

SAFETY DATA SHEET

ProteoAnalyzer Verification Kit, Part Number 5191-6642

Section 1. Identification

Product identifier	: ProteoAnalyzer Verification Kit, Part Number 5191-6642
Part no. (chemical kit)	: 5191-6642
Part no.	: <u>Protein Verification Kit, RT</u> 5008-0020
	Protein Fluorescent Dye 5191-6650
	Dye Resuspension DMF 5191-6651
	Capillary Storage Solution GP-440-0100
	Protein Conditioning Solution 5008-0015
	2x Protein Inlet Buffer 5008-0017
	Protein Broad Range Gel 5008-0016
	<u>Protein Verification Kit, -20C</u> 5008-0019
	P240 Broad Range Ladder 5191-6648
	10x Protein Labeling Buffer 5191-6647

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

Identified uses	: Analytical reagent.
	<u>Protein Fluorescent Dye</u> 50 µg
	Dye Resuspension DMF 1.5 ml
	Capillary Storage Solution 100 ml
	Protein Conditioning Solution 175 ml
	2x Protein Inlet Buffer 75 ml
	Protein Broad Range Gel 60 ml
	P240 Broad Range Ladder 0.03 ml
	10x Protein Labeling Buffer 1.1 ml

Supplier/Manufacturer	: Agilent Technologies, Inc. 5301 Stevens Creek Blvd Santa Clara, CA 95051, USA 800-227-9770
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Emergency telephone number (with hours of operation)	: CHEMTREC®: 1-800-424-9300
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Section 2. Hazard identification

Classification of the substance or mixture

Protein Fluorescent Dye

COMBUSTIBLE DUSTS - Category 1

Dye Resuspension DMF

H226	FLAMMABLE LIQUIDS - Category 3
H312	ACUTE TOXICITY (dermal) - Category 4
H319	EYE IRRITATION - Category 2A
H350	CARCINOGENICITY - Category 1B

Capillary Storage Solution

H320	EYE IRRITATION - Category 2B
H317	SKIN SENSITIZATION - Category 1A

P240 Broad Range Ladder

H320	EYE IRRITATION - Category 2B
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Section 2. Hazard identification

GHS label elements

Hazard pictograms

: Dye Resuspension DMF



Capillary Storage Solution



Signal word

: Protein Fluorescent Dye
Dye Resuspension DMF
Capillary Storage Solution
Protein Conditioning Solution
2x Protein Inlet Buffer
Protein Broad Range Gel
P240 Broad Range Ladder
10x Protein Labeling Buffer

Warning
Danger
Warning
No signal word.
No signal word.
No signal word.
Warning
No signal word.

Hazard statements

: Protein Fluorescent Dye
Dye Resuspension DMF

Capillary Storage Solution

Protein Conditioning Solution
2x Protein Inlet Buffer
Protein Broad Range Gel
P240 Broad Range Ladder
10x Protein Labeling Buffer

May form combustible dust concentrations in air.
H226 - Flammable liquid and vapor.
H312 - Harmful in contact with skin.
H319 - Causes serious eye irritation.
H350 - May cause cancer.
H317 - May cause an allergic skin reaction.
H320 - Causes eye irritation.
No known significant effects or critical hazards.
No known significant effects or critical hazards.
No known significant effects or critical hazards.
H320 - Causes eye irritation.
No known significant effects or critical hazards.

Precautionary statements

Prevention

: Protein Fluorescent Dye
Dye Resuspension DMF

Capillary Storage Solution

Protein Conditioning Solution
2x Protein Inlet Buffer
Protein Broad Range Gel
P240 Broad Range Ladder
10x Protein Labeling Buffer

Not applicable.
P201 - Obtain special instructions before use.
P280 - Wear protective gloves, protective clothing and eye or face protection.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 - Wear protective gloves.
P261 - Avoid breathing vapor.
Not applicable.
Not applicable.
Not applicable.
Not applicable.
Not applicable.

Response

: Protein Fluorescent Dye
Dye Resuspension DMF

Capillary Storage Solution

Not applicable.
P308 + P313 - IF exposed or concerned: Get medical advice or attention.
P302 + P312 - IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell.
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.
P362 + P364 - Take off contaminated clothing and wash it before reuse.
P302 + P352 - IF ON SKIN: Wash with plenty of

Section 2. Hazard identification

		water. P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.
	Protein Conditioning Solution	Not applicable.
	2x Protein Inlet Buffer	Not applicable.
	Protein Broad Range Gel	Not applicable.
	P240 Broad Range Ladder	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.
	10x Protein Labeling Buffer	Not applicable.
Storage	Protein Fluorescent Dye	Not applicable.
	Dye Resuspension DMF	Not applicable.
	Capillary Storage Solution	Not applicable.
	Protein Conditioning Solution	Not applicable.
	2x Protein Inlet Buffer	Not applicable.
	Protein Broad Range Gel	Not applicable.
	P240 Broad Range Ladder	Not applicable.
	10x Protein Labeling Buffer	Not applicable.
Disposal	Protein Fluorescent Dye	Not applicable.
	Dye Resuspension DMF	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	Capillary Storage Solution	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	Protein Conditioning Solution	Not applicable.
	2x Protein Inlet Buffer	Not applicable.
	Protein Broad Range Gel	Not applicable.
	P240 Broad Range Ladder	Not applicable.
	10x Protein Labeling Buffer	Not applicable.
Supplemental label elements	Protein Fluorescent Dye	Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Prevent dust accumulation.
	Dye Resuspension DMF	None known.
	Capillary Storage Solution	None known.
	Protein Conditioning Solution	None known.
	2x Protein Inlet Buffer	None known.
	Protein Broad Range Gel	None known.
	P240 Broad Range Ladder	None known.
	10x Protein Labeling Buffer	None known.
	2x Protein Inlet Buffer	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 4.5%
	Protein Broad Range Gel	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 2.2%
Other hazards which do not result in classification	Protein Fluorescent Dye	None known.
	Dye Resuspension DMF	None known.
	Capillary Storage Solution	None known.
	Protein Conditioning Solution	None known.
	2x Protein Inlet Buffer	None known.
	Protein Broad Range Gel	None known.
	P240 Broad Range Ladder	None known.

Section 2. Hazard identification

10x Protein Labeling Buffer None known.

Section 3. Composition/information on ingredients

Substance/mixture	:	Protein Fluorescent Dye	Substance
		Dye Resuspension DMF	Substance
		Capillary Storage Solution	Mixture
		Protein Conditioning Solution	Mixture
		2x Protein Inlet Buffer	Mixture
		Protein Broad Range Gel	Mixture
		P240 Broad Range Ladder	Mixture
		10x Protein Labeling Buffer	Mixture

Ingredient name	Synonyms	% (w/w)	CAS number
Protein Fluorescent Dye			
Proprietary	Trade secret	100	Trade secret *
Dye Resuspension DMF			
N,N-Dimethylformamide	Dye Resuspension DMF	100	68-12-2
Capillary Storage Solution			
Glycerol	Glycerol	≥60 - ≤80	56-81-5
2-Methyl-2H-isothiazol-3-one	Methylisothiazolinone	≤0.1	2682-20-4
2x Protein Inlet Buffer			
Trometamol	Tris	≥1 - ≤5	77-86-1
Sodium dodecyl sulphate	Sodium dodecyl sulphate	≥0.1 - ≤1	151-21-3
Protein Broad Range Gel			
Trometamol	Tris	≥1 - ≤5	77-86-1
Sodium dodecyl sulphate	Sodium dodecyl sulphate	≥0.1 - ≤1	151-21-3
P240 Broad Range Ladder			
Glycerol	Glycerol	≥10 - ≤30	56-81-5
10x Protein Labeling Buffer			
Sodium dodecyl sulphate	Sodium dodecyl sulphate	≥1 - ≤5	151-21-3

* Non-hazardous ingredients

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

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


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

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact	:	Protein Fluorescent Dye	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.
		Dye Resuspension DMF	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.
		Capillary Storage Solution	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. If irritation persists, get medical attention.
		Protein Conditioning Solution	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.
		2x Protein Inlet 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 Broad Range Gel	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.
		P240 Broad Range 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. If irritation persists, get medical attention.
		10x Protein Labeling 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.
Inhalation	:	Protein Fluorescent Dye	Remove victim to fresh air and keep at rest in a position comfortable for breathing.
		Dye Resuspension DMF	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 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.
		Capillary Storage Solution	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

Section 4. First-aid measures

	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.
Protein Conditioning Solution	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.
2x Protein Inlet Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Protein Broad Range Gel	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.
P240 Broad Range 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.
10x Protein Labeling 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.
Skin contact	
:  Protein Fluorescent Dye	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Dye Resuspension DMF	Wash with plenty of soap and 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. Get medical attention. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Capillary Storage Solution	Wash with plenty of soap and 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. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes

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	Protein Conditioning Solution	thoroughly before reuse. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	2x Protein Inlet Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Protein Broad Range Gel	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	P240 Broad Range 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.
	10x Protein Labeling Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	: Protein Fluorescent Dye	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.
	Dye Resuspension DMF	Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. 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.
	Capillary Storage Solution	Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	Protein Conditioning Solution	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.
	2x Protein Inlet 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 Broad Range Gel	Wash out mouth with water. If material has been

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P240 Broad Range Ladder

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. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

10x Protein Labeling 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact

: Protein Fluorescent Dye

Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.

Dye Resuspension DMF
Capillary Storage Solution
Protein Conditioning Solution
2x Protein Inlet Buffer
Protein Broad Range Gel
P240 Broad Range Ladder
10x Protein Labeling Buffer

Causes serious eye irritation.

Causes eye irritation.

No known significant effects or critical hazards.

No known significant effects or critical hazards.

No known significant effects or critical hazards.

Causes eye irritation.

No known significant effects or critical hazards.

Inhalation

: Protein Fluorescent Dye

Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

Dye Resuspension DMF
Capillary Storage Solution
Protein Conditioning Solution
2x Protein Inlet Buffer
Protein Broad Range Gel
P240 Broad Range Ladder
10x Protein Labeling 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.

No known significant effects or critical hazards.

No known significant effects or critical hazards.

No known significant effects or critical hazards.

Skin contact

: Protein Fluorescent Dye
Dye Resuspension DMF
Capillary Storage Solution
Protein Conditioning Solution
2x Protein Inlet Buffer
Protein Broad Range Gel
P240 Broad Range Ladder
10x Protein Labeling Buffer

No known significant effects or critical hazards.

Harmful in contact with skin.

May cause an allergic skin reaction.

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.

No known significant effects or critical hazards.

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Ingestion	: Protein Fluorescent Dye	No known significant effects or critical hazards.
	Dye Resuspension DMF	No known significant effects or critical hazards.
	Capillary Storage Solution	No known significant effects or critical hazards.
	Protein Conditioning Solution	No known significant effects or critical hazards.
	2x Protein Inlet Buffer	No known significant effects or critical hazards.
	Protein Broad Range Gel	No known significant effects or critical hazards.
	P240 Broad Range Ladder	No known significant effects or critical hazards.
	10x Protein Labeling Buffer	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: Protein Fluorescent Dye	Adverse symptoms may include the following: irritation redness
	Dye Resuspension DMF	Adverse symptoms may include the following: pain or irritation watering redness
	Capillary Storage Solution	Adverse symptoms may include the following: irritation watering redness
	Protein Conditioning Solution	No specific data.
	2x Protein Inlet Buffer	No specific data.
	Protein Broad Range Gel	No specific data.
	P240 Broad Range Ladder	Adverse symptoms may include the following: irritation watering redness
	10x Protein Labeling Buffer	No specific data.
	: Protein Fluorescent Dye	Adverse symptoms may include the following: respiratory tract irritation coughing
	Dye Resuspension DMF	No specific data.
Inhalation	Capillary Storage Solution	No specific data.
	Protein Conditioning Solution	No specific data.
	2x Protein Inlet Buffer	No specific data.
	Protein Broad Range Gel	No specific data.
	P240 Broad Range Ladder	No specific data.
	10x Protein Labeling Buffer	No specific data.
	: Protein Fluorescent Dye	No specific data.
	Dye Resuspension DMF	No specific data.
	Capillary Storage Solution	Adverse symptoms may include the following: irritation redness
	Protein Conditioning Solution	No specific data.
Skin contact	2x Protein Inlet Buffer	No specific data.
	Protein Broad Range Gel	No specific data.
	P240 Broad Range Ladder	No specific data.
	10x Protein Labeling Buffer	No specific data.
	: Protein Fluorescent Dye	No specific data.
	Dye Resuspension DMF	No specific data.
	Capillary Storage Solution	No specific data.
	Protein Conditioning Solution	No specific data.
	2x Protein Inlet Buffer	No specific data.
	Protein Broad Range Gel	No specific data.
Ingestion	P240 Broad Range Ladder	No specific data.
	10x Protein Labeling Buffer	No specific data.
	: Protein Fluorescent Dye	No specific data.
	Dye Resuspension DMF	No specific data.
	Capillary Storage Solution	No specific data.
	Protein Conditioning Solution	No specific data.
	2x Protein Inlet Buffer	No specific data.
	Protein Broad Range Gel	No specific data.
	P240 Broad Range Ladder	No specific data.
	10x Protein Labeling Buffer	No specific data.

Section 4. First-aid measures

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

Notes to physician	:	Protein Fluorescent Dye	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Dye Resuspension DMF	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.
		Capillary Storage Solution	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 Conditioning Solution	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.
		2x Protein Inlet 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 Broad Range Gel	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.
		P240 Broad Range Ladder	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		10x Protein Labeling 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.
Specific treatments	:	Protein Fluorescent Dye	No specific treatment.
		Dye Resuspension DMF	No specific treatment.
		Capillary Storage Solution	No specific treatment.
		Protein Conditioning Solution	No specific treatment.
		2x Protein Inlet Buffer	No specific treatment.
		Protein Broad Range Gel	No specific treatment.
		P240 Broad Range Ladder	No specific treatment.
		10x Protein Labeling Buffer	No specific treatment.
Protection of first-aiders	:	Protein Fluorescent Dye	No action shall be taken involving any personal risk or without suitable training.
		Dye Resuspension DMF	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.
		Capillary Storage Solution	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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
		Protein Conditioning Solution	No action shall be taken involving any personal risk or without suitable training.
		2x Protein Inlet Buffer	No action shall be taken involving any personal risk or without suitable training.

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Protein Broad Range Gel	No action shall be taken involving any personal risk or without suitable training.
P240 Broad Range 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.
10x Protein Labeling Buffer	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Protein Fluorescent Dye	Use dry chemical powder.
Dye Resuspension DMF	Use dry chemical, CO ₂ , water spray (fog) or foam.
Capillary Storage Solution	Use an extinguishing agent suitable for the surrounding fire.
Protein Conditioning Solution	Use an extinguishing agent suitable for the surrounding fire.
2x Protein Inlet Buffer	Use an extinguishing agent suitable for the surrounding fire.
Protein Broad Range Gel	Use an extinguishing agent suitable for the surrounding fire.
P240 Broad Range Ladder	Use an extinguishing agent suitable for the surrounding fire.
10x Protein Labeling Buffer	Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media

Protein Fluorescent Dye	Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.
Dye Resuspension DMF	Do not use water jet.
Capillary Storage Solution	None known.
Protein Conditioning Solution	None known.
2x Protein Inlet Buffer	None known.
Protein Broad Range Gel	None known.
P240 Broad Range Ladder	None known.
10x Protein Labeling Buffer	None known.

Specific hazards arising from the chemical

Protein Fluorescent Dye	May form explosible dust-air mixture if dispersed.
Dye Resuspension DMF	Flammable liquid and vapor. 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. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
Capillary Storage Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
Protein Conditioning Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
2x Protein Inlet Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
Protein Broad Range Gel	In a fire or if heated, a pressure increase will occur and the container may burst.
P240 Broad Range Ladder	In a fire or if heated, a pressure increase will occur and the container may burst.
10x Protein Labeling Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.

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Hazardous thermal decomposition products

Protein Fluorescent Dye	No specific data.
Dye Resuspension DMF	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides
Capillary Storage Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides
Protein Conditioning Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides
2x Protein Inlet Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides
Protein Broad Range Gel	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides
P240 Broad Range Ladder	Decomposition products may include the following materials: carbon dioxide carbon monoxide
10x Protein Labeling Buffer	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 Fluorescent Dye	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.
Dye Resuspension DMF	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.
Capillary Storage Solution	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 Conditioning Solution	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.
2x Protein Inlet Buffer	Promptly isolate the scene by removing all persons

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		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 Broad Range Gel	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.
	P240 Broad Range 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.
	10x Protein Labeling 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.
Special protective equipment for fire-fighters	: Protein Fluorescent Dye	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Dye Resuspension DMF	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Capillary Storage Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Protein Conditioning Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	2x Protein Inlet 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 Broad Range Gel	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	P240 Broad Range Ladder	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	10x Protein Labeling Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: Protein Fluorescent Dye

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. Put on appropriate personal protective equipment.

Dye Resuspension DMF


No action shall be taken involving any personal risk

Section 6. Accidental release measures

	or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
Capillary Storage Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
Protein Conditioning Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
2x Protein Inlet Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
Protein Broad Range Gel	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
P240 Broad Range Ladder	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
10x Protein Labeling Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
For emergency responders : Protein Fluorescent Dye	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Dye Resuspension DMF	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Capillary Storage Solution	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the

Section 6. Accidental release measures

Protein Conditioning Solution	information in "For non-emergency personnel". If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
2x Protein Inlet Buffer	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Protein Broad Range Gel	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
P240 Broad Range Ladder	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
10x Protein Labeling Buffer	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions	:	 Protein Fluorescent Dye	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).
		Dye Resuspension DMF	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).
		Capillary Storage Solution	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
		Protein Conditioning Solution	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).
		2x Protein Inlet Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
		Protein Broad Range Gel	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).
		P240 Broad Range Ladder	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
		10x Protein Labeling Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has

Section 6. Accidental release measures

caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Methods for cleaning up : Protein Fluorescent Dye

Dye Resuspension DMF

Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

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.

Capillary Storage Solution

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 Conditioning Solution

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.

2x Protein Inlet Buffer

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

Protein Broad Range Gel

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.

P240 Broad Range 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.

10x Protein Labeling 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.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

: Protein Fluorescent Dye

Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Dye Resuspension DMF

Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Capillary Storage Solution

Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Protein Conditioning Solution

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

2x Protein Inlet Buffer

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

Protein Broad Range Gel

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

P240 Broad Range Ladder

Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved

Section 7. Handling and storage

Advice on general occupational hygiene

:  Protein Fluorescent Dye

10x Protein Labeling Buffer

Dye Resuspension DMF

Capillary Storage Solution

Protein Conditioning Solution

2x Protein Inlet Buffer

Protein Broad Range Gel

P240 Broad Range Ladder

10x Protein Labeling Buffer

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.

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

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.

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.

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.

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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.

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.

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

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Protein Fluorescent Dye

before entering eating areas. See also Section 8 for additional information on hygiene measures.

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

Dye Resuspension DMF

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

Capillary Storage Solution

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

Protein Conditioning Solution

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

2x Protein Inlet Buffer

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

Section 7. Handling and storage

Protein Broad Range Gel

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

P240 Broad Range Ladder

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

10x Protein Labeling Buffer

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

Section 8. Exposure controls/personal protection

[Control parameters](#)

[Occupational exposure limits](#)

Ingredient name	Exposure limits
Dye Resuspension DMF N,N-Dimethylformamide	CA Alberta Provincial (Canada, 6/2018). Absorbed through skin. 8 hrs OEL: 30 mg/m ³ 8 hours. 8 hrs OEL: 10 ppm 8 hours. CA British Columbia Provincial (Canada, 6/2022). Absorbed through skin. TWA: 5 ppm 8 hours. CA Ontario Provincial (Canada, 6/2019). Absorbed through skin. TWA: 10 ppm 8 hours. CA Quebec Provincial (Canada, 6/2022). Absorbed through skin. TWAEV: 10 ppm 8 hours. TWAEV: 30 mg/m ³ 8 hours. CA Saskatchewan Provincial (Canada,

Section 8. Exposure controls/personal protection

Capillary Storage Solution Glycerol

7/2013). Absorbed through skin.

STEL: 15 ppm 15 minutes.

TWA: 10 ppm 8 hours.

CA Alberta Provincial (Canada, 6/2018).

8 hrs OEL: 10 mg/m³ 8 hours. Form: Mist

CA Quebec Provincial (Canada, 6/2022).

TWAEV: 10 mg/m³ 8 hours. Form: mist

CA Saskatchewan Provincial (Canada, 7/2013).

STEL: 20 mg/m³ 15 minutes. Form: mist

TWA: 10 mg/m³ 8 hours. Form: mist

CA British Columbia Provincial (Canada, 6/2022).

TWA: 3 mg/m³ 8 hours. Form: respirable mist

TWA: 10 mg/m³ 8 hours. Form: total mist

P240 Broad Range Ladder Glycerol

CA Alberta Provincial (Canada, 6/2018).

8 hrs OEL: 10 mg/m³ 8 hours. Form: Mist

CA Quebec Provincial (Canada, 6/2022).

TWAEV: 10 mg/m³ 8 hours. Form: mist

CA Saskatchewan Provincial (Canada, 7/2013).

STEL: 20 mg/m³ 15 minutes. Form: mist

TWA: 10 mg/m³ 8 hours. Form: mist

CA British Columbia Provincial (Canada, 6/2022).

TWA: 3 mg/m³ 8 hours. Form: respirable mist

TWA: 10 mg/m³ 8 hours. Form: total mist

Biological exposure indices

No exposure indices known.

Appropriate engineering controls

- : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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.

Section 8. Exposure controls/personal protection

Skin protection

Hand protection

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

Body protection

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

Other skin protection

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

Respiratory protection

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

Section 9. Physical and chemical properties and safety characteristics

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

Appearance

Physical state

Protein Fluorescent Dye	Solid. [Lyophilized Powder.]
Dye Resuspension DMF	Liquid.
Capillary Storage Solution	Liquid.
Protein Conditioning Solution	Liquid.
2x Protein Inlet Buffer	Liquid.
Protein Broad Range Gel	Liquid.
P240 Broad Range Ladder	Liquid.
10x Protein Labeling Buffer	Liquid.

Color

Protein Fluorescent Dye	Yellow./ Brown.
Dye Resuspension DMF	Colorless to light yellow.
Capillary Storage Solution	Not available.
Protein Conditioning Solution	Not available.
2x Protein Inlet Buffer	Not available.
Protein Broad Range Gel	Not available.
P240 Broad Range Ladder	Not available.
10x Protein Labeling Buffer	Not available.

Odor

Protein Fluorescent Dye	Not available.
Dye Resuspension DMF	Faint odor. [Slight]
Capillary Storage Solution	Not available.
Protein Conditioning Solution	Not available.
2x Protein Inlet Buffer	Not available.
Protein Broad Range Gel	Not available.
P240 Broad Range Ladder	Not available.
10x Protein Labeling Buffer	Not available.

Odor threshold

Protein Fluorescent Dye	Not available.
Dye Resuspension DMF	Not available.
Capillary Storage Solution	Not available.
Protein Conditioning Solution	Not available.
2x Protein Inlet Buffer	Not available.
Protein Broad Range Gel	Not available.
P240 Broad Range Ladder	Not available.

Section 9. Physical and chemical properties and safety characteristics

pH	10x Protein Labeling Buffer	Not available.
	Protein Fluorescent Dye	Not available.
	Dye Resuspension DMF	6.7
	Capillary Storage Solution	8.3
	Protein Conditioning Solution	9.68 to 9.94
	2x Protein Inlet Buffer	8.18 to 8.31
	Protein Broad Range Gel	8 to 8.5
Melting point/freezing point	P240 Broad Range Ladder	8.4 to 8.6
	10x Protein Labeling Buffer	8.87
	Protein Fluorescent Dye	Not available.
	Dye Resuspension DMF	-61°C (-77.8°F)
	Capillary Storage Solution	Not available.
	Protein Conditioning Solution	Not available.
	2x Protein Inlet Buffer	Not available.
Boiling point, initial boiling point, and boiling range	Protein Broad Range Gel	Not available.
	P240 Broad Range Ladder	Not available.
	10x Protein Labeling Buffer	Not available.
	Protein Fluorescent Dye	Not available.
	Dye Resuspension DMF	153°C (307.4°F)
	Capillary Storage Solution	Not available.
	Protein Conditioning Solution	Not available.
Flash point	2x Protein Inlet Buffer	Not available.
	Protein Broad Range Gel	Not available.
	P240 Broad Range Ladder	Not available.
	10x Protein Labeling Buffer	Not available.
	Protein Fluorescent Dye	Not applicable.
	Dye Resuspension DMF	Closed cup: 57.5°C (135.5°F) [DIN 51755]
	Capillary Storage Solution	Not available.
	Protein Conditioning Solution	Not available.
	2x Protein Inlet Buffer	Not available.
	Protein Broad Range Gel	Not available.
	P240 Broad Range Ladder	Not available.
	10x Protein Labeling Buffer	Not available.
	Protein Fluorescent Dye	Not applicable.
	Dye Resuspension DMF	Closed cup: 57.5°C (135.5°F) [DIN 51755]

Ingredient name	Closed cup			Open cup		
	°C	°F	Method	°C	°F	Method
Capillary Storage Solution						
Glycerol	-	-	-	177	350.6	-
P240 Broad Range Ladder						
Glycerol	-	-	-	177	350.6	-
10x Protein Labeling Buffer						
Sodium dodecyl sulphate	170	338	-	-	-	-

Section 9. Physical and chemical properties and safety characteristics

Evaporation rate : Protein Fluorescent Dye Not available.
 Dye Resuspension DMF 0.2 (butyl acetate = 1)
 Capillary Storage Solution Not available.
 Protein Conditioning Solution Not available.
 2x Protein Inlet Buffer Not available.
 Protein Broad Range Gel Not available.
 P240 Broad Range Ladder Not available.
 10x Protein Labeling Buffer Not available.

Flammability : Protein Fluorescent Dye Not available.
 Dye Resuspension DMF Not applicable.
 Capillary Storage Solution Not applicable.
 Protein Conditioning Solution Not applicable.
 2x Protein Inlet Buffer Not applicable.
 Protein Broad Range Gel Not applicable.
 P240 Broad Range Ladder Not applicable.
 10x Protein Labeling Buffer Not applicable.

Lower and upper explosion limit/flammability limit : Protein Fluorescent Dye Not applicable.
 Dye Resuspension DMF Lower: 2.2%
 Upper: 15.2%
 Capillary Storage Solution Not available.
 Protein Conditioning Solution Not available.
 2x Protein Inlet Buffer Not available.
 Protein Broad Range Gel Not available.
 P240 Broad Range Ladder Not available.
 10x Protein Labeling Buffer Not available.

Vapor pressure : Dye Resuspension DMF 0.49 kPa (3.7 mm Hg)

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
Capillary Storage Solution						
water	17.5	2.3	-	92.258	12.3	-
Glycerol	0.000075	0.00001	-	0.0025	0.00033	-
Protein Conditioning Solution						
water	17.5	2.3	-	92.258	12.3	-
2x Protein Inlet Buffer						
water	17.5	2.3	-	92.258	12.3	-
Trometamol	<0.00075006	<0.0001	-	-	-	-
Protein Broad Range Gel						
water	17.5	2.3	-	92.258	12.3	-

Section 9. Physical and chemical properties and safety characteristics

Trometamol	<0.00075006	<0.0001	-	-	-	-
P240 Broad Range Ladder						
water	17.5	2.3	-	92.258	12.3	-
Glycerol	0.000075	0.00001	-	0.0025	0.00033	-
10x Protein Labeling Buffer						
water	17.5	2.3	-	92.258	12.3	-
Sodium dodecyl sulphate	≤0.0013501	≤0.00018	-	-	-	-

Relative vapor density

Protein Fluorescent Dye	Not applicable.
Dye Resuspension DMF	2.5 [Air = 1]
Capillary Storage Solution	Not available.
Protein Conditioning Solution	Not available.
2x Protein Inlet Buffer	Not available.
Protein Broad Range Gel	Not available.
P240 Broad Range Ladder	Not available.
10x Protein Labeling Buffer	Not available.

Relative density

Protein Fluorescent Dye	Not available.
Dye Resuspension DMF	0.95
Capillary Storage Solution	Not available.
Protein Conditioning Solution	Not available.
2x Protein Inlet Buffer	Not available.
Protein Broad Range Gel	Not available.
P240 Broad Range Ladder	Not available.
10x Protein Labeling Buffer	Not available.

Solubility(ies)

Media	Result
Protein Fluorescent Dye	
water	Soluble
Dye Resuspension DMF	
water	Soluble
Capillary Storage Solution	
water	Soluble
Protein Conditioning Solution	
water	Soluble
2x Protein Inlet Buffer	
water	Soluble
Protein Broad Range Gel	
water	Soluble
P240 Broad Range Ladder	
water	Soluble
10x Protein Labeling Buffer	
water	Soluble

Section 9. Physical and chemical properties and safety characteristics

Partition coefficient: n-octanol/water : Protein Fluorescent Dye Not applicable.
 Dye Resuspension DMF -1.01
 Capillary Storage Solution Not applicable.
 Protein Conditioning Solution Not applicable.
 2x Protein Inlet Buffer Not applicable.
 Protein Broad Range Gel Not applicable.
 P240 Broad Range Ladder Not applicable.
 10x Protein Labeling Buffer Not applicable.

Auto-ignition temperature : Protein Fluorescent Dye Not applicable.
 Dye Resuspension DMF 445°C (833°F)

Ingredient name	°C	°F	Method
Capillary Storage Solution			
Glycerol	370	698	-
P240 Broad Range Ladder			
Glycerol	370	698	-
10x Protein Labeling Buffer			
Sodium dodecyl sulphate	310.5	590.9	VDI 2263





Decomposition temperature : Protein Fluorescent Dye Not available.
 Dye Resuspension DMF >350°C (>662°F)
 Capillary Storage Solution Not available.
 Protein Conditioning Solution Not available.
 2x Protein Inlet Buffer Not available.
 Protein Broad Range Gel Not available.
 P240 Broad Range Ladder Not available.
 10x Protein Labeling Buffer Not available.

Viscosity : Protein Fluorescent Dye Not applicable.
 Dye Resuspension DMF Dynamic: 0.802 mPa·s (0.802 cP)
 Capillary Storage Solution Not available.
 Protein Conditioning Solution Not available.
 2x Protein Inlet Buffer Not available.
 Protein Broad Range Gel Not available.
 P240 Broad Range Ladder Not available.
 10x Protein Labeling Buffer Not available.

Particle characteristics

Median particle size : Protein Fluorescent Dye Not available.
 Dye Resuspension DMF Not applicable.
 Capillary Storage Solution Not applicable.
 Protein Conditioning Solution Not applicable.
 2x Protein Inlet Buffer Not applicable.
 Protein Broad Range Gel Not applicable.
 P240 Broad Range Ladder Not applicable.
 10x Protein Labeling Buffer Not applicable.

Section 10. Stability and reactivity

Reactivity	 Protein Fluorescent Dye	No specific test data related to reactivity available for this product or its ingredients.
	Dye Resuspension DMF	No specific test data related to reactivity available for this product or its ingredients.
	Capillary Storage Solution	No specific test data related to reactivity available for this product or its ingredients.
	Protein Conditioning Solution	No specific test data related to reactivity available for this product or its ingredients.
	2x Protein Inlet Buffer	No specific test data related to reactivity available for this product or its ingredients.
	Protein Broad Range Gel	No specific test data related to reactivity available for this product or its ingredients.
	P240 Broad Range Ladder	No specific test data related to reactivity available for this product or its ingredients.
	10x Protein Labeling Buffer	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	 Protein Fluorescent Dye	The product is stable.
	Dye Resuspension DMF	The product is stable.
	Capillary Storage Solution	The product is stable.
	Protein Conditioning Solution	The product is stable.
	2x Protein Inlet Buffer	The product is stable.
	Protein Broad Range Gel	The product is stable.
	P240 Broad Range Ladder	The product is stable.
	10x Protein Labeling Buffer	The product is stable.
Possibility of hazardous reactions	 Protein Fluorescent Dye	Under normal conditions of storage and use, hazardous reactions will not occur.
	Dye Resuspension DMF	Under normal conditions of storage and use, hazardous reactions will not occur.
	Capillary Storage Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
	Protein Conditioning Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
	2x Protein Inlet Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	Protein Broad Range Gel	Under normal conditions of storage and use, hazardous reactions will not occur.
	P240 Broad Range Ladder	Under normal conditions of storage and use, hazardous reactions will not occur.
	10x Protein Labeling Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	 Protein Fluorescent Dye	Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.
	Dye Resuspension DMF	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
	Capillary Storage Solution	No specific data.
	Protein Conditioning Solution	No specific data.
	2x Protein Inlet Buffer	No specific data.

Section 10. Stability and reactivity

Protein Broad Range Gel No specific data.
P240 Broad Range Ladder No specific data.
10x Protein Labeling Buffer No specific data.

Incompatible materials

: Protein Fluorescent Dye Reactive or incompatible with the following materials:
oxidizing materials
Dye Resuspension DMF Reactive or incompatible with the following materials:
oxidizing materials
Capillary Storage Solution May react or be incompatible with oxidizing materials.
Protein Conditioning Solution May react or be incompatible with oxidizing materials.
2x Protein Inlet Buffer May react or be incompatible with oxidizing materials.
Protein Broad Range Gel May react or be incompatible with oxidizing materials.
P240 Broad Range Ladder May react or be incompatible with oxidizing materials.
10x Protein Labeling Buffer May react or be incompatible with oxidizing materials.

Hazardous decomposition products

: Protein Fluorescent Dye Under normal conditions of storage and use,
hazardous decomposition products should not be
produced.
Dye Resuspension DMF Under normal conditions of storage and use,
hazardous decomposition products should not be
produced.
Capillary Storage Solution Under normal conditions of storage and use,
hazardous decomposition products should not be
produced.
Protein Conditioning Solution Under normal conditions of storage and use,
hazardous decomposition products should not be
produced.
2x Protein Inlet Buffer Under normal conditions of storage and use,
hazardous decomposition products should not be
produced.
Protein Broad Range Gel Under normal conditions of storage and use,
hazardous decomposition products should not be
produced.
P240 Broad Range Ladder Under normal conditions of storage and use,
hazardous decomposition products should not be
produced.
10x Protein Labeling Buffer 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
Dye Resuspension DMF N,N-Dimethylformamide	LC50 Inhalation Vapor	Rat	3421 ppm	1 hours
	LC50 Inhalation Vapor	Rat	1948 ppm	4 hours
	LD50 Oral	Rat	4000 mg/kg	-
Capillary Storage Solution Glycerol 2-Methyl-2H-isothiazol-3-one	LD50 Oral	Rat	12600 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat - Male, Female	0.11 mg/l	4 hours
	LD50 Dermal	Rat - Male, Female	242 mg/kg	-
	LD50 Oral	Rat - Male, Female	285.5 mg/kg	-

Section 11. Toxicological information

2x Protein Inlet Buffer Trometamol Sodium dodecyl sulphate	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	1288 mg/kg	-
Protein Broad Range Gel Trometamol Sodium dodecyl sulphate	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	1288 mg/kg	-
P240 Broad Range Ladder Glycerol	LD50 Oral	Rat	12600 mg/kg	-
10x Protein Labeling Buffer Sodium dodecyl sulphate	LD50 Oral	Rat	1288 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Dye Resuspension DMF N,N-Dimethylformamide	Eyes - Severe irritant	Rabbit	-	100 %	-
Capillary Storage Solution Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
2x Protein Inlet Buffer Trometamol Sodium dodecyl sulphate	Skin - Moderate irritant	Rabbit	-	25 %	-
	Skin - Severe irritant	Rabbit	-	500 mg	-
	Eyes - Mild irritant	Rabbit	-	250 ug	-
	Eyes - Moderate irritant	Rabbit	-	10 mg	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Skin - Mild irritant	Guinea pig	-	24 hours 25 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 50 mg	-
	Skin - Moderate irritant	Mouse	-	24 hours 25 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 25 mg	-
Protein Broad Range Gel Trometamol Sodium dodecyl sulphate	Skin - Moderate irritant	Rabbit	-	25 %	-
	Skin - Severe irritant	Rabbit	-	500 mg	-
	Eyes - Mild irritant	Rabbit	-	250 ug	-
	Eyes - Moderate irritant	Rabbit	-	10 mg	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Skin - Mild irritant	Guinea pig	-	24 hours 25 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 50 mg	-
	Skin - Moderate irritant	Mouse	-	24 hours 25 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 25 mg	-

Section 11. Toxicological information

P240 Broad Range Ladder Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
10x Protein Labeling Buffer Sodium dodecyl sulphate	Eyes - Mild irritant	Rabbit	-	250 ug	-
	Eyes - Moderate irritant	Rabbit	-	10 mg	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Skin - Mild irritant	Guinea pig	-	24 hours 25 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 50 mg	-
	Skin - Moderate irritant	Mouse	-	24 hours 25 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 25 mg	-

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Classification

Product/ingredient name	IARC	NTP	ACGIH
Dye Resuspension DMF N,N-Dimethylformamide	2A	-	A3

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
2x Protein Inlet Buffer Trometamol	Category 3	-	Respiratory tract irritation
Sodium dodecyl sulphate	Category 3	-	Respiratory tract irritation
Protein Broad Range Gel Trometamol	Category 3	-	Respiratory tract irritation
Sodium dodecyl sulphate	Category 3	-	Respiratory tract irritation
10x Protein Labeling Buffer Sodium dodecyl sulphate	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Section 11. Toxicological information

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Protein Fluorescent Dye	Not available.
Dye Resuspension DMF	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Capillary Storage Solution	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Protein Conditioning Solution	Not available.
2x Protein Inlet Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Protein Broad Range Gel	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
P240 Broad Range Ladder	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
10x Protein Labeling Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

Eye contact

Protein Fluorescent Dye	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
Dye Resuspension DMF	Causes serious eye irritation.
Capillary Storage Solution	Causes eye irritation.
Protein Conditioning Solution	No known significant effects or critical hazards.
2x Protein Inlet Buffer	No known significant effects or critical hazards.
Protein Broad Range Gel	No known significant effects or critical hazards.
P240 Broad Range Ladder	Causes eye irritation.
10x Protein Labeling Buffer	No known significant effects or critical hazards.

Inhalation

Protein Fluorescent Dye	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
Dye Resuspension DMF	No known significant effects or critical hazards.
Capillary Storage Solution	No known significant effects or critical hazards.
Protein Conditioning Solution	No known significant effects or critical hazards.
2x Protein Inlet Buffer	No known significant effects or critical hazards.
Protein Broad Range Gel	No known significant effects or critical hazards.
P240 Broad Range Ladder	No known significant effects or critical hazards.
10x Protein Labeling Buffer	No known significant effects or critical hazards.

Skin contact

Protein Fluorescent Dye	No known significant effects or critical hazards.
Dye Resuspension DMF	Harmful in contact with skin.
Capillary Storage Solution	May cause an allergic skin reaction.
Protein Conditioning Solution	No known significant effects or critical hazards.
2x Protein Inlet Buffer	No known significant effects or critical hazards.
Protein Broad Range Gel	No known significant effects or critical hazards.
P240 Broad Range Ladder	No known significant effects or critical hazards.
10x Protein Labeling Buffer	No known significant effects or critical hazards.

Ingestion

Protein Fluorescent Dye	No known significant effects or critical hazards.
Dye Resuspension DMF	No known significant effects or critical hazards.
Capillary Storage Solution	No known significant effects or critical hazards.
Protein Conditioning Solution	No known significant effects or critical hazards.
2x Protein Inlet Buffer	No known significant effects or critical hazards.
Protein Broad Range Gel	No known significant effects or critical hazards.
P240 Broad Range Ladder	No known significant effects or critical hazards.
10x Protein Labeling Buffer	No known significant effects or critical hazards.

Section 11. Toxicological information

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	:	Protein Fluorescent Dye	Adverse symptoms may include the following: irritation redness
		Dye Resuspension DMF	Adverse symptoms may include the following: pain or irritation watering redness
		Capillary Storage Solution	Adverse symptoms may include the following: irritation watering redness
		Protein Conditioning Solution	No specific data.
		2x Protein Inlet Buffer	No specific data.
		Protein Broad Range Gel	No specific data.
		P240 Broad Range Ladder	Adverse symptoms may include the following: irritation watering redness
		10x Protein Labeling Buffer	No specific data.
		Protein Fluorescent Dye	Adverse symptoms may include the following: respiratory tract irritation coughing
		Dye Resuspension DMF	No specific data.
Inhalation		Capillary Storage Solution	No specific data.
		Protein Conditioning Solution	No specific data.
		2x Protein Inlet Buffer	No specific data.
		Protein Broad Range Gel	No specific data.
		P240 Broad Range Ladder	No specific data.
		10x Protein Labeling Buffer	No specific data.
		Protein Fluorescent Dye	No specific data.
		Dye Resuspension DMF	No specific data.
		Capillary Storage Solution	Adverse symptoms may include the following: irritation redness
		Protein Conditioning Solution	No specific data.
Skin contact		2x Protein Inlet Buffer	No specific data.
		Protein Broad Range Gel	No specific data.
		P240 Broad Range Ladder	No specific data.
		10x Protein Labeling Buffer	No specific data.
		Protein Fluorescent Dye	No specific data.
		Dye Resuspension DMF	No specific data.
		Capillary Storage Solution	No specific data.
		Protein Conditioning Solution	No specific data.
		2x Protein Inlet Buffer	No specific data.
		Protein Broad Range Gel	No specific data.
Ingestion		P240 Broad Range Ladder	No specific data.
		10x Protein Labeling Buffer	No specific data.
		Protein Fluorescent Dye	No specific data.
		Dye Resuspension DMF	No specific data.
		Capillary Storage Solution	No specific data.
		Protein Conditioning Solution	No specific data.
		2x Protein Inlet Buffer	No specific data.
		Protein Broad Range Gel	No specific data.
		P240 Broad Range Ladder	No specific data.
		10x Protein Labeling Buffer	No specific data.

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Section 11. Toxicological information

Potential delayed effects : Not available.

Potential chronic health effects

General	: Protein Fluorescent Dye Dye Resuspension DMF Capillary Storage Solution Protein Conditioning Solution 2x Protein Inlet Buffer Protein Broad Range Gel P240 Broad Range Ladder 10x Protein Labeling Buffer	Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
		No known significant effects or critical hazards.
		Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
		No known significant effects or critical hazards.
		No known significant effects or critical hazards.
Carcinogenicity	: Protein Fluorescent Dye Dye Resuspension DMF Capillary Storage Solution Protein Conditioning Solution 2x Protein Inlet Buffer Protein Broad Range Gel P240 Broad Range Ladder 10x Protein Labeling Buffer	No known significant effects or critical hazards.
		May cause cancer. Risk of cancer depends on duration and level of exposure.
		No known significant effects or critical hazards.
		No known significant effects or critical hazards.
		No known significant effects or critical hazards.
Mutagenicity	: Protein Fluorescent Dye Dye Resuspension DMF Capillary Storage Solution Protein Conditioning Solution 2x Protein Inlet Buffer Protein Broad Range Gel P240 Broad Range Ladder 10x Protein Labeling 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.
		No known significant effects or critical hazards.
Reproductive toxicity	: Protein Fluorescent Dye Dye Resuspension DMF Capillary Storage Solution Protein Conditioning Solution 2x Protein Inlet Buffer Protein Broad Range Gel P240 Broad Range Ladder 10x Protein Labeling 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.
		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 (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Dye Resuspension DMF N,N-Dimethylformamide	4000	1500	N/A	N/A	N/A
Capillary Storage Solution Glycerol	12600	N/A	N/A	N/A	N/A
2-Methyl-2H-isothiazol-3-one	285.5	242	N/A	N/A	0.11
2x Protein Inlet Buffer Sodium dodecyl sulphate	1288	N/A	N/A	N/A	1.5
Protein Broad Range Gel Sodium dodecyl sulphate	1288	N/A	N/A	N/A	1.5

Section 11. Toxicological information

P240 Broad Range Ladder Glycerol	12600	N/A	N/A	N/A	N/A
10x Protein Labeling Buffer 10x Protein Labeling Buffer	31813.6	N/A	N/A	N/A	37.0
Sodium dodecyl sulphate	1288	N/A	N/A	N/A	1.5

Other information

: Dye Resuspension DMF

Adverse symptoms include the following: central nervous system depression, liver abnormalities.

Capillary Storage Solution

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

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Dye Resuspension DMF N,N-Dimethylformamide	Acute EC50 14.4 mg/l Fresh water Acute EC50 7100000 µg/l Fresh water Acute LC50 >100000 µg/l Marine water Chronic NOEC 1500 mg/l Fresh water Chronic NOEC 0.1 ml/L Fresh water	Daphnia - <i>Daphnia magna</i> Fish - <i>Lepomis macrochirus</i> Crustaceans - <i>Crangon crangon</i> - Adult Daphnia - <i>Daphnia magna</i> Fish - <i>Oncorhynchus mykiss</i> - Embryo	48 hours 96 hours 48 hours 21 days 30 days
Capillary Storage Solution Glycerol 2-Methyl-2H-isothiazol-3-one	Acute LC50 54000 mg/l Fresh water Acute EC50 0.18 ppm Fresh water Acute LC50 0.07 ppm Fresh water Chronic NOEC 0.044 mg/l Fresh water Chronic NOEC 4.93 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i> Daphnia - <i>Daphnia magna</i> Fish - <i>Oncorhynchus mykiss</i> Daphnia Fish	96 hours 48 hours 96 hours 21 days 98 days
2x Protein Inlet Buffer Trometamol Sodium dodecyl sulphate	Acute EC50 >980 mg/l Fresh water Acute NOEC 520 mg/l Fresh water Acute EC50 1200 µg/l Marine water Acute LC50 900 µg/l Marine water Acute LC50 1400 µg/l Fresh water Acute LC50 590 µg/l Fresh water Chronic NOEC 1.25 mg/l Marine water Chronic NOEC 1 mg/l Fresh water Chronic NOEC 3.2 mg/l Fresh water Chronic NOEC 0.8 mg/l Fresh water	Daphnia Daphnia Algae - <i>Skeletonema costatum</i> Crustaceans - <i>Artemia salina</i> - Adult Daphnia - <i>Daphnia pulex</i> - Neonate Fish - <i>Cirrhinus mrigala</i> - Larvae Algae - <i>Ulva fasciata</i> - Zoea Crustaceans - <i>Pseudosida ramosa</i> - Neonate Daphnia - <i>Daphnia magna</i> - Neonate Fish - <i>Gambusia holbrooki</i>	48 hours 48 hours 96 hours 48 hours 48 hours 96 hours 96 hours 21 days 21 days 28 days
Protein Broad Range Gel Trometamol Sodium dodecyl sulphate	Acute EC50 >980 mg/l Fresh water Acute NOEC 520 mg/l Fresh water Acute EC50 1200 µg/l Marine water Acute LC50 900 µg/l Marine water Acute LC50 1400 µg/l Fresh water Acute LC50 590 µg/l Fresh water	Daphnia Daphnia Algae - <i>Skeletonema costatum</i> Crustaceans - <i>Artemia salina</i> - Adult Daphnia - <i>Daphnia pulex</i> - Neonate Fish - <i>Cirrhinus mrigala</i> - Larvae	48 hours 48 hours 96 hours 48 hours 48 hours 96 hours

Section 12. Ecological information

P240 Broad Range Ladder Glycerol 10x Protein Labeling Buffer Sodium dodecyl sulphate	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
	Acute LC50 54000 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
	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

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Capillary Storage Solution Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
2-Methyl-2H-isothiazol-3-one	301D Ready Biodegradability - Closed Bottle Test	0 % - Not readily - 28 days	-	-
2x Protein Inlet Buffer Trometamol	OECD 301F Ready Biodegradability - Manometric Respirometry Test	97.1 % - Readily - 28 days	30 mg/l	-
Sodium dodecyl sulphate	OECD 301B Ready Biodegradability - CO ₂ Evolution Test	95 % - Readily - 28 days	20 mg/l	-
Protein Broad Range Gel Trometamol	OECD 301F Ready Biodegradability - Manometric Respirometry Test	97.1 % - Readily - 28 days	30 mg/l	-
Sodium dodecyl sulphate	OECD 301B Ready	95 % - Readily - 28 days	20 mg/l	-

Section 12. Ecological information

P240 Broad Range Ladder Glycerol	Biodegradability - CO ₂ Evolution Test			
	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
10x Protein Labeling Buffer Sodium dodecyl sulphate	OECD 301B Ready Biodegradability - CO ₂ Evolution Test	95 % - Readily - 28 days	20 mg/l	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Capillary Storage Solution 2-Methyl-2H-isothiazol-3-one	-	-	Not readily
2x Protein Inlet Buffer Trometamol	-	-	Readily
Sodium dodecyl sulphate	-	-	Readily
Protein Broad Range Gel Trometamol	-	-	Readily
Sodium dodecyl sulphate	-	-	Readily
10x Protein Labeling Buffer Sodium dodecyl sulphate	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Dye Resuspension DMF N,N-Dimethylformamide	-1.01	0.79	Low
Capillary Storage Solution Glycerol	-1.76	-	Low
2-Methyl-2H-isothiazol-3-one	0.119	-	Low
2x Protein Inlet Buffer Trometamol	-2.31	-	Low
Sodium dodecyl sulphate	-2.03	-	Low
Protein Broad Range Gel Trometamol	-2.31	-	Low
Sodium dodecyl sulphate	-2.03	-	Low
P240 Broad Range Ladder Glycerol	-1.76	-	Low
10x Protein Labeling Buffer Sodium dodecyl sulphate	-2.03	-	Low

Mobility in soil

Section 12. Ecological information




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

Section 14. Transport information

	TDG Classification	IMDG	IATA
UN number	UN3316	UN3316	UN3316
UN proper shipping name	CHEMICAL KIT	CHEMICAL KIT	Chemical kit
Transport hazard class(es)	9 	9 	9 
Packing group	III	III	III
Environmental hazards	No.	No.	No.

Proof of classification statement : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.43-2.45 (Class 9).

Additional information

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.43-2.45 (Class 9).

Passenger Carrying Road or Rail Index 10

Special provisions 65, 141

IMDG : **Emergency schedules** F-A, _S-P_
Special provisions 251, 340

IATA : **Quantity limitation** Passenger and Cargo Aircraft: 10 kg. Packaging instructions: 960. Cargo Aircraft Only: 10 kg. Packaging instructions: 960. Limited Quantities - Passenger Aircraft: 1 kg. Packaging instructions: Y960.
Special provisions A44, A163

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.

Section 14. Transport information

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

Canadian lists

Canadian NPRI : The following components are listed: N,N-dimethylformamide

CEPA Toxic substances : None of the components are listed.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Canada : Not determined.

United States : At least one component is not listed.

Section 16. Other information

History

Date of issue/Date of revision : 01/11/2024

Date of previous issue : 11/29/2023

Version : 2.1

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
HPR = Hazardous Products Regulations
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
UN = United Nations

Procedure used to derive the classification

Section 16. Other information

Classification	Justification
Protein Fluorescent Dye COMBUSTIBLE DUSTS - Category 1	On basis of test data
Dye Resuspension DMF FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (dermal) - Category 4 EYE IRRITATION - Category 2A CARCINOGENICITY - Category 1B	On basis of test data On basis of test data On basis of test data On basis of test data
Capillary Storage Solution EYE IRRITATION - Category 2B SKIN SENSITIZATION - Category 1A	Calculation method Calculation method
P240 Broad Range Ladder EYE IRRITATION - Category 2B	Calculation method

Indicates information that has changed from previously issued version.

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