

# SAFETY DATA SHEET

Agilent Protein 80 Reagents, Part Number 5067-1516

## Section 1. Identification

<b>Product identifier</b>	: Agilent Protein 80 Reagents, Part Number 5067-1516	
<b>Part no. (chemical kit)</b>	: 5067-1516	
<b>Part no.</b>	: <u>Reagents P80</u>	<u>G2938-80025</u>
	Protein 80 Gel Matrix	Not available.
	Protein 80 Dye Concentrate	Not available.
	<u>Reagents P80 frozen</u>	<u>G2938-80040</u>
	Protein 80 Sample Buffer	Not available.
	Protein 80 Ladder	Not available.

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

<b>Identified uses</b>	: <input checked="" type="checkbox"/> 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

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

**Emergency telephone number (with hours of operation)** : CHEMTREC®: 1-800-424-9300

## Section 2. Hazard identification

### Classification of the substance or mixture

#### Protein 80 Dye Concentrate

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

#### Protein 80 Ladder

H319 EYE IRRITATION - Category 2A

### GHS label elements

#### Hazard pictograms

: <input checked="" type="checkbox"/> Protein 80 Dye Concentrate	
Protein 80 Ladder	

#### Signal word

: <input checked="" type="checkbox"/> Protein 80 Gel Matrix	No signal word.
Protein 80 Dye Concentrate	Warning
Protein 80 Sample Buffer	No signal word.
Protein 80 Ladder	Warning

## Section 2. Hazard identification

<b>Hazard statements</b>	:	Protein 80 Gel Matrix	No known significant effects or critical hazards.
		Protein 80 Dye Concentrate	H227 - Combustible liquid. H319 - Causes serious eye irritation.
		Protein 80 Sample Buffer	No known significant effects or critical hazards.
		Protein 80 Ladder	H319 - Causes serious eye irritation.
<b>Precautionary statements</b>			
<b>Prevention</b>	:	Protein 80 Gel Matrix	Not applicable.
		Protein 80 Dye Concentrate	P280 - Wear eye or face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
		Protein 80 Sample Buffer	Not applicable.
		Protein 80 Ladder	P280 - Wear eye or face protection.
<b>Response</b>	:	Protein 80 Gel Matrix	Not applicable.
		Protein 80 Dye Concentrate	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.
		Protein 80 Sample Buffer	Not applicable.
		Protein 80 Ladder	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.
<b>Storage</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>Disposal</b>	:	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.
<b>Supplemental label elements</b>	:	Protein 80 Gel Matrix	None known.
		Protein 80 Dye Concentrate	None known.
		Protein 80 Sample Buffer	None known.
		Protein 80 Ladder	None known.
		Protein 80 Gel Matrix	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 2.2%
<b>Other hazards which do not result in classification</b>	:	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/information on ingredients

<b>Substance/mixture</b>	:	Protein 80 Gel Matrix	Mixture
		Protein 80 Dye Concentrate	Mixture
		Protein 80 Sample Buffer	Mixture
		Protein 80 Ladder	Mixture

## Section 3. Composition/information on ingredients

Ingredient name	Synonyms	% (w/w)	CAS number
<b>Protein 80 Gel Matrix</b>			
Trometamol	Tris	≥1 - ≤5	77-86-1
<b>Protein 80 Dye Concentrate</b>			
Dimethyl sulfoxide	Dimethyl sulfoxide	≥80	67-68-5
Sodium dodecyl sulphate	Sodium dodecyl sulphate	≥5 - ≤10	151-21-3
<b>Protein 80 Sample Buffer</b>			
Lithium dodecyl sulphate	sulfuric acid, monododecyl ester, lithium salt	≥1 - ≤5	2044-56-6
Trometamol	Tris	≥1 - ≤5	77-86-1
<b>Protein 80 Ladder</b>			
Glycerol	Glycerol	≥10 - ≤30	56-81-5
Trometamol	Tris	≥1 - ≤5	77-86-1
Lithium dodecyl sulphate	sulfuric acid, monododecyl ester, lithium salt	≥1 - ≤5	2044-56-6

Ranges if listed above for hazardous ingredient(s) are prescribed ranges. The actual concentration(s) or actual concentration range(s) are being withheld as a trade secret.

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

### Description of necessary first aid measures

<b>Eye contact</b>	: 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.

## Section 4. First-aid measures

<b>Inhalation</b>	:	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 to be kept under medical surveillance for 48 hours.
<b>Skin contact</b>	:	Protein 80 Gel Matrix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Protein 80 Dye Concentrate	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 Sample Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Protein 80 Ladder	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.
<b>Ingestion</b>	:	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

## Section 4. First-aid measures

	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.

### 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	No specific data. Adverse symptoms may include the following: pain or irritation watering redness
	Protein 80 Sample Buffer Protein 80 Ladder	No specific data. Adverse symptoms may include the following:

## Section 4. First-aid measures

		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.

### 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 person may need to be kept under medical surveillance for 48 hours.
<b>Specific treatments</b>	: Protein 80 Gel Matrix Protein 80 Dye Concentrate Protein 80 Sample Buffer Protein 80 Ladder	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

### Extinguishing media

<b>Suitable extinguishing media</b>	: Protein 80 Gel Matrix	Use an extinguishing agent suitable for the surrounding fire.
	Protein 80 Dye Concentrate	Use dry chemical, CO <sub>2</sub> , 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.
<b>Unsuitable extinguishing media</b>	: 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.
<b>Specific hazards arising from the chemical</b>	: 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.
<b>Hazardous thermal decomposition products</b>	: 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 metal oxide/oxides
	Protein 80 Sample Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides
	Protein 80 Ladder	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides
<b>Special protective actions for fire-fighters</b>	: 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

## Section 5. Fire-fighting measures

	Protein 80 Sample Buffer	to keep fire-exposed containers cool. 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.
<b>Special protective equipment for fire-fighters</b>	: 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 spilled 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 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.
	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 spilled 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.



## Section 6. Accidental release measures

<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".
	Protein 80 Dye Concentrate	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 Sample Buffer	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 Ladder	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".

<b>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).
	Protein 80 Dye Concentrate	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 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).

### 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

## Section 6. Accidental release measures

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 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.
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.

#### 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 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

## Section 7. Handling and storage

**Conditions for safe storage, including any incompatibilities** : Protein 80 Gel Matrix

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

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

Protein 80 Sample Buffer

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

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.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
<b>Protein 80 Dye Concentrate</b> Dimethyl sulfoxide	<b>OARS WEEL (United States, 4/2022).</b> TWA: 250 ppm 8 hours.
<b>Protein 80 Ladder</b> Glycerol	<b>CA Alberta Provincial (Canada, 6/2018).</b> 8 hrs OEL: 10 mg/m <sup>3</sup> 8 hours. Form: Mist <b>CA Quebec Provincial (Canada, 6/2022).</b> TWAEV: 10 mg/m <sup>3</sup> 8 hours. Form: mist <b>CA Saskatchewan Provincial (Canada, 7/2013).</b> STEL: 20 mg/m <sup>3</sup> 15 minutes. Form: mist TWA: 10 mg/m <sup>3</sup> 8 hours. Form: mist <b>CA British Columbia Provincial (Canada, 6/2022).</b> TWA: 3 mg/m <sup>3</sup> 8 hours. Form: respirable mist TWA: 10 mg/m <sup>3</sup> 8 hours. Form: total mist

#### Biological exposure indices

No exposure indices known.

- 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.

## Section 8. Exposure controls/personal protection

- 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

- Physical state** : Protein 80 Gel Matrix Liquid.  
Protein 80 Dye Concentrate Liquid.  
Protein 80 Sample Buffer Liquid.  
Protein 80 Ladder Liquid.
- Color** : Protein 80 Gel Matrix Not available.  
Protein 80 Dye Concentrate Blue.  
Protein 80 Sample Buffer Not available.  
Protein 80 Ladder Not available.
- Odor** : Protein 80 Gel Matrix Not available.  
Protein 80 Dye Concentrate Not available.  
Protein 80 Sample Buffer Not available.  
Protein 80 Ladder Not available.
- Odor 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/freezing 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, initial boiling point, and boiling range** : 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.

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

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

**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** : 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 explosion limit/flammability limit** : Protein 80 Gel Matrix Not available.  
 Protein 80 Dye Concentrate Not available.  
 Protein 80 Sample Buffer Not available.  
 Protein 80 Ladder Not available.

**Vapor pressure** :

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.

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

<b>Solubility(ies)</b>	<b>Media</b>	<b>Result</b>		
	Protein 80 Gel Matrix water	Soluble		
	Protein 80 Dye Concentrate water	Soluble		
	Protein 80 Sample Buffer water	Soluble		
	Protein 80 Ladder water	Soluble		
<b>Partition coefficient: n-octanol/water</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>Auto-ignition temperature</b>	<b>Ingredient name</b>	<b>°C</b>	<b>°F</b>	<b>Method</b>
	Protein 80 Dye Concentrate			
	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	-	
<b>Decomposition temperature</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>Viscosity</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>Particle characteristics</b>				
<b>Median particle size</b>	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

<b>Reactivity</b>	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.

## Section 10. Stability and reactivity

<b>Chemical stability</b>	: 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.
<b>Possibility of hazardous reactions</b>	: 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.
<b>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	No specific data.
	Protein 80 Ladder	No specific data.
<b>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>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

### 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	-
	LD50 Oral	Rat	1288 mg/kg	-
Sodium dodecyl sulphate	LD50 Oral	Rat	1288 mg/kg	-
<b>Protein 80 Sample Buffer</b> Lithium dodecyl sulphate	LD50 Oral	Rat	>5000 mg/kg	-
	LD50 Dermal	Rat	>5000 mg/kg	-



## Section 11. Toxicological information

<b>Protein 80 Ladder</b>				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Trometamol	LD50 Dermal	Rat	>5000 mg/kg	-
Lithium dodecyl sulphate	LD50 Oral	Rat	>5000 mg/kg	-

### Irritation/Corrosion

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

#### Eye contact

Protein 80 Gel Matrix	No known significant effects or critical hazards.
Protein 80 Dye Concentrate	Causes serious eye irritation.
Protein 80 Sample Buffer	No known significant effects or critical hazards.
Protein 80 Ladder	Causes serious eye irritation.

#### 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.

### 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 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.

**Reproductive toxicity** : 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

## 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 Dimethyl sulfoxide Sodium dodecyl sulphate	20188.1 14500 1288	N/A 40000 N/A	N/A N/A N/A	N/A N/A N/A	23.5 N/A 1.5
<b>Protein 80 Sample Buffer</b> Protein 80 Sample Buffer Lithium dodecyl sulphate	16667.0 500	N/A N/A	N/A N/A	N/A N/A	50.0 1.5
<b>Protein 80 Ladder</b> Protein 80 Ladder Glycerol Lithium dodecyl sulphate	50003.8 12600 500	N/A N/A N/A	N/A N/A N/A	N/A N/A N/A	129.3 N/A 1.5

### Other information

: Protein 80 Ladder

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

## Section 12. Ecological information

### 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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### 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

### 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

### 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 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.

## Section 14. Transport information

**TDG / 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

### Canadian lists

**Canadian NPRI** : None of the components are listed.

**CEPA Toxic substances** : None of the components are listed.

### International regulations

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

Not listed.

#### 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

**Canada** : Not determined.

**United States** : Not determined.

## Section 16. Other information

### History

**Date of issue/Date of revision** : 12/04/2023

**Date of previous issue** : 10/23/2020

**Version** : 9

### Key to abbreviations

: ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 HPR = Hazardous Products Regulations  
 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

### 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

 Indicates information that has changed from previously issued version.

### Notice to reader

## Section 16. Other information

**Disclaimer:** The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.