

# SAFETY DATA SHEET



Agilent Protein 230 Reagents, Part Number 5067-1518

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

### 1.1 Product identifier

**Product name** : Agilent Protein 230 Reagents, Part Number 5067-1518  
**Part No. (Kit)** : 5067-1518  
**Part No.** :  Reagents P230 G2938-80026  
Protein 230 Gel Matrix Not available.  
Protein 230 Dye Concentrate Not available.  
 Reagents P230 frozen G2938-80041  
Protein 230 Ladder Not available.  
Protein 230 Sample Buffer Not available.

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

Identified uses	
Analytical chemistry.	
Research and Development	
Protein 230 Gel Matrix	4 x 0.65 ml
Protein 230 Dye Concentrate	1 x 0.09 ml
Protein 230 Ladder	1 x 0.18 ml
Protein 230 Sample Buffer	4 x 0.2 ml

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

Agilent Technologies Manufacturing GmbH & Co. KG  
Hewlett-Packard-Str. 8  
76337 Waldbronn  
Germany  
0800 603 1000

**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

### 1.4 Emergency telephone number

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

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** :  Protein 230 Gel Matrix Mixture  
Protein 230 Dye Concentrate Mixture  
 Protein 230 Ladder Mixture  
Protein 230 Sample Buffer Mixture

### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Protein 230 Dye Concentrate  
H412 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3

## SECTION 2: Hazards identification

<b>Ingredients of unknown toxicity</b>	: Protein 230 Gel Matrix  Protein 230 Dye Concentrate Protein 230 Ladder  Protein 230 Sample Buffer	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10% Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10% Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10% Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10% Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10% Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30% Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10% Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
<b>Ingredients of unknown ecotoxicity</b>	: Protein 230 Gel Matrix	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 2.2%

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

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

<b>Signal word</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	No signal word. No signal word. No signal word. No signal word.
<b>Hazard statements</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	No known significant effects or critical hazards. H412 - Harmful to aquatic life with long lasting effects. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Precautionary statements</b>		
<b>Prevention</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	Not applicable. P273 - Avoid release to the environment. Not applicable. Not applicable.
<b>Response</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	Not applicable. Not applicable. Not applicable. Not applicable.
<b>Storage</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	Not applicable. Not applicable. Not applicable. Not applicable.
<b>Disposal</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	Not applicable. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. Not applicable. Not applicable.

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## SECTION 2: Hazards identification

<b>Hazardous ingredients</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	Not applicable. Not applicable. Not applicable. Not applicable.
<b>Supplemental label elements</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	Safety data sheet available on request. Not applicable. Safety data sheet available on request. Safety data sheet available on request.
<b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	Not applicable. Not applicable. Not applicable. Not applicable.
<b>Special packaging requirements</b>		
<b>Tactile warning of danger</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	Not applicable. Not applicable. Not applicable. Not applicable.

### 2.3 Other hazards

<b>Other hazards which do not result in classification</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	None known. None known. None known. None known.
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## SECTION 3: Composition/information on ingredients

<b>3.1 Substances</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	Mixture Mixture Mixture Mixture
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Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
Protein 230 Gel Matrix Trometamol	EC: 201-064-4 CAS: 77-86-1	≤3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	[1]
Protein 230 Dye Concentrate Sodium dodecyl sulphate	EC: 205-788-1 CAS: 151-21-3	<10	Flam. Sol. 2, H228 Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 2, H411	[1]
Protein 230 Ladder				[2]

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3/24

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**SECTION 3: Composition/information on ingredients**

Glycerol	REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥10 - ≤25	Not classified.	
Trometamol	EC: 201-064-4 CAS: 77-86-1	≤3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	[1]
Lithium dodecyl sulphate	EC: 218-058-2 CAS: 2044-56-6	≤3	Flam. Sol. 1, H228 Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Chronic 3, H412	[1]
<b>Protein 230 Sample Buffer</b> Lithium dodecyl sulphate	EC: 218-058-2 CAS: 2044-56-6	≤5	Flam. Sol. 1, H228 Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Chronic 3, H412	[1]
Trometamol	EC: 201-064-4 CAS: 77-86-1	≤3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335  <b>See Section 16 for the full text of the H statements declared above.</b>	[1]

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

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

<b>Eye contact</b>	: Protein 230 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 230 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 if irritation occurs.
	Protein 230 Ladder	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Protein 230 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.

## SECTION 4: First aid measures

<b>Inhalation</b>	: Protein 230 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 230 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 230 Ladder	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 230 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.
<b>Skin contact</b>	: Protein 230 Gel Matrix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Protein 230 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 230 Ladder	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Protein 230 Sample Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
<b>Ingestion</b>	: Protein 230 Gel Matrix	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	Protein 230 Dye Concentrate	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

## SECTION 4: First aid measures

	Protein 230 Ladder	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	Protein 230 Sample Buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
<b>Protection of first-aiders</b>	: Protein 230 Gel Matrix	No action shall be taken involving any personal risk or without suitable training.
	Protein 230 Dye Concentrate	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.
	Protein 230 Ladder	No action shall be taken involving any personal risk or without suitable training.
	Protein 230 Sample Buffer	No action shall be taken involving any personal risk or without suitable training.

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

#### Potential acute health effects

<b>Eye contact</b>	: Protein 230 Gel Matrix	No known significant effects or critical hazards.
	Protein 230 Dye Concentrate	No known significant effects or critical hazards.
	Protein 230 Ladder	No known significant effects or critical hazards.
	Protein 230 Sample Buffer	No known significant effects or critical hazards.
<b>Inhalation</b>	: Protein 230 Gel Matrix	No known significant effects or critical hazards.
	Protein 230 Dye Concentrate	No known significant effects or critical hazards.
	Protein 230 Ladder	No known significant effects or critical hazards.
	Protein 230 Sample Buffer	No known significant effects or critical hazards.
<b>Skin contact</b>	: Protein 230 Gel Matrix	No known significant effects or critical hazards.
	Protein 230 Dye Concentrate	No known significant effects or critical hazards.
	Protein 230 Ladder	No known significant effects or critical hazards.
	Protein 230 Sample Buffer	No known significant effects or critical hazards.
<b>Ingestion</b>	: Protein 230 Gel Matrix	No known significant effects or critical hazards.
	Protein 230 Dye Concentrate	No known significant effects or critical hazards.
	Protein 230 Ladder	No known significant effects or critical hazards.
	Protein 230 Sample Buffer	No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

<b>Eye contact</b>	: Protein 230 Gel Matrix	No specific data.
	Protein 230 Dye Concentrate	No specific data.
	Protein 230 Ladder	No specific data.
	Protein 230 Sample Buffer	No specific data.

## SECTION 4: First aid measures

<b>Inhalation</b>	:	Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	No specific data. No specific data. No specific data. No specific data.
<b>Skin contact</b>	:	☒ Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	No specific data. No specific data. No specific data. No specific data.
<b>Ingestion</b>	:	☒ Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	No specific data. No specific data. No specific data. No specific data.

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

<b>Notes to physician</b>	:	Protein 230 Gel Matrix  Protein 230 Dye Concentrate Protein 230 Ladder  Protein 230 Sample Buffer	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. 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 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	No specific treatment. No specific treatment. No specific treatment. No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	:	Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	:	Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	None known. None known. None known. None known.

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

## SECTION 5: Firefighting measures

<b>Hazards from the substance or mixture</b>	: Protein 230 Gel Matrix	In a fire or if heated, a pressure increase will occur and the container may burst.
	Protein 230 Dye Concentrate	In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
	Protein 230 Ladder	In a fire or if heated, a pressure increase will occur and the container may burst.
	Protein 230 Sample Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous combustion products</b>	: Protein 230 Gel Matrix	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides
	Protein 230 Dye Concentrate	Decomposition products may include the following materials:  carbon dioxide carbon monoxide sulfur oxides metal oxide/oxides
	Protein 230 Ladder	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides
	Protein 230 Sample Buffer	Decomposition products may include the following materials:  carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides

### 5.3 Advice for firefighters

<b>Special precautions for fire-fighters</b>	: Protein 230 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 230 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.
	Protein 230 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.
	Protein 230 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.
<b>Special protective equipment for fire-fighters</b>	: Protein 230 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	Protein 230 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.



## SECTION 5: Firefighting measures

Protein 230 Ladder	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
Protein 230 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

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

#### For non-emergency personnel

: Protein 230 Gel Matrix	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Protein 230 Dye Concentrate	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
Protein 230 Ladder	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Protein 230 Sample Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

#### For emergency responders

: Protein 230 Gel Matrix	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Protein 230 Dye Concentrate	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Protein 230 Ladder	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Protein 230 Sample Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

## SECTION 6: Accidental release measures

<b>6.2 Environmental precautions</b>	:	Protein 230 Gel Matrix	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
		Protein 230 Dye Concentrate	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
		Protein 230 Ladder	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
		Protein 230 Sample Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

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

<b>Methods for cleaning up</b>	:	Protein 230 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 230 Dye Concentrate	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 230 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.
		Protein 230 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.

<b>6.4 Reference to other sections</b>	:	See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.
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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

<b>Protective measures</b>	:	Protein 230 Gel Matrix	Put on appropriate personal protective equipment (see Section 8).
		Protein 230 Dye Concentrate	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. 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.
		Protein 230 Ladder	Put on appropriate personal protective equipment (see Section 8).
		Protein 230 Sample	Put on appropriate personal protective equipment (see Section 8).

## SECTION 7: Handling and storage

<b>Advice on general occupational hygiene</b>	Buffer	Section 8).
	: Protein 230 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 230 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 230 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.
	Protein 230 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.

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

<b>Storage</b>	: Protein 230 Gel Matrix	Storage temperature: 4°C (39.2°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	Protein 230 Dye Concentrate	Storage temperature: 4°C (39.2°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	Protein 230 Ladder	Storage temperature: -20°C (-4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	Protein 230 Sample Buffer	Storage temperature: -20°C (-4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food

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## SECTION 7: Handling and storage

and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### 7.3 Specific end use(s)

<b>Recommendations</b>	: Protein 230 Gel Matrix	Industrial applications, Professional applications.
	Protein 230 Dye Concentrate	Industrial applications, Professional applications.
	Protein 230 Ladder	Industrial applications, Professional applications.
	Protein 230 Sample Buffer	Industrial applications, Professional applications.
	<b>Industrial sector specific solutions</b>	: Protein 230 Gel Matrix
	Protein 230 Dye Concentrate	Not applicable.
	Protein 230 Ladder	Not applicable.
	Protein 230 Sample Buffer	Not applicable.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
Protein 230 Ladder Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist

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

#### DNELs/DMELs

No DNELs/DMELs available.

#### PNECs

No PNECs available

### 8.2 Exposure controls

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

#### Individual protection measures

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

## SECTION 8: Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	: Protein 230 Gel Matrix	Liquid.
	Protein 230 Dye Concentrate	Liquid.
	Protein 230 Ladder	Liquid.
	Protein 230 Sample Buffer	Liquid.
<b>Colour</b>	: Protein 230 Gel Matrix	Not available.
	Protein 230 Dye Concentrate	Blue.
	Protein 230 Ladder	Not available.
	Protein 230 Sample Buffer	Not available.
<b>Odour</b>	: Protein 230 Gel Matrix	Not available.
	Protein 230 Dye Concentrate	Not available.
	Protein 230 Ladder	Not available.
	Protein 230 Sample Buffer	Not available.
<b>Odour threshold</b>	: Protein 230 Gel Matrix	Not available.
	Protein 230 Dye Concentrate	Not available.
	Protein 230 Ladder	Not available.
	Protein 230 Sample Buffer	Not available.
<b>pH</b>	: Protein 230 Gel Matrix	Not available.
	Protein 230 Dye Concentrate	Not available.
	Protein 230 Ladder	Not available.
	Protein 230 Sample Buffer	Not available.

## SECTION 9: Physical and chemical properties

<b>Melting point/freezing point</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	Not available. Not available. Not available. Not available. Not available.
<b>Initial boiling point and boiling range</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	Not available. Not available. Not available. Not available. Not available.
<b>Flash point</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	Not available. Closed cup: 93°C Not available. Not available.
<b>Evaporation rate</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	Not available. Not available. Not available. Not available.
<b>Flammability (solid, gas)</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	Not applicable. Not applicable. Not applicable. Not applicable.
<b>Upper/lower flammability or explosive limits</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	Not available. Not available. Not available. Not available.
<b>Vapour pressure</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	Not available. Not available. Not available. Not available.
<b>Vapour density</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	Not available. Not available. Not available. Not available.
<b>Relative density</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	Not available. Not available. Not available. Not available.

## SECTION 9: Physical and chemical properties

<b>Solubility(ies)</b>	: Protein 230 Gel Matrix	Soluble in the following materials: cold water and hot water.
	Protein 230 Dye Concentrate	Soluble in the following materials: cold water and hot water.
	Protein 230 Ladder	Soluble in the following materials: cold water and hot water.
	Protein 230 Sample Buffer	Soluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	: Protein 230 Gel Matrix	Not available.
	Protein 230 Dye Concentrate	Not available.
	Protein 230 Ladder	Not available.
	Protein 230 Sample Buffer	Not available.
<b>Auto-ignition temperature</b>	: Protein 230 Gel Matrix	Not available.
	Protein 230 Dye Concentrate	Not available.
	Protein 230 Ladder	Not available.
	Protein 230 Sample Buffer	Not available.
<b>Decomposition temperature</b>	: Protein 230 Gel Matrix	Not available.
	Protein 230 Dye Concentrate	Not available.
	Protein 230 Ladder	Not available.
	Protein 230 Sample Buffer	Not available.
<b>Viscosity</b>	: Protein 230 Gel Matrix	Not available.
	Protein 230 Dye Concentrate	Not available.
	Protein 230 Ladder	Not available.
	Protein 230 Sample Buffer	Not available.
<b>Explosive properties</b>	: Protein 230 Gel Matrix	Not available.
	Protein 230 Dye Concentrate	Not available.
	Protein 230 Ladder	Not available.
	Protein 230 Sample Buffer	Not available.
<b>Oxidising properties</b>	: Protein 230 Gel Matrix	Not available.
	Protein 230 Dye Concentrate	Not available.
	Protein 230 Ladder	Not available.
	Protein 230 Sample Buffer	Not available.

### 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	: Protein 230 Gel Matrix	No specific test data related to reactivity available for this product or its ingredients.
	Protein 230 Dye Concentrate	No specific test data related to reactivity available for this product or its ingredients.
	Protein 230 Ladder	No specific test data related to reactivity available for this product or its ingredients.
	Protein 230 Sample Buffer	No specific test data related to reactivity available for this product or its ingredients.

## SECTION 10: Stability and reactivity

<b>10.2 Chemical stability</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	The product is stable. The product is stable. The product is stable. The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Protein 230 Gel Matrix  Protein 230 Dye Concentrate Protein 230 Ladder  Protein 230 Sample Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.  Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.  Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	No specific data. No specific data.  No specific data. No specific data.
<b>10.5 Incompatible materials</b>	: Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials.  May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials.
<b>10.6 Hazardous decomposition products</b>	: Protein 230 Gel Matrix  Protein 230 Dye Concentrate Protein 230 Sample Buffer Protein 230 Ladder	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. 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
Protein 230 Gel Matrix Trometamol	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
Protein 230 Dye Concentrate Sodium dodecyl sulphate	LD50 Oral	Rat	1288 mg/kg	-
Protein 230 Ladder Trometamol	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Lithium dodecyl sulphate	LD50 Oral	Rat	>5000 mg/kg	-
Protein 230 Sample Buffer				



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## SECTION 11: Toxicological information

Lithium dodecyl sulphate	LD50 Oral	Rat	>5000 mg/kg	-
Trometamol	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-

### Acute toxicity estimates

Route	ATE value
<b>Protein 230 Dye Concentrate</b> Oral Inhalation (dusts and mists)	23320.8 mg/kg 27.16 mg/l
<b>Protein 230 Ladder</b> Oral Inhalation (dusts and mists)	50024.1 mg/kg 129.4 mg/l
<b>Protein 230 Sample Buffer</b> Oral Inhalation (dusts and mists)	16666.7 mg/kg 50 mg/l

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>Protein 230 Gel Matrix</b> Trometamol	Skin - Moderate irritant	Rabbit	-	25 Percent 500 milligrams	-
	Skin - Severe irritant	Rabbit	-		-
<b>Protein 230 Dye Concentrate</b> Sodium dodecyl sulphate	Eyes - Mild irritant	Rabbit	-	250 Micrograms 24 hours 100 milligrams 10 milligrams 24 hours 25 milligrams 24 hours 25 milligrams 24 hours 50 milligrams 24 hours 25 milligrams	-
	Eyes - Moderate irritant	Rabbit	-		-
	Eyes - Moderate irritant	Rabbit	-		-
	Skin - Mild irritant	Guinea pig	-		-
	Skin - Moderate irritant	Mouse	-		-
	Skin - Mild irritant	Rabbit	-		-
<b>Protein 230 Ladder</b> Trometamol	Skin - Moderate irritant	Rabbit	-	25 Percent 500 milligrams	-
	Skin - Severe irritant	Rabbit	-		-
<b>Protein 230 Sample Buffer</b> Trometamol	Skin - Moderate irritant	Rabbit	-	25 Percent 500 milligrams	-
	Skin - Severe irritant	Rabbit	-		-

### Sensitiser

**Conclusion/Summary** : Not available.

### Specific target organ toxicity (single exposure)

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## SECTION 11: Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
<b>Protein 230 Gel Matrix</b> Trometamol	Category 3	Not applicable.	Respiratory tract irritation
<b>Protein 230 Dye Concentrate</b> Sodium dodecyl sulphate	Category 3	Not applicable.	Respiratory tract irritation
<b>Protein 230 Ladder</b> Trometamol	Category 3	Not applicable.	Respiratory tract irritation
Lithium dodecyl sulphate	Category 3	Not applicable.	Respiratory tract irritation
<b>Protein 230 Sample Buffer</b> Lithium dodecyl sulphate	Category 3	Not applicable.	Respiratory tract irritation
Trometamol	Category 3	Not applicable.	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

### Information on likely routes of exposure

: Protein 230 Gel Matrix  
Protein 230 Dye Concentrate  
Protein 230 Ladder  
Protein 230 Sample Buffer

Routes of entry anticipated: Oral, Dermal, Inhalation.  
Routes of entry anticipated: Oral, Dermal, Inhalation.  
Routes of entry anticipated: Oral, Dermal, Inhalation.  
Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential acute health effects

#### **Inhalation**

: Protein 230 Gel Matrix  
Protein 230 Dye Concentrate  
Protein 230 Ladder  
Protein 230 Sample Buffer

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.

#### **Ingestion**

: Protein 230 Gel Matrix  
Protein 230 Dye Concentrate  
Protein 230 Ladder  
Protein 230 Sample Buffer

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.

#### **Skin contact**

: **Protein 230 Gel Matrix**  
Protein 230 Dye Concentrate  
Protein 230 Ladder  
Protein 230 Sample Buffer

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.

#### **Eye contact**

: **Protein 230 Gel Matrix**  
Protein 230 Dye Concentrate  
Protein 230 Ladder  
Protein 230 Sample Buffer

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.

## SECTION 11: Toxicological information

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

<b>Inhalation</b>	:	Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	No specific data. No specific data.  No specific data. No specific data.
<b>Ingestion</b>	:	Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	No specific data. No specific data.  No specific data. No specific data.
<b>Skin contact</b>	:	Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	No specific data. No specific data.  No specific data. No specific data.
<b>Eye contact</b>	:	Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	No specific data. No specific data.  No specific data. No specific data.

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

#### Short term exposure

<b>Potential immediate effects</b>	:	Not available.
<b>Potential delayed effects</b>	:	Not available.

#### Long term exposure

<b>Potential immediate effects</b>	:	Not available.
<b>Potential delayed effects</b>	:	Not available.

### Potential chronic health effects

<b>General</b>	:	Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	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>Carcinogenicity</b>	:	Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	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>Mutagenicity</b>	:	Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	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.

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## SECTION 11: Toxicological information

<b>Teratogenicity</b>	:	Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	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>Developmental effects</b>	:	Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	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>Fertility effects</b>	:	Protein 230 Gel Matrix Protein 230 Dye Concentrate Protein 230 Ladder Protein 230 Sample Buffer	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.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<b>Protein 230 Gel Matrix</b> Trometamol	Acute EC50 >980 mg/l Fresh water	Daphnia	48 hours
	Acute NOEC 520 mg/l Fresh water	Daphnia	48 hours
<b>Protein 230 Dye Concentrate</b> Sodium dodecyl sulphate	Acute EC50 1200 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute LC50 900 µg/l Marine water	Crustaceans - Artemia salina - Adult	48 hours
	Acute LC50 1400 µg/l Fresh water	Daphnia - Daphnia pulex - Neonate	48 hours
	Acute LC50 590 µg/l Fresh water	Fish - Cirrhinus mrigala - Larvae	96 hours
	Chronic NOEC 1.25 mg/l Marine water	Algae - Ulva fasciata - Zoea	96 hours
	Chronic NOEC 1 mg/l Fresh water	Crustaceans - Pseudosida ramosa - Neonate	21 days
<b>Protein 230 Ladder</b> Trometamol	Chronic NOEC 3.2 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC >1357 µg/l Fresh water	Fish - Pimephales promelas	42 days
<b>Protein 230 Sample Buffer</b> Trometamol	Acute EC50 >980 mg/l Fresh water	Daphnia	48 hours
	Acute NOEC 520 mg/l Fresh water	Daphnia	48 hours

### 12.2 Persistence and degradability

Not available.

### 12.3 Bioaccumulative potential

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## SECTION 12: Ecological information

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>Protein 230 Gel Matrix</b> Trometamol	-1.56	-	low
<b>Protein 230 Dye Concentrate</b> Sodium dodecyl sulphate	-2.03	-	low
<b>Protein 230 Ladder</b> Trometamol	-1.56	-	low
<b>Protein 230 Sample Buffer</b> Trometamol	-1.56	-	low

### 12.4 Mobility in soil

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

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

**PBT** : Not applicable.

**vPvB** : Not applicable.

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

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

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

**Hazardous waste** :  The classification of the product may meet the criteria for a hazardous waste.

#### Packaging

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

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

## SECTION 14: Transport information

**ADR/RID / IMDG / IATA** : Not regulated.

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

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** : Not available.

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## SECTION 15: Regulatory information

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

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

##### Annex XIV - List of substances subject to authorisation

###### Annex XIV

None of the components are listed.

###### Substances of very high concern

None of the components are listed.

<b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>	<b>:</b> Protein 230 Gel Matrix	Not applicable.
	Protein 230 Dye Concentrate	Not applicable.
	Protein 230 Ladder	Not applicable.
	Protein 230 Sample Buffer	Not applicable.

##### Other EU regulations

**Industrial emissions (integrated pollution prevention and control) - Air** : Listed

##### Ozone depleting substances (1005/2009/EU)

Not listed.

##### Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

##### Seveso Directive

This product is not controlled under the Seveso Directive.

##### International regulations

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

Not listed.

##### Montreal Protocol (Annexes A, B, C, E)

Not listed.

##### Stockholm Convention on Persistent Organic Pollutants

Not listed.

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

Not listed.

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

Not listed.

##### Inventory list

<b>Australia</b>	<b>:</b> Not determined.
<b>Canada</b>	<b>:</b> Not determined.
<b>China</b>	<b>:</b> Not determined.
<b>Europe</b>	<b>:</b> Not determined.
<b>Japan</b>	<b>:</b> <b>Japan inventory (ENCS):</b> Not determined. <b>Japan inventory (ISHL):</b> Not determined.
<b>Malaysia</b>	<b>:</b> Not determined.
<b>New Zealand</b>	<b>:</b> Not determined.
<b>Philippines</b>	<b>:</b> Not determined.
<b>Republic of Korea</b>	<b>:</b> Not determined.
<b>Taiwan</b>	<b>:</b> Not determined.

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## SECTION 15: Regulatory information

Thailand	: <input checked="" type="checkbox"/> Not determined.
Turkey	: Not determined.
United States	: Not determined.
Viet Nam	: <input checked="" type="checkbox"/> Not determined.

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

## SECTION 16: Other information

Indicates information that has changed from previously issued version.

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

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

Classification	Justification
<input checked="" type="checkbox"/> Protein 230 Dye Concentrate Aquatic Chronic 3, H412	Calculation method

**Full text of abbreviated H statements**

<p><input checked="" type="checkbox"/> <b>Protein 230 Gel Matrix</b>                      H315                      H319                      H335</p> <p><b>Protein 230 Dye Concentrate</b>                      H228                      H302                      H315                      H318                      H332                      H335                      H400                      H411                      H412</p> <p><b>Protein 230 Ladder</b>                      H228                      H302                      H315                      H318                      H319                      H332                      H335                      H412</p> <p><b>Protein 230 Sample Buffer</b>                      H228                      H302                      H315                      H318                      H319                      H332                      H335</p>	<p>Causes skin irritation.                      Causes serious eye irritation.                      May cause respiratory irritation.</p> <p>Flammable solid.                      Harmful if swallowed.                      Causes skin irritation.                      Causes serious eye damage.                      Harmful if inhaled.                      May cause respiratory irritation.                      Very toxic to aquatic life.                      Toxic to aquatic life with long lasting effects.                      Harmful to aquatic life with long lasting effects.</p> <p>Flammable solid.                      Harmful if swallowed.                      Causes skin irritation.                      Causes serious eye damage.                      Causes serious eye irritation.                      Harmful if inhaled.                      May cause respiratory irritation.                      Harmful to aquatic life with long lasting effects.</p> <p>Flammable solid.                      Harmful if swallowed.                      Causes skin irritation.                      Causes serious eye damage.                      Causes serious eye irritation.                      Harmful if inhaled.                      May cause respiratory irritation.</p>
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## SECTION 16: Other information

H412

Harmful to aquatic life with long lasting effects.

### Full text of classifications [CLP/GHS]

<p><b>Protein 230 Gel Matrix</b>                  Eye Irrit. 2, H319                  Skin Irrit. 2, H315                  STOT SE 3, H335</p> <p><b>Protein 230 Dye Concentrate</b>                  Acute Tox. 4, H302                  Acute Tox. 4, H332                  Aquatic Acute 1, H400                  Aquatic Chronic 2, H411                  Aquatic Chronic 3, H412                  Eye Dam. 1, H318                  Flam. Sol. 2, H228                  Skin Irrit. 2, H315                  STOT SE 3, H335</p> <p><b>Protein 230 Ladder</b>                  Acute Tox. 4, H302                  Acute Tox. 4, H332                  Aquatic Chronic 3, H412                  Eye Dam. 1, H318                  Eye Irrit. 2, H319                  Flam. Sol. 1, H228                  Skin Irrit. 2, H315                  STOT SE 3, H335</p> <p><b>Protein 230 Sample Buffer</b>                  Acute Tox. 4, H302                  Acute Tox. 4, H332                  Aquatic Chronic 3, H412                  Eye Dam. 1, H318                  Eye Irrit. 2, H319                  Flam. Sol. 1, H228                  Skin Irrit. 2, H315                  STOT SE 3, H335</p>	<p>SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2                  SKIN CORROSION/IRRITATION - Category 2                  SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3</p> <p>ACUTE TOXICITY (oral) - Category 4                  ACUTE TOXICITY (inhalation) - Category 4                  SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1                  LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2                  LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3                  SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1                  FLAMMABLE SOLIDS - Category 2                  SKIN CORROSION/IRRITATION - Category 2                  SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3</p> <p>ACUTE TOXICITY (oral) - Category 4                  ACUTE TOXICITY (inhalation) - Category 4                  LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3                  SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1                  SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2                  FLAMMABLE SOLIDS - Category 1                  SKIN CORROSION/IRRITATION - Category 2                  SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3</p> <p>ACUTE TOXICITY (oral) - Category 4                  ACUTE TOXICITY (inhalation) - Category 4                  LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3                  SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1                  SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2                  FLAMMABLE SOLIDS - Category 1                  SKIN CORROSION/IRRITATION - Category 2                  SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3</p>
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**Version** : 2

#### Notice to reader

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