
- **Protein 80 Gel Matrix**
  - No specific data.
- **Protein 80 Dye Concentrate**
  - No specific data.
- **Protein 80 Sample Buffer**
  - No specific data.
- **Protein 80 Ladder**
  - No specific data.

### Skin contact
- **Protein 80 Gel Matrix**
  - No specific data.
- **Protein 80 Dye Concentrate**
  - Adverse symptoms may include the following:
    - pain or irritation
    - redness
    - blistering may occur
- **Protein 80 Sample Buffer**
  - No specific data.
- **Protein 80 Ladder**
  - No specific data.

### Ingestion
- **Protein 80 Gel Matrix**
  - No specific data.
- **Protein 80 Dye Concentrate**
  - Adverse symptoms may include the following:
    - stomach pains
- **Protein 80 Sample Buffer**
  - No specific data.
- **Protein 80 Ladder**
  - No specific data.

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

**Notes to physician**
- **Protein 80 Gel Matrix**
  - In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- **Protein 80 Dye Concentrate**
  - Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- **Protein 80 Sample Buffer**
  - In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Section 4. First aid measures

Protection of first-aiders:

- Protein 80 Gel Matrix
  - No action shall be taken involving any personal risk or without suitable training.
- Protein 80 Dye Concentrate
  - No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- Protein 80 Sample Buffer
  - No action shall be taken involving any personal risk or without suitable training.
- Protein 80 Ladder
  - No action shall be taken involving any personal risk or without suitable training.

Specific treatments:

- Protein 80 Gel Matrix
  - No specific treatment.
- Protein 80 Dye Concentrate
  - No specific treatment.
- Protein 80 Sample Buffer
  - No specific treatment.
- Protein 80 Ladder
  - No specific treatment.

Section 5. Firefighting measures

Extinguishing media:

Suitable extinguishing media:

- Protein 80 Gel Matrix
  - Use an extinguishing agent suitable for the surrounding fire.
- Protein 80 Dye Concentrate
  - Use dry chemical, CO₂, water spray (fog) or foam.
- Protein 80 Sample Buffer
  - Use an extinguishing agent suitable for the surrounding fire.
- Protein 80 Ladder
  - Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media:

- Protein 80 Gel Matrix
  - None known.
- Protein 80 Dye Concentrate
  - Do not use water jet.
- Protein 80 Sample Buffer
  - None known.
- Protein 80 Ladder
  - None known.

Specific hazards arising from the chemical:

- Protein 80 Gel Matrix
  - In a fire or if heated, a pressure increase will occur and the container may burst.
- Protein 80 Dye Concentrate
  - Combustible liquid. 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.
- Protein 80 Sample Buffer
  - In a fire or if heated, a pressure increase will occur and the container may burst.
- Protein 80 Ladder
  - In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products:

- Protein 80 Gel Matrix
  - Decomposition products may include the following materials: carbon dioxide, carbon monoxide, nitrogen oxides.
- Protein 80 Dye Concentrate
  - Decomposition products may include the following materials: carbon dioxide, carbon monoxide, sulfur oxides.

See toxicological information (Section 11)
Section 5. Firefighting measures

**Special protective actions for fire-fighters**

- **Protein 80 Gel Matrix**: 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.
- **Protein 80 Dye Concentrate**: 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.
- **Protein 80 Sample Buffer**: 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.
- **Protein 80 Ladder**: 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**

- **Protein 80 Gel Matrix**: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- **Protein 80 Dye Concentrate**: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- **Protein 80 Sample Buffer**: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- **Protein 80 Ladder**: 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

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel**

- **Protein 80 Gel Matrix**: 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.
- **Protein 80 Dye Concentrate**: 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.
Section 6. Accidental release measures

Environmental precautions:

- **Protein 80 Gel Matrix**: 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).
- **Protein 80 Dye Concentrate**: 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).
- **Protein 80 Sample Buffer**: 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).
- **Protein 80 Ladder**: 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).

Methods and material for containment and cleaning up:

**For emergency responders**:

- **Protein 80 Gel Matrix**: 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".
- **Protein 80 Dye Concentrate**: 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".
- **Protein 80 Sample Buffer**: 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".
- **Protein 80 Ladder**: 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".

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. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

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**Protein 80 Sample Buffer**: 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.

**Protein 80 Ladder**: 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.

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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).
Section 6. Accidental release measures

Methods for cleaning up

**Protein 80 Gel Matrix**
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.

**Protein 80 Dye Concentrate**
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.

**Protein 80 Sample Buffer**
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.

**Protein 80 Ladder**
Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

**Protective measures**

**Protein 80 Gel Matrix**
Put on appropriate personal protective equipment (see Section 8).

**Protein 80 Dye Concentrate**
Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. 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. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Protein 80 Sample Buffer**
Put on appropriate personal protective equipment (see Section 8).

**Protein 80 Ladder**
Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene**

**Protein 80 Gel Matrix**
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.

**Protein 80 Dye Concentrate**
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
Section 7. Handling and storage

<table>
<thead>
<tr>
<th>Material</th>
<th>Conditions for safe storage, including any incompatibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein 80 Sample Buffer</td>
<td>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.</td>
</tr>
<tr>
<td>Protein 80 Ladder</td>
<td>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.</td>
</tr>
<tr>
<td>Protein 80 Gel Matrix</td>
<td>Storage temperature: 4°C (39.2°F). 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.</td>
</tr>
<tr>
<td>Protein 80 Dye Concentrate</td>
<td>Storage temperature: 4°C (39.2°F). 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. Store locked up. 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.</td>
</tr>
<tr>
<td>Protein 80 Sample Buffer</td>
<td>Storage temperature: -20°C (-4°F). 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.</td>
</tr>
<tr>
<td>Protein 80 Ladder</td>
<td>Storage temperature: -20°C (-4°F). 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.</td>
</tr>
</tbody>
</table>
Section 7. Handling and storage

containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls and personal protection

### Control parameters

#### Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
</table>
| **Protein 80 Dye Concentrate**  
Dimethyl sulfoxide | DFG MAC-values list (Germany, 7/2015).  
Absorbed through skin.  
PEAK: 320 mg/m³, 4 times per shift, 15 minutes.  
TWA: 160 mg/m³ 8 hours.  
PEAK: 100 ppm, 4 times per shift, 15 minutes.  
TWA: 50 ppm 8 hours. |
| **Protein 80 Ladder**  
Glycerol  | Safe Work Australia (Australia, 1/2014).  
TWA: 10 mg/m³ 8 hours. |

### Appropriate engineering controls

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

### Environmental exposure controls

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

### Individual protection measures

#### Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### Eye/face protection

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

#### Skin protection

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.

#### Hand 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.

#### Body 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.
Section 8. Exposure controls and personal protection

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

Section 9. Physical and chemical properties

Appearance

Physical state:
- Protein 80 Gel Matrix: Liquid.
- Protein 80 Dye Concentrate: Liquid.
- Protein 80 Sample Buffer: Liquid.
- Protein 80 Ladder: Liquid.

Colour:
- Protein 80 Gel Matrix: Not available.
- Protein 80 Dye Concentrate: Blue.
- Protein 80 Sample Buffer: Not available.
- Protein 80 Ladder: Not available.

Odour:
- Protein 80 Gel Matrix: Not available.
- Protein 80 Dye Concentrate: Not available.
- Protein 80 Sample Buffer: Not available.
- Protein 80 Ladder: Not available.

Odour threshold:
- Protein 80 Gel Matrix: Not available.
- Protein 80 Dye Concentrate: Not available.
- Protein 80 Sample Buffer: Not available.
- Protein 80 Ladder: Not available.

pH:
- Protein 80 Gel Matrix: Not available.
- Protein 80 Dye Concentrate: Not available.
- Protein 80 Sample Buffer: Not available.
- Protein 80 Ladder: Not available.

Melting point:
- Protein 80 Gel Matrix: Not available.
- Protein 80 Dye Concentrate: Not available.
- Protein 80 Sample Buffer: 0°C (32°F).
- Protein 80 Ladder: Not available.

Boiling point:
- Protein 80 Gel Matrix: Not available.
- Protein 80 Dye Concentrate: Not available.
- Protein 80 Sample Buffer: 100°C (212°F).
- Protein 80 Ladder: Not available.

Flash point:
- Protein 80 Gel Matrix: Not available.
- Protein 80 Dye Concentrate: Closed cup: 93°C (199.4°F).
- Protein 80 Sample Buffer: Not available.
- Protein 80 Ladder: Not available.

Evaporation rate:
- Protein 80 Gel Matrix: Not available.
- Protein 80 Dye Concentrate: Not available.
- Protein 80 Sample Buffer: Not available.
- Protein 80 Ladder: Not available.

Flammability (solid, gas):
- Protein 80 Gel Matrix: Not applicable.
- Protein 80 Dye Concentrate: Not applicable.
- Protein 80 Sample Buffer: Not applicable.
- Protein 80 Ladder: Not applicable.

Lower and upper explosive (flammable) limits:
- Protein 80 Gel Matrix: Not applicable.
- Protein 80 Dye Concentrate: Not applicable.
- Protein 80 Sample Buffer: Not applicable.
- Protein 80 Ladder: Not applicable.

Vapour pressure:
- Protein 80 Gel Matrix: Not available.
- Protein 80 Dye Concentrate: Not available.
- Protein 80 Sample Buffer: Not available.
- Protein 80 Ladder: Not available.

Vapour density:
- Protein 80 Gel Matrix: Not available.
- Protein 80 Dye Concentrate: Not available.
- Protein 80 Sample Buffer: Not available.
- Protein 80 Ladder: Not available.
### Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Protein 80 Gel Matrix</th>
<th>Protein 80 Dye Concentrate</th>
<th>Protein 80 Sample Buffer</th>
<th>Protein 80 Ladder</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Relative density</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein 80 Gel Matrix</td>
<td>Easily soluble</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein 80 Dye Concentrate</td>
<td>Soluble</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein 80 Sample Buffer</td>
<td>Easily soluble</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein 80 Ladder</td>
<td>Easily soluble</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Partition coefficient: n-octanol/water</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein 80 Gel Matrix</td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein 80 Dye Concentrate</td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein 80 Sample Buffer</td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein 80 Ladder</td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein 80 Gel Matrix</td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein 80 Dye Concentrate</td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein 80 Sample Buffer</td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein 80 Ladder</td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein 80 Gel Matrix</td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein 80 Dye Concentrate</td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein 80 Sample Buffer</td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein 80 Ladder</td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein 80 Gel Matrix</td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein 80 Dye Concentrate</td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein 80 Sample Buffer</td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein 80 Ladder</td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Section 10. Stability and reactivity

#### Reactivity

<table>
<thead>
<tr>
<th>Component</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein 80 Gel Matrix</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
</tr>
<tr>
<td>Protein 80 Dye Concentrate</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
</tr>
<tr>
<td>Protein 80 Sample Buffer</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
</tr>
<tr>
<td>Protein 80 Ladder</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
</tr>
</tbody>
</table>

#### Chemical stability

<table>
<thead>
<tr>
<th>Component</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein 80 Gel Matrix</td>
<td>The product is stable.</td>
</tr>
<tr>
<td>Protein 80 Dye Concentrate</td>
<td>The product is stable.</td>
</tr>
<tr>
<td>Protein 80 Sample Buffer</td>
<td>The product is stable.</td>
</tr>
<tr>
<td>Protein 80 Ladder</td>
<td>The product is stable.</td>
</tr>
</tbody>
</table>

#### Possibility of hazardous reactions

<table>
<thead>
<tr>
<th>Component</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein 80 Gel Matrix</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
<tr>
<td>Protein 80 Dye Concentrate</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
<tr>
<td>Protein 80 Sample Buffer</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
<tr>
<td>Protein 80 Ladder</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
</tbody>
</table>

#### Conditions to avoid

<table>
<thead>
<tr>
<th>Component</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein 80 Gel Matrix</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Protein 80 Dye Concentrate</td>
<td>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.</td>
</tr>
<tr>
<td>Protein 80 Sample Buffer</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Protein 80 Ladder</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>
Section 10. Stability and reactivity

Incompatible materials:
- Protein 80 Gel Matrix
- Protein 80 Dye Concentrate
- Protein 80 Sample Buffer
- Protein 80 Ladder

May react or be incompatible with oxidising materials.

Hazardous decomposition products:
- Protein 80 Gel Matrix
  Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Protein 80 Dye Concentrate
  Reactive or incompatible with the following materials: oxidizing materials
- Protein 80 Sample Buffer
  May react or be incompatible with oxidising materials.
- Protein 80 Ladder
  May react or be incompatible with oxidising materials.

Section 11. Toxicological information

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>Protein 80 Dye Concentrate</td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>40000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Dimethyl sulfoxide</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>14500 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Sodium dodecyl sulphate</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1288 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Protein 80 Ladder</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>12600 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></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>Protein 80 Dye Concentrate</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Dimethyl sulfoxide</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>100 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></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>100 milligrams 250</td>
<td>-</td>
</tr>
<tr>
<td>Sodium dodecyl sulphate</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>Micrograms 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>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Guinea pig</td>
<td>-</td>
<td>24 hours 25 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Moderate irritant</td>
<td>Mouse</td>
<td>-</td>
<td>24 hours 25 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 50 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 25 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Protein 80 Ladder</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>
## Section 11. Toxicological information

| Sensitisation | Not available. |
| Mutagenicity | Not available. |
| Carcinogenicity | Not available. |
| Reproductive toxicity | Not available. |
| Teratogenicity | Not available. |

### Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein 80 Dye Concentrate</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
<tr>
<td>Sodium dodecyl sulphate</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

### Information on likely routes of exposure

- Protein 80 Gel Matrix
- Protein 80 Dye Concentrate
- Protein 80 Sample Buffer
- Protein 80 Ladder

### Potential acute health effects

#### Eye contact

- Protein 80 Gel Matrix
- Protein 80 Dye Concentrate
- Protein 80 Sample Buffer
- Protein 80 Ladder

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

#### Inhalation

- Protein 80 Gel Matrix
- Protein 80 Dye Concentrate
- Protein 80 Sample Buffer
- Protein 80 Ladder

No known significant effects or critical hazards.

#### Skin contact

- Protein 80 Gel Matrix
- Protein 80 Dye Concentrate
- Protein 80 Sample Buffer
- Protein 80 Ladder

No known significant effects or critical hazards.

#### Ingestion

- Protein 80 Gel Matrix
- Protein 80 Dye Concentrate
- Protein 80 Sample Buffer
- Protein 80 Ladder

No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics
### Section 11. Toxicological information

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>Protein 80 Gel Matrix</th>
<th>No specific data.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Protein 80 Dye Concentrate</td>
<td>Adverse symptoms may include the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pain</td>
</tr>
<tr>
<td></td>
<td></td>
<td>watering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>redness</td>
</tr>
<tr>
<td></td>
<td>Protein 80 Sample Buffer</td>
<td>No specific data.</td>
</tr>
<tr>
<td></td>
<td>Protein 80 Ladder</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

| Inhalation | Protein 80 Gel Matrix | No specific data. |
|           | Protein 80 Dye Concentrate | No specific data. |
|           | Protein 80 Sample Buffer | No specific data. |
|           | Protein 80 Ladder        | No specific data. |

| Skin contact | Protein 80 Gel Matrix | No specific data. |
|             | Protein 80 Dye Concentrate | Adverse symptoms may include the following: |
|             |                       | pain or irritation |
|             |                       | redness |
|             |                       | blistering may occur |
|             | Protein 80 Sample Buffer | No specific data. |
|             | Protein 80 Ladder      | No specific data. |

| Ingestion | Protein 80 Gel Matrix | No specific data. |
|          | Protein 80 Dye Concentrate | Adverse symptoms may include the following: |
|          |                       | stomach pains |
|          | Protein 80 Sample Buffer | No specific data. |
|          | Protein 80 Ladder       | 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**: Not available.

#### General

- **Protein 80 Gel Matrix**: No known significant effects or critical hazards.
- **Protein 80 Dye Concentrate**: No known significant effects or critical hazards.
- **Protein 80 Sample Buffer**: No known significant effects or critical hazards.
- **Protein 80 Ladder**: No known significant effects or critical hazards.

#### Carcinogenicity

- **Protein 80 Gel Matrix**: No known significant effects or critical hazards.
- **Protein 80 Dye Concentrate**: No known significant effects or critical hazards.
- **Protein 80 Sample Buffer**: No known significant effects or critical hazards.
- **Protein 80 Ladder**: No known significant effects or critical hazards.

#### Mutagenicity

- **Protein 80 Gel Matrix**: No known significant effects or critical hazards.
- **Protein 80 Dye Concentrate**: No known significant effects or critical hazards.
- **Protein 80 Sample Buffer**: No known significant effects or critical hazards.
- **Protein 80 Ladder**: No known significant effects or critical hazards.

#### Teratogenicity

- **Protein 80 Gel Matrix**: No known significant effects or critical hazards.
- **Protein 80 Dye Concentrate**: No known significant effects or critical hazards.
- **Protein 80 Sample Buffer**: No known significant effects or critical hazards.
- **Protein 80 Ladder**: No known significant effects or critical hazards.

#### Developmental effects

- **Protein 80 Gel Matrix**: No known significant effects or critical hazards.
- **Protein 80 Dye Concentrate**: No known significant effects or critical hazards.
- **Protein 80 Sample Buffer**: No known significant effects or critical hazards.
- **Protein 80 Ladder**: No known significant effects or critical hazards.
Section 11. Toxicological information

Fertility effects:
- Protein 80 Gel Matrix: No known significant effects or critical hazards.
- Protein 80 Dye Concentrate: No known significant effects or critical hazards.
- Protein 80 Sample Buffer: No known significant effects or critical hazards.
- Protein 80 Ladder: 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><strong>Protein 80 Dye Concentrate</strong></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>20188.1 mg/kg</td>
</tr>
<tr>
<td>Dermal</td>
<td>4702.2 mg/kg</td>
</tr>
<tr>
<td><strong>Protein 80 Sample Buffer</strong></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>16667 mg/kg</td>
</tr>
<tr>
<td>Inhalation (dusts and mists)</td>
<td>50 mg/l</td>
</tr>
<tr>
<td><strong>Protein 80 Ladder</strong></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>50003.8 mg/kg</td>
</tr>
<tr>
<td>Inhalation (dusts and mists)</td>
<td>129.3 mg/l</td>
</tr>
</tbody>
</table>

Section 12. Ecological information

Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Protein 80 Dye Concentrate</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimethyl sulfoxide</td>
<td>Acute LC50 25000 ppm Fresh water</td>
<td>Daphnia - Daphnia magna - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 34000000 μg/l Fresh water</td>
<td>Fish - Pimephales promelas</td>
<td>96 hours</td>
</tr>
<tr>
<td>Sodium dodecyl sulphate</td>
<td>Chronic NOEC 100 μl/L Marine water</td>
<td>Algae - Ulva lactuca</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 1200 μg/l Marine water</td>
<td>Algae - Skeletonema costatum</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 900 μg/l Marine water</td>
<td>Crustaceans - Artemia salina - Adult</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1400 μg/l Fresh water</td>
<td>Daphnia - Daphnia pulex - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 590 μg/l Fresh water</td>
<td>Fish - Cirrhinus mrigala - Larvae</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 1.25 mg/l Marine water</td>
<td>Algae - Ulva fasciata - Zoa</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 1 mg/l Fresh water</td>
<td>Crustaceans - Pseudosida ramosa - Neonate</td>
<td>21 days</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 3.2 mg/l Fresh water</td>
<td>Daphnia - Daphnia magna - Neonate</td>
<td>21 days</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC &gt;1357 μg/l Fresh water</td>
<td>Fish - Pimephales promelas</td>
<td>42 days</td>
</tr>
<tr>
<td><strong>Protein 80 Ladder</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td>Acute LC50 54000 mg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

Persistence and degradability

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Dose</th>
<th>Inoculum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Protein 80 Ladder</strong></td>
<td>301D Ready Biodegradability - Closed Bottle Test</td>
<td>93 % - 30 days</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Bioaccumulative potential
Section 12. Ecological information

<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><strong>Protein 80 Dye Concentrate</strong></td>
<td>Dimethyl sulfoxide</td>
<td>-1.35</td>
<td>3.16</td>
</tr>
<tr>
<td></td>
<td>Sodium dodecyl sulphate</td>
<td>-2.03</td>
<td>-</td>
</tr>
<tr>
<td><strong>Protein 80 Ladder</strong></td>
<td>Glycerol</td>
<td>-1.76</td>
<td>-</td>
</tr>
</tbody>
</table>

Mobility in soil

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

Other adverse effects

: No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

: 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. 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

**ADG / IMDG / IATA**

: Not regulated as Dangerous Goods according to the ADG Code.

**Special precautions for user**

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

**Transport in bulk according to Annex II of Marpol and the IBC Code**

: Not available.

Section 15. Regulatory information

**Standard Uniform Schedule of Medicine and Poisons**

6

**Model Work Health and Safety Regulations - Scheduled Substances**

No listed substance

**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)**

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Date of previous issue: 28/01/2016

Version: 5
Section 15. Regulatory information

Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**

Not listed.

**Inventory list**

- **Australia**: Not determined.
- **Canada**: Not determined.
- **China**: Not determined.
- **Europe**: Not determined.
- **Japan**:
  - Japan inventory (ENCS): Not determined.
  - Japan inventory (ISHL): Not determined.
- **Malaysia**: Not determined.
- **New Zealand**: Not determined.
- **Philippines**: Not determined.
- **Republic of Korea**: Not determined.
- **Taiwan**: Not determined.
- **Thailand**: Not determined.
- **Turkey**: Not determined.
- **United States**: Not determined.
- **Viet Nam**: Not determined.

Section 16. Any other relevant information

**History**

- **Date of issue/Date of revision**: 22/09/2017
- **Date of previous issue**: 28/01/2016.
- **Version**: 5

**Key to abbreviations**:

- ADG = Australian Dangerous Goods
- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- NOHSC = National Occupational Health and Safety Commission
- SUSMP = Standard Uniform Schedule of Medicine and Poisons
- UN = United Nations

**Procedure used to derive the classification**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein 80 Dye Concentrate</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>Flam. Liq. 4, H227</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Eye Dam. 1, H318</td>
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</tr>
</tbody>
</table>

**References**: Not available.

▶ Indicates information that has changed from previously issued version.

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