



# SAFETY DATA SHEET

New Zealand

## Section 1. Identification

### Product name

**Luminol/Enhancers; part of 'ECL™ Prime Western Blotting Detection Reagent'**

### Catalogue Number

RPN2232SK



9 0 R P N 2 2 3 2 S K

### Component Number

RPN2232S1

### Other means of identification

Not available.

### Product type

Liquid.

### Identified uses

Analytical chemistry.  
Laboratory chemicals  
Scientific research and development

### Supplier

Cytiva  
Amersham Place  
Little Chalfont  
Buckinghamshire  
HP7 9NA United Kingdom  
+44 1494 508000

Cytiva New Zealand  
Buddle Findlay, Level 18, Pricewaterhousecooper Tower,  
188 Quay Street,  
Auckland, Auckland, 1010  
New Zealand

### Person who prepared the SDS :

sds\_author@cytiva.com

### Emergency telephone number (with hours of operation)

0800 733 893  
(10am - 7pm)

---

## Section 2. Hazards identification

### HSNO Classification

ACUTE TOXICITY (oral) - Category 4  
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 93%

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 93%

This material is classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

### GHS label elements

#### Signal word

Warning

#### Hazard statements

Harmful if swallowed.

May cause damage to organs through prolonged or repeated exposure.

#### Precautionary statements

**Prevention** Do not breathe vapour. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

**Response** IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth.

**Storage** Not applicable.

**Disposal** Dispose of contents and container in accordance with all local, regional, national and international regulations.

#### Symbol



**Other hazards which do not result in classification**

None known.

### Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	Mixture	
<b>Other means of identification</b>	Not available.	
<b>Ingredient name</b>	<b>% (w/w)</b>	<b>Identifiers</b>
Tromethamine	3 - 5	CAS: 77-86-1 EC: 201-064-4

1,2-Ethanediol

	1 - 3	CAS: 107-21-1 EC: 203-473-3
--	-------	--------------------------------

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

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

### Section 4. First aid measures

#### Description of necessary first aid measures

<b>Inhalation</b>	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 following exposure or if feeling unwell. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
<b>Ingestion</b>	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 necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
<b>Skin contact</b>	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.
<b>Eye contact</b>	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 following exposure or if feeling unwell.

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

##### Potential acute health effects

<b>Inhalation</b>	No known significant effects or critical hazards.
<b>Ingestion</b>	Harmful if swallowed.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Eye contact</b>	No known significant effects or critical hazards.

##### Over-exposure signs/symptoms

<b>Inhalation</b>	No specific data.
<b>Ingestion</b>	No specific data.
<b>Skin</b>	No specific data.
<b>Eyes</b>	No specific data.

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

<b>Specific treatments</b>	Not available.
<b>Notes to physician</b>	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
<b>Protection of first-aiders</b>	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**See toxicological information (Section 11)**



## Section 5. Firefighting measures

### Extinguishing media

<b>Suitable</b>	Use an extinguishing agent suitable for the surrounding fire.
<b>Not suitable</b>	None known.
<b>Specific hazards arising from the chemical</b>	In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous thermal decomposition products</b>	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides
<b>Hazchem code</b>	Not available.
<b>Special precautions for fire-fighters</b>	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
<b>Special protective equipment for fire-fighters</b>	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

<b>For non-emergency personnel</b>	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
<b>Environmental precautions</b>	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
<b>Methods and material for containment and cleaning up</b>	
<b>Small spill</b>	Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
<b>Large spill</b>	Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

## Section 7. Handling and storage

### Precautions for safe handling

<b>Protective measures</b>	Put on appropriate personal protective equipment (see Section 8). Do not breathe vapour or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
<b>Advice on general occupational hygiene</b>	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
<b>Conditions for safe storage, including any incompatibilities</b>	Store between the following temperatures: 18 to 30°C (64.4 to 86°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

<b>Ingredient name</b>	<b>Exposure limits</b>
1,2-Ethanediol	<b>HSWA 2015 - HSW (GRWM) 2016. Workplace exposure standards (WES) (New Zealand, 11/2023)</b> WES-Ceiling: 50 ppm. Form: Vapour and mists. WES-Ceiling: 127 mg/m³. Form: Vapour and mists.
<b>Biological exposure indices</b>	



No exposure indices known.

**Appropriate engineering controls** If user operations generate dust, fumes, gas, vapour 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: safety glasses with side-shields.

#### Skin protection

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

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

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

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

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

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

#### Appearance

<b>Physical state</b>	Liquid.
<b>Colour</b>	Clear. Colourless.
<b>Odour</b>	Not available.
<b>Odour threshold</b>	Not available.
<b>pH</b>	9.4
<b>Melting point/freezing point</b>	Not available.
<b>Boiling point or initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Not applicable.
<b>Burning time</b>	Not applicable.
<b>Burning rate</b>	Not applicable.
<b>Evaporation rate</b>	Not available.
<b>Flammability</b>	Not available.
<b>Lower and upper explosive (flammable) limits</b>	Not available.
<b>Vapour pressure</b>	Not available.

#### Vapour Pressure at 20°C                          Vapour pressure at 50°C

Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method
water	17.5	2.3				
ethanediol	0.09226	0.012				

<b>Relative vapour density</b>	Not available.
<b>Relative density</b>	Not available.

#### **Solubility(ies)**

Media	Result
cold water	Easily soluble
hot water	Easily soluble

<b>Solubility in water</b>	Not available.
<b>Partition coefficient: n-octanol/water</b>	Not applicable.



<b>Auto-ignition temperature</b>	Not available.			
	<b>Ingredient name</b>	<b>°C</b>	<b>°F</b>	<b>Method</b>
	ethanediol	398	748.4	
<b>Decomposition temperature</b>	Not available.			
<b>SADT</b>	Not available.			
<b>Viscosity</b>	Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.			
<b>Flow time (ISO 2431)</b>	Not available.			
<b>Particle characteristics</b>				
<b>Median particle size</b>	Not applicable.			

## Section 10. Stability and reactivity

<b>Reactivity</b>	No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	The product is stable.
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	No specific data.
<b>Incompatible materials</b>	No specific data.
<b>Hazardous decomposition products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	No known significant effects or critical hazards.
<b>Ingestion</b>	Harmful if swallowed.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Eye contact</b>	No known significant effects or critical hazards.

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

<b>Inhalation</b>	No specific data.
<b>Ingestion</b>	No specific data.
<b>Skin contact</b>	No specific data.
<b>Eye contact</b>	No specific data.

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

#### Acute toxicity

<b>Product/ingredient name</b>	<b>Result</b>
1,2-Ethanediol	Rat - Oral - LD50 4700 mg/kg

**Conclusion/Summary[Product]** Not available.

#### Skin corrosion/irritation

Not available.

**Conclusion/Summary[Product]** Not available.

#### Serious eye damage/eye irritation

Not available.

**Conclusion/Summary[Product]** Not available.

#### Respiratory corrosion/irritation

Not available.

**Conclusion/Summary[Product]** Not available.



**Respiratory or skin sensitization**

Not available.

**Skin**

**Conclusion/Summary[Product]** Not available.

**Respiratory**

**Conclusion/Summary[Product]** Not available.

**Potential chronic health effects**

<b>General</b>	May cause damage to organs through prolonged or repeated exposure.
<b>Inhalation</b>	No known significant effects or critical hazards.
<b>Ingestion</b>	No known significant effects or critical hazards.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Eye contact</b>	No known significant effects or critical hazards.
<b>Carcinogenicity</b>	No known significant effects or critical hazards.
<b>Mutagenicity</b>	No known significant effects or critical hazards.
<b>Developmental effects</b>	No known significant effects or critical hazards.
<b>Fertility effects</b>	No known significant effects or critical hazards.

**Chronic toxicity**

Not available.

**Conclusion/Summary[Product]** Not available.

**Carcinogenicity**

Not available.

**Conclusion/Summary[Product]** Not available.

**Germ cell mutagenicity**

Not available.

**Conclusion/Summary[Product]** Not available.

**Reproductive toxicity**

Not available.

**Conclusion/Summary[Product]** Not available.

**Specific target organ toxicity (single exposure)**

<b>Product/ingredient name</b>	<b>Result</b>
Tromethamine	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3

**Specific target organ toxicity (repeated exposure)**

<b>Product/ingredient name</b>	<b>Result</b>
1,2-Ethanediol	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1

**Aspiration hazard**

Not available.

**Numerical measures of toxicity****Acute toxicity estimates**

<b>Product/ingredient name</b>	<b>Oral (mg/kg)</b>	<b>Dermal (mg/kg)</b>	<b>Inhalation (gases) (ppm)</b>	<b>Inhalation (vapours) (mg/l)</b>	<b>Inhalation (dusts and mists) (mg/l)</b>



Luminol/Enhancers; part of 'ECL™ Prime Western Blotting Detection Reagent'					RPN2232SK
Luminol/Enhancers; part of 'ECL Prime Western Blotting Detection Reagent'	1750	N/A	N/A	N/A	N/A
1,2-Ethanediol	500	N/A	N/A	N/A	N/A

## Section 12. Ecological information

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

### Aquatic and terrestrial toxicity

**Product/ingredient name**

1,2-Ethanediol

**Result**

**Acute - LC50 - Fresh water**

Fish - Fathead minnow - *Pimephales promelas*

Age: ≤7 days

8050 mg/l [96 hours]

Effect: Mortality

**Acute - LC50 - Fresh water**

Crustaceans - Water flea - *Ceriodaphnia dubia* - Neonate

6900 mg/l [48 hours]

Effect: Mortality

**Conclusion/Summary[Product]** Not available.

### Persistence/degradability

Not available.

**Conclusion/Summary[Product]** Not available.

**Product/ingredient name**

Tromethamine  
1,2-Ethanediol

**Aquatic half-life**

-  
-

**Photolysis**

-

**Biodegradability**

Readily  
Readily

### Bioaccumulative potential

**Product/ingredient name**

ethanediol

**LogP<sub>ow</sub>**

-1.36

**BCF**

10

**Potential**

Low

### Mobility in soil

**Soil/water partition coefficient**

Not available.

**Other adverse effects**

No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods**

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

## Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*
New Zealand Class	Not regulated.	-	-	-
IATA Class	Not regulated.	-	-	-
IMDG Class	Not regulated.	-	-	-

PG\* : Packing group

**Special precautions for user**

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



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

---

## Section 15. Regulatory information

<b>HSNO Approval Number</b>	HSR002596
<b>HSNO Group Standard</b>	Laboratory Chemicals and Reagent Kits
<b>HSNO Classification</b>	ACUTE TOXICITY (oral) - Category 4 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

**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**

<b>New Zealand</b>	Not determined.
<b>Australia</b>	Not determined.
<b>United States</b>	Not determined.
<b>Canada inventory</b>	Not determined.
<b>China</b>	Not determined.
<b>Japan</b>	<b>Japan inventory (CSCL):</b> Not determined. <b>Japan inventory (ISHL):</b> Not determined.

---

## Section 16. Other information

**History**

**Date of printing** 8 January 2026

**Date of issue/ Date of revision** 08 January 2026

**Date of previous issue** 12/18/2020

**Version** 5.01

**Key to abbreviations**

ADG = Australian Dangerous Goods  
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road  
ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
UN = United Nations

**References**

Not available.

 **Indicates information that has changed from previously issued version.**

**Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



9 5 2 8 9 8 7 0 7 8 1



9 5 2 8 9 8 7 0 7 8 1