

SAFETY DATA SHEET

Agilent Protein 80 Reagents, Part Number 5067-1516

Section 1. Identification

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

Part no. (chemical kit) : 5067-1516

Part no. : Reagents P80 G2938-80025
 Protein 80 Gel Matrix Not available.
 Protein 80 Dye Concentrate Not available.
Reagents P80 frozen G2938-80040
 Protein 80 Sample Buffer Not available.
 Protein 80 Ladder Not available.

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

Identified uses : Analytical reagent.
 Research and Development

Protein 80 Gel Matrix 4 x 0.65 ml
 Protein 80 Dye Concentrate 1 x 0.09 ml
 Protein 80 Sample Buffer 4 x 0.2 ml
 Protein 80 Ladder 1 x 0.18 ml

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

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

Section 2. Hazard(s) identification

Classification of the substance or mixture

Protein 80 Dye Concentrate

H227 FLAMMABLE LIQUIDS - Category 4
 H318 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1

Protein 80 Ladder

H319 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A

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

GHS label elements

Hazard pictograms

: Protein 80 Dye Concentrate 

Protein 80 Ladder 

Section 2. Hazard(s) identification

Signal word	: Protein 80 Gel Matrix Protein 80 Dye Concentrate Protein 80 Sample Buffer Protein 80 Ladder	No signal word. DANGER No signal word. WARNING
Hazard statements	: Protein 80 Gel Matrix Protein 80 Dye Concentrate Protein 80 Sample Buffer Protein 80 Ladder	No known significant effects or critical hazards. H227 - Combustible liquid. H318 - Causes serious eye damage. No known significant effects or critical hazards. H319 - Causes serious eye irritation.
<u>Precautionary statements</u>		
Prevention	: Protein 80 Gel Matrix Protein 80 Dye Concentrate Protein 80 Sample Buffer Protein 80 Ladder	Not applicable. P280 - Wear eye or face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Not applicable. P280 - Wear eye or face protection.
Response	: Protein 80 Gel Matrix Protein 80 Dye Concentrate Protein 80 Sample Buffer Protein 80 Ladder	Not applicable. P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor. Not applicable. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.
Storage	: Protein 80 Gel Matrix Protein 80 Dye Concentrate Protein 80 Sample Buffer Protein 80 Ladder	Not applicable. Not applicable. Not applicable. Not applicable.
Disposal	: Protein 80 Gel Matrix Protein 80 Dye Concentrate Protein 80 Sample Buffer Protein 80 Ladder	Not applicable. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. Not applicable. Not applicable.
Supplemental label elements		
Additional warning phrases	: Protein 80 Gel Matrix Protein 80 Dye Concentrate Protein 80 Sample Buffer Protein 80 Ladder	Not applicable. Not applicable. Not applicable. Not applicable.
Other hazards which do not result in classification	: Protein 80 Gel Matrix Protein 80 Dye Concentrate Protein 80 Sample Buffer Protein 80 Ladder	None known. None known. None known. None known.

Section 3. Composition and ingredient information

Substance/mixture	: Protein 80 Gel Matrix Protein 80 Dye Concentrate Protein 80 Sample Buffer Protein 80 Ladder	Mixture Mixture Mixture Mixture
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CAS number/other identifiers

Section 3. Composition and ingredient information

Ingredient name	% (w/w)	CAS number
Protein 80 Dye Concentrate		
Dimethyl sulfoxide	≥90	67-68-5
Sodium dodecyl sulphate	<10	151-21-3
Protein 80 Ladder		
Glycerol	≥10 - ≤30	56-81-5

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.

The total concentration of ingredients in this product, reported or not in this section, is 100%.

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

Section 4. First aid measures

Description of necessary first aid measures

Eye contact

: Protein 80 Gel Matrix

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Protein 80 Dye Concentrate

Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Protein 80 Sample Buffer

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Protein 80 Ladder

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation

: Protein 80 Gel Matrix

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Protein 80 Dye Concentrate

Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protein 80 Sample Buffer

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical

Section 4. First aid measures

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.

Skin contact

: 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

Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

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.

Ingestion

: Protein 80 Gel Matrix

Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Protein 80 Dye Concentrate

Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. 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.

Section 4. First aid measures

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

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

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

Section 4. First aid measures

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

Notes to physician	: Protein 80 Gel Matrix	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	Protein 80 Dye Concentrate	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Protein 80 Sample Buffer	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	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.
Specific treatments	: Protein 80 Gel Matrix	No specific treatment.
	Protein 80 Dye Concentrate	No specific treatment.
	Protein 80 Sample Buffer	No specific treatment.
	Protein 80 Ladder	No specific treatment.
Protection of first-aiders	: Protein 80 Gel Matrix	No action shall be taken involving any personal risk or without suitable training.
	Protein 80 Dye Concentrate	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
	Protein 80 Sample Buffer	No action shall be taken involving any personal risk or without suitable training.
	Protein 80 Ladder	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media	: Protein 80 Gel Matrix	Use an extinguishing agent suitable for the surrounding fire.
	Protein 80 Dye Concentrate	Use dry chemical, CO ₂ , water spray (fog) or foam.
	Protein 80 Sample Buffer	Use an extinguishing agent suitable for the surrounding fire.
	Protein 80 Ladder	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: Protein 80 Gel Matrix	None known.
	Protein 80 Dye Concentrate	Do not use water jet.
	Protein 80 Sample Buffer	None known.
	Protein 80 Ladder	None known.
Specific hazards arising from the chemical	: Protein 80 Gel Matrix	In a fire or if heated, a pressure increase will occur and the container may burst.
	Protein 80 Dye Concentrate	Combustible liquid. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
	Protein 80 Sample Buffer	In a fire or if heated, a pressure increase will occur

Section 5. Firefighting measures

Hazardous thermal decomposition products

Protein 80 Ladder

and the container may burst.
In a fire or if heated, a pressure increase will occur and the container may burst.

: 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

Special protective actions for fire-fighters

: Protein 80 Gel Matrix

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Protein 80 Dye Concentrate

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Protein 80 Sample Buffer

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Protein 80 Ladder

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

: Protein 80 Gel Matrix

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Protein 80 Dye Concentrate

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Protein 80 Sample Buffer

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Protein 80 Ladder

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 5. Firefighting measures

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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

Section 6. Accidental release measures

Protein 80 Ladder

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

Methods and material for containment and cleaning up

Methods for cleaning up : Protein 80 Gel Matrix

Protein 80 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 80 Sample Buffer

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

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Protein 80 Gel Matrix

Protein 80 Dye Concentrate

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

Protein 80 Sample Buffer

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

Protein 80 Ladder

Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept

Section 7. Handling and storage

Advice on general occupational hygiene

: Protein 80 Gel Matrix

tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Protein 80 Dye Concentrate

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Protein 80 Sample Buffer

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Protein 80 Ladder

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

: Protein 80 Gel Matrix

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

Protein 80 Dye Concentrate

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

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

Section 7. Handling and storage

Protein 80 Ladder

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. 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.

Section 8. Exposure controls and personal protection

[Control parameters](#)

[Occupational exposure limits](#)

Ingredient name	Exposure limits
Protein 80 Dye Concentrate Dimethyl sulfoxide	DFG MAC-values list (Germany, 7/2022). Absorbed through skin. PEAK: 320 mg/m ³ , 4 times per shift, 15 minutes. TWA: 160 mg/m ³ 8 hours. PEAK: 100 ppm, 4 times per shift, 15 minutes. TWA: 50 ppm 8 hours.
Protein 80 Ladder Glycerol	Safe Work Australia (Australia, 10/2022). TWA: 10 mg/m ³ 8 hours.

[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](#)

Section 8. Exposure controls and personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties and safety characteristics

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

Appearance

Physical state	: Protein 80 Gel Matrix	Liquid.
	Protein 80 Dye Concentrate	Liquid.
	Protein 80 Sample Buffer	Liquid.
	Protein 80 Ladder	Liquid.
Colour	: Protein 80 Gel Matrix	Not available.
	Protein 80 Dye Concentrate	Blue.
	Protein 80 Sample Buffer	Not available.
	Protein 80 Ladder	Not available.
Odour	: Protein 80 Gel Matrix	Not available.
	Protein 80 Dye Concentrate	Not available.
	Protein 80 Sample Buffer	Not available.
	Protein 80 Ladder	Not available.
Odour threshold	: Protein 80 Gel Matrix	Not available.
	Protein 80 Dye Concentrate	Not available.
	Protein 80 Sample Buffer	Not available.
	Protein 80 Ladder	Not available.
pH	: Protein 80 Gel Matrix	Not available.
	Protein 80 Dye Concentrate	Not available.
	Protein 80 Sample Buffer	Not available.
	Protein 80 Ladder	Not available.
Melting point/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.

Section 9. Physical and chemical properties and safety characteristics

	Ingredient name	Closed cup			Open cup		
		°C	°F	Method	°C	°F	Method
	Protein 80 Ladder						
	Glycerol	-	-	-	177	350.6	-
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.					
Vapour pressure		Vapour Pressure at 20°C			Vapour pressure at 50°C		
	Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method
	Protein 80 Gel Matrix						
	water	17.5	2.3	-	92.258	12.3	-
	Protein 80 Dye Concentrate						
	Dimethyl sulfoxide	0.42	0.056	EU A.4	-	-	-
	Sodium dodecyl sulphate	≤0.0013501	≤0.00018	-	-	-	-
	Protein 80 Sample Buffer						
	water	17.5	2.3	-	92.258	12.3	-
	Protein 80 Ladder						
	water	17.5	2.3	-	92.258	12.3	-
Relative vapour density	: Protein 80 Gel Matrix	Not available.					
	Protein 80 Dye Concentrate	Not available.					
	Protein 80 Sample Buffer	Not available.					
	Protein 80 Ladder	Not available.					
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

Solubility(ies)	Media	Result		
	Protein 80 Gel Matrix water	Soluble		
	Protein 80 Dye Concentrate water	Soluble		
	Protein 80 Sample Buffer water	Soluble		
	Protein 80 Ladder water	Soluble		
Partition coefficient: n-octanol/water	Protein 80 Gel Matrix	Not applicable.		
	Protein 80 Dye Concentrate	Not applicable.		
	Protein 80 Sample Buffer	Not applicable.		
	Protein 80 Ladder	Not applicable.		
Auto-ignition temperature	Ingredient name	°C	°F	Method
	Protein 80 Dye Concentrate			
	Dimethyl sulfoxide	300 to 302	572 to 575.6	-
	Sodium dodecyl sulphate	310.5	590.9	VDI 2263
	Protein 80 Ladder			
Glycerol	370	698	-	
Decomposition temperature	Protein 80 Gel Matrix	Not available.		
	Protein 80 Dye Concentrate	Not available.		
	Protein 80 Sample Buffer	Not available.		
	Protein 80 Ladder	Not available.		
Viscosity	Protein 80 Gel Matrix	Not available.		
	Protein 80 Dye Concentrate	Not available.		
	Protein 80 Sample Buffer	Not available.		
	Protein 80 Ladder	Not available.		
Particle characteristics	Median particle size			
	Protein 80 Gel Matrix	Not applicable.		
	Protein 80 Dye Concentrate	Not applicable.		
	Protein 80 Sample Buffer	Not applicable.		
	Protein 80 Ladder	Not applicable.		

Section 10. Stability and reactivity

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

Section 10. Stability and reactivity

Possibility of hazardous reactions	: Protein 80 Gel Matrix	Under normal conditions of storage and use, hazardous reactions will not occur.
	Protein 80 Dye Concentrate	Under normal conditions of storage and use, hazardous reactions will not occur.
	Protein 80 Sample Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	Protein 80 Ladder	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Protein 80 Gel Matrix	No specific data.
	Protein 80 Dye Concentrate	Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
	Protein 80 Sample Buffer	No specific data.
	Protein 80 Ladder	No specific data.
Incompatible materials	: Protein 80 Gel Matrix	May react or be incompatible with oxidising materials.
	Protein 80 Dye Concentrate	Reactive or incompatible with the following materials: oxidising materials
	Protein 80 Sample Buffer	May react or be incompatible with oxidising materials.
	Protein 80 Ladder	May react or be incompatible with oxidising materials.
Hazardous decomposition products	: Protein 80 Gel Matrix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Protein 80 Dye Concentrate	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
Protein 80 Dye Concentrate				
Dimethyl sulfoxide	LD50 Dermal	Rat	40000 mg/kg	-
	LD50 Oral	Rat	14500 mg/kg	-
Sodium dodecyl sulphate	LD50 Oral	Rat	1288 mg/kg	-
Protein 80 Ladder				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Protein 80 Dye Concentrate					
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	-

Section 11. Toxicological information

Protein 80 Ladder Glycerol	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	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-

Sensitisation

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)

Name	Category	Route of exposure	Target organs
Protein 80 Dye Concentrate Sodium dodecyl sulphate	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on 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 damage.
	Protein 80 Sample Buffer	No known significant effects or critical hazards.
	Protein 80 Ladder	Causes serious eye irritation.

Section 11. Toxicological information

Inhalation	: 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.
Skin contact	: 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.
Ingestion	: 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.

Symptoms related to the physical, chemical and toxicological characteristics

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

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	: 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.
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Section 11. Toxicological information

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

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Protein 80 Dye Concentrate					
Protein 80 Dye Concentrate	20188.1	17241.4	N/A	N/A	N/A
Dimethyl sulfoxide	14500	40000	N/A	N/A	N/A
Sodium dodecyl sulphate	1288	1100	N/A	N/A	N/A
Protein 80 Sample Buffer					
Protein 80 Sample Buffer	16667.0	N/A	N/A	N/A	50.0
Protein 80 Ladder					
Protein 80 Ladder	50003.8	N/A	N/A	N/A	129.3
Glycerol	12600	N/A	N/A	N/A	N/A

Other information : Protein 80 Ladder Adverse symptoms may include the following: May cause skin sensitisation.

Section 12. Ecological information

Toxicity

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

Section 12. Ecological information

Protein 80 Ladder Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
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Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Protein 80 Dye Concentrate Dimethyl sulfoxide	OECD 301D Ready Biodegradability - Closed Bottle Test	31 % - Not readily - 28 days	-	-
Sodium dodecyl sulphate	OECD 301B Ready Biodegradability - CO2 Evolution Test	95 % - Readily - 28 days	20 mg/l	-
Protein 80 Ladder Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Protein 80 Dye Concentrate Dimethyl sulfoxide	-	-	Not readily
Sodium dodecyl sulphate	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Protein 80 Dye Concentrate Dimethyl sulfoxide	-1.35	3.16	Low
Sodium dodecyl sulphate	-2.03	-	Low
Protein 80 Ladder Glycerol	-1.76	-	Low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

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

Section 13. Disposal considerations

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

Section 14. Transport information

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

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

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

Standard for the Uniform Scheduling of Medicines and Poisons

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Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

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

Australia : Not determined.

New Zealand : Not determined.

United States : Not determined.

Section 16. Any other relevant information

History

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

Date of previous issue : 23/10/2020

Version : 9

Key to abbreviations :

- ADG = Australian Dangerous Goods
- ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- N/A = Not available
- SUSMP = Standard Uniform Schedule of Medicine and Poisons
- UN = United Nations

Section 16. Any other relevant information

Procedure used to derive the classification

Classification	Justification
Protein 80 Dye Concentrate FLAMMABLE LIQUIDS - Category 4 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1	On basis of test data Calculation method
Protein 80 Ladder SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A	Calculation method

✔ Indicates information that has changed from previously issued version.

Notice to reader

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