

# SAFETY DATA SHEET



Agilent Protein 80 Reagents, Part Number 5067-1516

## Section 1. Identification

### 1.1 Product identifier

**Product name** : Agilent Protein 80 Reagents, Part Number 5067-1516

**Part no. (chemical kit)** : 5067-1516

**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.

**Validation date** : 12/4/2023

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

**Identified uses** :  Analytical reagent.  
 Research and Development

<input checked="" type="checkbox"/> 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

### 1.3 Details of the supplier of the safety data sheet

**Supplier/Manufacturer** : Agilent Technologies, Inc.  
 5301 Stevens Creek Blvd  
 Santa Clara, CA 95051, USA  
 800-227-9770

### 1.4 Emergency telephone number

**In case of emergency** : CHEMTREC®: 1-800-424-9300

## Section 2. Hazards identification

### 2.1 Classification of the substance or mixture

**OSHA/HCS status** :  Protein 80 Gel Matrix While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Protein 80 Dye Concentrate This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Protein 80 Sample Buffer While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Protein 80 Ladder This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Classification of the substance or mixture

## Section 2. Hazards identification

### Protein 80 Dye Concentrate

H227 FLAMMABLE LIQUIDS - Category 4  
 H319 EYE IRRITATION - Category 2A

### Protein 80 Ladder

H319 EYE IRRITATION - Category 2A

### Protein 80 Gel Matrix

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

## 2.2 GHS label elements

### Hazard pictograms

: Protein 80 Dye Concentrate



Protein 80 Ladder



### Signal word

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

No signal word.  
 Warning  
 No signal word.  
 Warning

### Hazard statements

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

No known significant effects or critical hazards.  
 H227 - Combustible liquid.  
 H319 - Causes serious eye irritation.  
 No known significant effects or critical hazards.  
 H319 - Causes serious eye irritation.

### Precautionary statements

#### Prevention

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

Not applicable.  
 P280 - Wear eye or face protection.  
 P210 - Keep away from flames and hot surfaces.  
 No smoking.  
 Not applicable.  
 P280 - Wear eye or face protection.

#### Response

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

Not applicable.  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337 + P313 - If eye irritation persists: Get medical advice or attention.  
 Not applicable.  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337 + P313 - If eye irritation persists: Get medical advice or attention.

#### Storage

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

Not applicable.  
 P403 + P235 - Store in a well-ventilated place.  
 Keep cool.  
 Not applicable.  
 Not applicable.

#### Disposal

:

## Section 2. Hazards identification

	<input checked="" type="checkbox"/> Protein 80 Gel Matrix <input type="checkbox"/> Protein 80 Dye Concentrate	Not applicable. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	<input type="checkbox"/> Protein 80 Sample Buffer <input type="checkbox"/> Protein 80 Ladder	Not applicable. Not applicable.
<b>Supplemental label elements</b>	<input checked="" type="checkbox"/> Protein 80 Gel Matrix <input type="checkbox"/> Protein 80 Dye Concentrate <input type="checkbox"/> Protein 80 Sample Buffer <input type="checkbox"/> Protein 80 Ladder	None known. None known. None known. None known.
<b>2.3 Other hazards</b>		
<b>Hazards not otherwise classified</b>	<input checked="" type="checkbox"/> Protein 80 Gel Matrix <input type="checkbox"/> Protein 80 Dye Concentrate <input type="checkbox"/> Protein 80 Sample Buffer <input type="checkbox"/> Protein 80 Ladder	None known. None known. None known. None known.

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	<input checked="" type="checkbox"/> Protein 80 Gel Matrix <input type="checkbox"/> Protein 80 Dye Concentrate <input type="checkbox"/> Protein 80 Sample Buffer <input type="checkbox"/> Protein 80 Ladder	Mixture Mixture Mixture Mixture
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Ingredient name	%	CAS number
<b><input checked="" type="checkbox"/> Protein 80 Gel Matrix</b>		
Trometamol	≤3	77-86-1
<b>Protein 80 Dye Concentrate</b>		
Dimethyl sulfoxide	≥90	67-68-5
Sodium dodecyl sulphate	<10	151-21-3
<b>Protein 80 Sample Buffer</b>		
Lithium dodecyl sulphate	≤5	2044-56-6
Trometamol	≤3	77-86-1
<b>Protein 80 Ladder</b>		
Glycerol	≥10 - ≤25	56-81-5
Trometamol	≤3	77-86-1
Lithium dodecyl sulphate	≤3	2044-56-6

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

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

## Section 4. First aid measures

### 4.1 Description of necessary first aid measures

#### Eye contact

: 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

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.

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. Continue to rinse for at least 10 minutes. Get medical attention.

#### 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

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.

Protein 80 Sample Buffer

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 Ladder

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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need

## Section 4. First aid measures

### Skin contact

: Protein 80 Gel Matrix

to be kept under medical surveillance for 48 hours.

Protein 80 Dye Concentrate

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

Protein 80 Sample Buffer

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.

Protein 80 Ladder

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

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

### Ingestion

: Protein 80 Gel Matrix

Wash out mouth with water. 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.

Protein 80 Dye Concentrate

Wash out mouth with water. Remove dentures if any. 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.

Protein 80 Sample Buffer

Wash out mouth with water. 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.

Protein 80 Ladder

Wash out mouth with water. Remove dentures if any. 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.

## Section 4. First aid measures

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

#### Potential acute health effects

<b>Eye contact</b>	: 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 irritation. No known significant effects or critical hazards. Causes serious eye irritation.
<b>Inhalation</b>	: Protein 80 Gel Matrix Protein 80 Dye Concentrate Protein 80 Sample Buffer Protein 80 Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Skin contact</b>	: Protein 80 Gel Matrix Protein 80 Dye Concentrate Protein 80 Sample Buffer Protein 80 Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Ingestion</b>	: Protein 80 Gel Matrix Protein 80 Dye Concentrate Protein 80 Sample Buffer Protein 80 Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

<b>Eye contact</b>	: Protein 80 Gel Matrix Protein 80 Dye Concentrate  Protein 80 Sample Buffer Protein 80 Ladder	No specific data. Adverse symptoms may include the following: pain or irritation watering redness  No specific data. Adverse symptoms may include the following: pain or irritation watering redness
<b>Inhalation</b>	: Protein 80 Gel Matrix Protein 80 Dye Concentrate Protein 80 Sample Buffer Protein 80 Ladder	No specific data. No specific data. No specific data. No specific data.
<b>Skin contact</b>	: Protein 80 Gel Matrix Protein 80 Dye Concentrate Protein 80 Sample Buffer Protein 80 Ladder	No specific data. No specific data. No specific data. No specific data.
<b>Ingestion</b>	: Protein 80 Gel Matrix Protein 80 Dye Concentrate Protein 80 Sample Buffer Protein 80 Ladder	No specific data. No specific data. No specific data. No specific data.

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

<b>Notes to physician</b>	: Protein 80 Gel Matrix  Protein 80 Dye Concentrate  Protein 80 Sample Buffer  Protein 80 Ladder	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. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed
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## Section 4. First aid measures

<b>Specific treatments</b>	: Protein 80 Gel Matrix Protein 80 Dye Concentrate Protein 80 Sample Buffer Protein 80 Ladder	person may need to be kept under medical surveillance for 48 hours. No specific treatment. No specific treatment. No specific treatment. No specific treatment.
<b>Protection of first-aiders</b>	: Protein 80 Gel Matrix  Protein 80 Dye Concentrate  Protein 80 Sample Buffer  Protein 80 Ladder	No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	: Protein 80 Gel Matrix  Protein 80 Dye Concentrate Protein 80 Sample Buffer  Protein 80 Ladder	Use an extinguishing agent suitable for the surrounding fire. Use dry chemical, CO <sub>2</sub> , water spray (fog) or foam. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	: Protein 80 Gel Matrix Protein 80 Dye Concentrate Protein 80 Sample Buffer Protein 80 Ladder	None known. Do not use water jet. None known. None known.

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


<b>Specific hazards arising from the chemical</b>	: Protein 80 Gel Matrix  Protein 80 Dye Concentrate  Protein 80 Sample Buffer  Protein 80 Ladder	In a fire or if heated, a pressure increase will occur and the container may burst. 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. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous thermal decomposition products</b>	: Protein 80 Gel Matrix  Protein 80 Dye Concentrate	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides

## Section 5. Fire-fighting measures


Protein 80 Sample Buffer	metal oxide/oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides
Protein 80 Ladder	metal oxide/oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides

### 5.3 Advice for firefighters

#### 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

### 6.1 Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	: 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 spilled material. Put on appropriate personal protective equipment. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	Protein 80 Dye Concentrate	
	Protein 80 Sample Buffer	
	Protein 80 Ladder	
<b>For emergency responders</b>	: Protein 80 Gel Matrix	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Protein 80 Dye Concentrate	
	Protein 80 Sample Buffer	
	Protein 80 Ladder	
<b>6.2 Environmental precautions</b>	: Protein 80 Gel Matrix	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Protein 80 Dye Concentrate	

## Section 6. Accidental release measures

Protein 80 Sample Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Protein 80 Ladder	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

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

<b>Methods for cleaning up</b>	: 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

### 7.1 Precautions for safe handling

<b>Protective measures</b>	: 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 ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor 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. Empty containers retain product residue and can be hazardous. Do not reuse container.

## Section 7. Handling and storage

	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). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
<b>Advice on general occupational hygiene</b>	: 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 additional information on hygiene measures.
	Protein 80 Sample Buffer	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 Ladder	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.
<b>7.2 Conditions for safe storage, including any incompatibilities</b>	: Protein 80 Gel Matrix	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	Protein 80 Dye Concentrate	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

## Section 7. Handling and storage

### Protein 80 Sample Buffer

and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

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

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

### Protein 80 Ladder

### 7.3 Specific end use(s)

#### Recommendations

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

Industrial applications, Professional applications.  
 Industrial applications, Professional applications.  
 Industrial applications, Professional applications.  
 Industrial applications, Professional applications.

#### Industrial sector specific solutions

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

Not available.  
 Not available.  
 Not available.  
 Not available.

## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
<b>Protein 80 Gel Matrix</b> Trometamol	None.
<b>Protein 80 Dye Concentrate</b> Dimethyl sulfoxide  Sodium dodecyl sulphate	<b>OARS WEEL (United States, 4/2022).</b> TWA: 250 ppm 8 hours. None.
<b>Protein 80 Sample Buffer</b> Lithium dodecyl sulphate Trometamol	None. None.
<b>Protein 80 Ladder</b> Glycerol	<b>OSHA PEL 1989 (United States, 3/1989).</b>

## Section 8. Exposure controls/personal protection

<p>Trometamol Lithium dodecyl sulphate</p>	<p>TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction TWA: 10 mg/m<sup>3</sup> 8 hours. Form: Total dust <b>OSHA PEL (United States, 5/2018).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction TWA: 15 mg/m<sup>3</sup> 8 hours. Form: Total dust <b>CAL OSHA PEL (United States, 5/2018).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Form: respirable fraction TWA: 10 mg/m<sup>3</sup> 8 hours. Form: total dust None. None.</p>
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### Biological exposure indices

No exposure indices known.

### 8.2 Exposure controls

#### **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

#### **Hand protection**

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

#### **Body protection**

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

#### **Other skin protection**

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

#### **Respiratory protection**

: 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 and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

<b>Physical state</b>	:	Protein 80 Gel Matrix	Liquid.
		Protein 80 Dye Concentrate	Liquid.
		Protein 80 Sample Buffer	Liquid.
		Protein 80 Ladder	Liquid.
<b>Color</b>	:	Protein 80 Gel Matrix	Not available.
		Protein 80 Dye Concentrate	Blue.
		Protein 80 Sample Buffer	Not available.
		Protein 80 Ladder	Not available.
<b>Odor</b>	:	Protein 80 Gel Matrix	Not available.
		Protein 80 Dye Concentrate	Not available.
		Protein 80 Sample Buffer	Not available.
		Protein 80 Ladder	Not available.
<b>Odor threshold</b>	:	Protein 80 Gel Matrix	Not available.
		Protein 80 Dye Concentrate	Not available.
		Protein 80 Sample Buffer	Not available.
		Protein 80 Ladder	Not available.
<b>pH</b>	:	Protein 80 Gel Matrix	Not available.
		Protein 80 Dye Concentrate	Not available.
		Protein 80 Sample Buffer	Not available.
		Protein 80 Ladder	Not available.
<b>Melting point/freezing point</b>	:	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.
<b>Boiling point, initial boiling point, and boiling range</b>	:	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.
<b>Flash point</b>	:	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.

Ingredient name	Closed cup			Open cup		
	°C	°F	Method	°C	°F	Method
Protein 80 Ladder						
Glycerol	-	-	-	177	350.6	-

<b>Evaporation rate</b>	:	Protein 80 Gel Matrix	Not available.
		Protein 80 Dye Concentrate	Not available.
		Protein 80 Sample Buffer	Not available.
		Protein 80 Ladder	Not available.
<b>Flammability</b>	:	Protein 80 Gel Matrix	Not applicable.
		Protein 80 Dye Concentrate	Not applicable.
		Protein 80 Sample Buffer	Not applicable.
		Protein 80 Ladder	Not applicable.
<b>Lower and upper explosion limit/flammability limit</b>	:	Protein 80 Gel Matrix	Not available.
		Protein 80 Dye Concentrate	Not available.
		Protein 80 Sample Buffer	Not available.
		Protein 80 Ladder	Not available.
<b>Vapor pressure</b>	:		

## Section 9. Physical and chemical properties and safety characteristics

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
<b>Protein 80 Gel Matrix</b>						
water	17.5	2.3	-	92.258	12.3	-
Trometamol	<0.00075006	<0.0001	-	-	-	-
<b>Protein 80 Dye Concentrate</b>						
Dimethyl sulfoxide	0.42	0.056	EU A.4	-	-	-
Sodium dodecyl sulphate	≤0.0013501	≤0.00018	-	-	-	-
<b>Protein 80 Sample Buffer</b>						
water	17.5	2.3	-	92.258	12.3	-
Lithium dodecyl sulphate	0.049	0.0065	-	-	-	-
<b>Protein 80 Ladder</b>						
water	17.5	2.3	-	92.258	12.3	-
Lithium dodecyl sulphate	0.049	0.0065	-	-	-	-

**Relative vapor density** : Protein 80 Gel Matrix Not available.  
 Protein 80 Dye Concentrate Not available.  
 Protein 80 Sample Buffer Not available.  
 Protein 80 Ladder Not available.

**Relative density** : Protein 80 Gel Matrix Not available.  
 Protein 80 Dye Concentrate Not available.  
 Protein 80 Sample Buffer Not available.  
 Protein 80 Ladder Not available.

Media	Result
<b>Protein 80 Gel Matrix</b>	
water	Soluble
<b>Protein 80 Dye Concentrate</b>	
water	Soluble
<b>Protein 80 Sample Buffer</b>	
water	Soluble
<b>Protein 80 Ladder</b>	
water	Soluble

**Partition coefficient: n-octanol/water** : Protein 80 Gel Matrix Not applicable.  
 Protein 80 Dye Concentrate Not applicable.  
 Protein 80 Sample Buffer Not applicable.  
 Protein 80 Ladder Not applicable.

**Auto-ignition temperature** :

## Section 9. Physical and chemical properties and safety characteristics

Ingredient name	°C	°F	Method
<b>Protein 80 Dye Concentrate</b>			
Dimethyl sulfoxide	300 to 302	572 to 575.6	-
Sodium dodecyl sulphate	310.5	590.9	VDI 2263
<b>Protein 80 Sample Buffer</b>			
Lithium dodecyl sulphate	366	690.8	-
<b>Protein 80 Ladder</b>			
Lithium dodecyl sulphate	366	690.8	-
Glycerol	370	698	-

**Decomposition temperature** :

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

**Viscosity** :

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

### Particle characteristics

**Median particle size** :

Protein 80 Gel Matrix	Not applicable.
Protein 80 Dye Concentrate	Not applicable.
Protein 80 Sample Buffer	Not applicable.
Protein 80 Ladder	Not applicable.

## Section 10. Stability and reactivity

**10.1 Reactivity** :

Protein 80 Gel Matrix	No specific test data related to reactivity available for this product or its ingredients.
Protein 80 Dye Concentrate	No specific test data related to reactivity available for this product or its ingredients.
Protein 80 Sample Buffer	No specific test data related to reactivity available for this product or its ingredients.
Protein 80 Ladder	No specific test data related to reactivity available for this product or its ingredients.

**10.2 Chemical stability** :

Protein 80 Gel Matrix	The product is stable.
Protein 80 Dye Concentrate	The product is stable.
Protein 80 Sample Buffer	The product is stable.
Protein 80 Ladder	The product is stable.

**10.3 Possibility of hazardous reactions** :

Protein 80 Gel Matrix	Under normal conditions of storage and use, hazardous reactions will not occur.
Protein 80 Dye Concentrate	Under normal conditions of storage and use, hazardous reactions will not occur.
Protein 80 Sample Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
Protein 80 Ladder	Under normal conditions of storage and use, hazardous reactions will not occur.



## Section 10. Stability and reactivity

<b>10.4 Conditions to avoid</b>	:	Protein 80 Gel Matrix	No specific data.
		Protein 80 Dye Concentrate	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
		Protein 80 Sample Buffer Protein 80 Ladder	No specific data. No specific data.
<b>10.5 Incompatible materials</b>	:	Protein 80 Gel Matrix	May react or be incompatible with oxidizing materials.
		Protein 80 Dye Concentrate	Reactive or incompatible with the following materials: oxidizing materials
		Protein 80 Sample Buffer	May react or be incompatible with oxidizing materials.
		Protein 80 Ladder	May react or be incompatible with oxidizing materials.
<b>10.6 Hazardous decomposition products</b>	:	Protein 80 Gel Matrix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		Protein 80 Dye Concentrate	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		Protein 80 Sample Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		Protein 80 Ladder	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
<b>Protein 80 Gel Matrix</b> Trometamol	LD50 Dermal	Rat	>5000 mg/kg	-
<b>Protein 80 Dye Concentrate</b> Dimethyl sulfoxide	LD50 Dermal	Rat	40000 mg/kg	-
	LD50 Oral	Rat	14500 mg/kg	-
	Sodium dodecyl sulphate	Rat	1288 mg/kg	-
<b>Protein 80 Sample Buffer</b> Lithium dodecyl sulphate	LD50 Oral	Rat	>5000 mg/kg	-
	Trometamol	Rat	>5000 mg/kg	-
<b>Protein 80 Ladder</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-
	Trometamol	Rat	>5000 mg/kg	-
	Lithium dodecyl sulphate	Rat	>5000 mg/kg	-

#### Irritation/Corrosion

## Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>Protein 80 Gel Matrix</b> Trometamol	Skin - Moderate irritant	Rabbit	-	25 %	-
	Skin - Severe irritant	Rabbit	-	500 mg	-
<b>Protein 80 Dye Concentrate</b> Dimethyl sulfoxide	Eyes - Mild irritant	Rabbit	-	100 mg	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	100 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Sodium dodecyl sulphate	Eyes - Mild irritant	Rabbit	-	250 ug	-
	Eyes - Moderate irritant	Rabbit	-	10 mg	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Skin - Mild irritant	Guinea pig	-	24 hours 25 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 50 mg	-
	Skin - Moderate irritant	Mouse	-	24 hours 25 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 25 mg	-
<b>Protein 80 Sample Buffer</b> Trometamol	Skin - Moderate irritant	Rabbit	-	25 %	-
	Skin - Severe irritant	Rabbit	-	500 mg	-
<b>Protein 80 Ladder</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Trometamol	Skin - Moderate irritant	Rabbit	-	25 %	-
	Skin - Severe irritant	Rabbit	-	500 mg	-

### Sensitization

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)

## Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
<b>Protein 80 Gel Matrix</b> Trometamol	Category 3	-	Respiratory tract irritation
<b>Protein 80 Dye Concentrate</b> Sodium dodecyl sulphate	Category 3	-	Respiratory tract irritation
<b>Protein 80 Sample Buffer</b> Lithium dodecyl sulphate	Category 3	-	Respiratory tract irritation
Trometamol	Category 3	-	Respiratory tract irritation
<b>Protein 80 Ladder</b> Trometamol	Category 3	-	Respiratory tract irritation
Lithium dodecyl sulphate	Category 3	-	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

### Information on the likely routes of exposure

Protein 80 Gel Matrix	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Protein 80 Dye Concentrate	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Protein 80 Sample Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Protein 80 Ladder	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

<b>Eye contact</b>	<ul style="list-style-type: none"> <li>Protein 80 Gel Matrix</li> <li>Protein 80 Dye Concentrate</li> <li>Protein 80 Sample Buffer</li> <li>Protein 80 Ladder</li> </ul>	<ul style="list-style-type: none"> <li>No known significant effects or critical hazards. Causes serious eye irritation.</li> <li>No known significant effects or critical hazards. Causes serious eye irritation.</li> </ul>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>Protein 80 Gel Matrix</li> <li>Protein 80 Dye Concentrate</li> <li>Protein 80 Sample Buffer</li> <li>Protein 80 Ladder</li> </ul>	<ul style="list-style-type: none"> <li>No known significant effects or critical hazards.</li> <li>No known significant effects or critical hazards.</li> <li>No known significant effects or critical hazards.</li> <li>No known significant effects or critical hazards.</li> </ul>
<b>Skin contact</b>	<ul style="list-style-type: none"> <li>Protein 80 Gel Matrix</li> <li>Protein 80 Dye Concentrate</li> <li>Protein 80 Sample Buffer</li> <li>Protein 80 Ladder</li> </ul>	<ul style="list-style-type: none"> <li>No known significant effects or critical hazards.</li> <li>No known significant effects or critical hazards.</li> <li>No known significant effects or critical hazards.</li> <li>No known significant effects or critical hazards.</li> </ul>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>Protein 80 Gel Matrix</li> <li>Protein 80 Dye Concentrate</li> <li>Protein 80 Sample Buffer</li> <li>Protein 80 Ladder</li> </ul>	<ul style="list-style-type: none"> <li>No known significant effects or critical hazards.</li> <li>No known significant effects or critical hazards.</li> <li>No known significant effects or critical hazards.</li> <li>No known significant effects or critical hazards.</li> </ul>

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

## Section 11. Toxicological information

<b>Eye contact</b>	: Protein 80 Gel Matrix	No specific data.
	Protein 80 Dye Concentrate	Adverse symptoms may include the following: pain or irritation watering redness
	Protein 80 Sample Buffer	No specific data.
	Protein 80 Ladder	Adverse symptoms may include the following: pain or irritation watering redness
<b>Inhalation</b>	: 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.
<b>Skin contact</b>	: 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.
<b>Ingestion</b>	: 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.

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

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Potential chronic health effects

**General** : Protein 80 Gel Matrix  
Protein 80 Dye Concentrate  
Protein 80 Sample Buffer  
Protein 80 Ladder

No known significant effects or critical hazards.  
No known significant effects or critical hazards.  
No known significant effects or critical hazards.  
No known significant effects or critical hazards.

**Carcinogenicity** : Protein 80 Gel Matrix  
Protein 80 Dye Concentrate  
Protein 80 Sample Buffer  
Protein 80 Ladder

No known significant effects or critical hazards.  
No known significant effects or critical hazards.  
No known significant effects or critical hazards.  
No known significant effects or critical hazards.

**Mutagenicity** : Protein 80 Gel Matrix  
Protein 80 Dye Concentrate  
Protein 80 Sample Buffer  
Protein 80 Ladder

No known significant effects or critical hazards.  
No known significant effects or critical hazards.  
No known significant effects or critical hazards.  
No known significant effects or critical hazards.

**Reproductive toxicity** : Protein 80 Gel Matrix  
Protein 80 Dye Concentrate  
Protein 80 Sample Buffer  
Protein 80 Ladder

No known significant effects or critical hazards.  
No known significant effects or critical hazards.  
No known significant effects or critical hazards.  
No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

## Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
<b>Protein 80 Dye Concentrate</b>					
Protein 80 Dye Concentrate	20188.1	N/A	N/A	N/A	23.5
Dimethyl sulfoxide	14500	40000	N/A	N/A	N/A
Sodium dodecyl sulphate	1288	N/A	N/A	N/A	1.5
<b>Protein 80 Sample Buffer</b>					
Protein 80 Sample Buffer	16667.0	N/A	N/A	N/A	50.0
Lithium dodecyl sulphate	500	N/A	N/A	N/A	1.5
<b>Protein 80 Ladder</b>					
Protein 80 Ladder	50003.8	N/A	N/A	N/A	129.3
Glycerol	12600	N/A	N/A	N/A	N/A
Lithium dodecyl sulphate	500	N/A	N/A	N/A	1.5

**Other information** : Protein 80 Ladder

Adverse symptoms may include the following: May cause skin sensitization.

## Section 12. Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<b>Protein 80 Gel Matrix</b>			
Trometamol	Acute EC50 >980 mg/l Fresh water Acute NOEC 520 mg/l Fresh water	Daphnia Daphnia	48 hours 48 hours
<b>Protein 80 Dye Concentrate</b>			
Dimethyl sulfoxide	Acute LC50 25000 ppm Fresh water Acute LC50 34000000 µg/l Fresh water Chronic NOEC 100 µl/L Marine water Chronic NOEC 100 µl/L Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate Fish - <i>Pimephales promelas</i> Algae - <i>Ulva lactuca</i> Daphnia - <i>Daphnia magna</i> - Juvenile (Fledgling, Hatchling, Weanling)	48 hours 96 hours 72 hours 21 days
Sodium dodecyl sulphate	Acute EC50 1200 µg/l Marine water Acute LC50 900 µg/l Marine water Acute LC50 1400 µg/l Fresh water Acute LC50 590 µg/l Fresh water Chronic NOEC 1.25 mg/l Marine water Chronic NOEC 1 mg/l Fresh water Chronic NOEC 3.2 mg/l Fresh water Chronic NOEC 0.8 mg/l Fresh water	Algae - <i>Skeletonema costatum</i> Crustaceans - <i>Artemia salina</i> - Adult Daphnia - <i>Daphnia pulex</i> - Neonate Fish - <i>Cirrhinus mrigala</i> - Larvae Algae - <i>Ulva fasciata</i> - Zoea Crustaceans - <i>Pseudosida ramosa</i> - Neonate Daphnia - <i>Daphnia magna</i> - Neonate Fish - <i>Gambusia holbrooki</i>	96 hours 48 hours 48 hours 96 hours 96 hours 21 days 21 days 28 days
<b>Protein 80 Sample Buffer</b>			
Trometamol	Acute EC50 >980 mg/l Fresh water Acute NOEC 520 mg/l Fresh water	Daphnia Daphnia	48 hours 48 hours
<b>Protein 80 Ladder</b>			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours

## Section 12. Ecological information

Trometamol	Acute EC50 >980 mg/l Fresh water Acute NOEC 520 mg/l Fresh water	Daphnia Daphnia	48 hours 48 hours
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### 12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
<b>Protein 80 Gel Matrix</b> Trometamol	OECD 301F Ready Biodegradability - Manometric Respirometry Test	97.1 % - Readily - 28 days	30 mg/l	-
<b>Protein 80 Dye Concentrate</b> Dimethyl sulfoxide	OECD 301D Ready Biodegradability - Closed Bottle Test	31 % - Not readily - 28 days	-	-
Sodium dodecyl sulphate	OECD 301B Ready Biodegradability - CO <sub>2</sub> Evolution Test	95 % - Readily - 28 days	20 mg/l	-
<b>Protein 80 Sample Buffer</b> Trometamol	OECD 301F Ready Biodegradability - Manometric Respirometry Test	97.1 % - Readily - 28 days	30 mg/l	-
<b>Protein 80 Ladder</b> Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
Trometamol	OECD 301F Ready Biodegradability - Manometric Respirometry Test	97.1 % - Readily - 28 days	30 mg/l	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
<b>Protein 80 Gel Matrix</b> Trometamol	-	-	Readily
<b>Protein 80 Dye Concentrate</b> Dimethyl sulfoxide	-	-	Not readily
Sodium dodecyl sulphate	-	-	Readily
<b>Protein 80 Sample Buffer</b> Lithium dodecyl sulphate	-	-	Readily
Trometamol	-	-	Readily
<b>Protein 80 Ladder</b>			

## Section 12. Ecological information

Trometamol	-	-	Readily
Lithium dodecyl sulphate	-	-	Readily

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>Protein 80 Gel Matrix</b> Trometamol	-2.31	-	Low
<b>Protein 80 Dye Concentrate</b> Dimethyl sulfoxide	-1.35	3.16	Low
Sodium dodecyl sulphate	-2.03	-	Low
<b>Protein 80 Sample Buffer</b> Trometamol	-2.31	-	Low
<b>Protein 80 Ladder</b> Glycerol	-1.76	-	Low
Trometamol	-2.31	-	Low

### 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**12.5 Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

### 13.1 Waste treatment methods

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

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

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

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

## Section 14. Transport information

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

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

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

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

**U.S. Federal regulations** : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined

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

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

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

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

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

#### SARA 302/304

#### Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
<b>Protein 80 Sample Buffer</b> Sodium azide	<0.1	Yes.	500	-	1000	-
<b>Protein 80 Ladder</b> Sodium azide	<0.1	Yes.	500	-	1000	-

**SARA 304 RQ** : 30769230.8 lbs / 13969230.8 kg

#### SARA 311/312

**Classification** : Protein 80 Gel Matrix Protein 80 Dye Concentrate Protein 80 Sample Buffer Protein 80 Ladder

Not applicable.  
 FLAMMABLE LIQUIDS - Category 4  
 EYE IRRITATION - Category 2A  
 Not applicable.  
 EYE IRRITATION - Category 2A

#### Composition/information on ingredients



## Section 15. Regulatory information

Name	%	Classification
<b>Protein 80 Gel Matrix</b>		
Methylurea	≤5	COMBUSTIBLE DUSTS
Trometamol	≤3	COMBUSTIBLE DUSTS SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
<b>Protein 80 Dye Concentrate</b>		
Dimethyl sulfoxide	≥90	FLAMMABLE LIQUIDS - Category 4 EYE IRRITATION - Category 2B
Sodium dodecyl sulphate	<10	FLAMMABLE SOLIDS - Category 2 COMBUSTIBLE DUSTS ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
<b>Protein 80 Sample Buffer</b>		
Lithium dodecyl sulphate	≤5	FLAMMABLE SOLIDS - Category 1 COMBUSTIBLE DUSTS ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Trometamol	≤3	COMBUSTIBLE DUSTS SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
<b>Protein 80 Ladder</b>		
Glycerol	≥10 - ≤25	EYE IRRITATION - Category 2B
Trometamol	≤3	COMBUSTIBLE DUSTS SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Lithium dodecyl sulphate	≤3	FLAMMABLE SOLIDS - Category 1 COMBUSTIBLE DUSTS ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

### State regulations

- Massachusetts** : The following components are listed: GLYCERINE MIST
- New York** : None of the components are listed.
- New Jersey** : The following components are listed: DIMETHYL SULFOXIDE; METHANE, SULFINYLBIIS-; GLYCERIN
- Pennsylvania** : The following components are listed: 1,2,3-PROPANETRIOL
- California Prop. 65**

This product does not require a Safe Harbor warning under California Prop. 65.

### International regulations

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

Not listed.

## Section 15. Regulatory information

### Montreal Protocol

Not listed.

### Stockholm Convention on Persistent Organic Pollutants

Not listed.

### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

<b>Australia</b>	: Not determined.
<b>Canada</b>	: Not determined.
<b>China</b>	: Not determined.
<b>Japan</b>	: <b>Japan inventory (CSCL):</b> Not determined. <b>Japan inventory (ISHL):</b> Not determined.
<b>New Zealand</b>	: Not determined.
<b>Philippines</b>	: Not determined.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: Not determined.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: Not determined.
<b>Viet Nam</b>	: Not determined.

## Section 16. Other information

### Procedure used to derive the classification

Classification	Justification
<b>Protein 80 Dye Concentrate</b> FLAMMABLE LIQUIDS - Category 4 EYE IRRITATION - Category 2A	On basis of test data Calculation method
<b>Protein 80 Ladder</b> EYE IRRITATION - Category 2A	Calculation method

### History

<b>Date of issue/Date of revision</b>	: 12/04/2023
<b>Date of previous issue</b>	: 10/23/2020
<b>Version</b>	: 9

### Key to abbreviations

: 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  
 : MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 : N/A = Not available  
 : UN = United Nations

## Section 16. Other information

✔ Indicates information that has changed from previously issued version.

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