

# SAFETY DATA SHEET

United States

## Section 1. Identification

Product name

**Solution A Luminol Enhancer, 200ml; part of  
'Amersham™ ECL™ start Western blotting  
reagent, for 4000 cm<sup>2</sup> membrane'**

Catalogue Number

RPN3244



Other means of identification

Not available.

Product type

Liquid.

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

### Identified uses

Use in laboratories

Supplier

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

Cytiva USA  
100 Results Way  
Marlborough, MA 01752  
1-800-526-3593

In case of emergency

INFOTRAC - 24 Hour number: 1-800-535-5053  
Outside of the United States, call 24 Hour number: 001-352-323-3500 (Call Collect)

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## Section 2. Hazards identification

OSHA/HCS status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

TOXIC TO REPRODUCTION [Unborn child] - Category 2

Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 4%  
Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 4%

### GHS label elements

#### Hazard pictograms



Signal word

Danger

Hazard statements

Suspected of damaging the unborn child.

### Precautionary statements

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

IF exposed or concerned: Get medical attention.

Response

Store locked up.

Storage

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

Disposal



<b>Hazards not otherwise classified</b>	None known.
<b>Hazards identified when used</b>	No known significant effects or critical hazards.

### Section 3. Composition/information on ingredients

Substance/mixture	Mixture	%	Identifiers
<b>Other means of identification</b>	Not available.		
<b>Ingredient name</b>	<b>Synonyms</b>		
trometamol	1,3-Propanediol, 2-amino-2-(hydroxymethyl)-; Tris(hydroxymethyl)aminoethane; Tris(hydroxymethyl)aminomethane; Tris(hydroxymethyl)methylamine; TROMETHAMINE; 2-amino-2-hydroxymethylpropanediol; tri(hydroxymethyl)methylamine; 2-amino-2-(hydroxymethyl)propane-1,3-diol; 2-Amino-2-hydroxymethyl-1,3-propanediol; 2-amino-2-hydroxymethyl-; 2-Amino-2-hydroxymethyl-1, 3-propanediol	≥1 - ≤5	CAS: 77-86-1
ethanediol	ethylene glycol; ethane-1,2-diol; 1,2-Ethanediol; Glycol; Monoethylene glycol; 1,2-Ethanediol (ethylene glycol); Glycol alcohol; 1,2-Dihydroxyethane; catalyst, containing N-(2-hydroxypropylammonium) diazabicyclo[2.2.2]octane-2-ethyl hexanoate, dissolved in ethane-1,2-diol; preparations consisting predominantly of ethylene glycol (CAS RN 107-21-1) and; — either diethylene glycol (CAS RN 111-46-6), dodecanoic acid and ammonia water, — or N,N-dimethylformamide (CAS RN 68-12-2), — or γ-butyrolactone (CAS RN 96-48-0), — or silicon oxide, — or ammonium hydrogen azelate, — or ammonium hydrogen azelate and silicon oxide, — or dodecanoic acid, ammonia water and silicon oxide, for the manufacture of electrolytic capacitors; 1,2-ethanediol	≥1 - ≤5	CAS: 107-21-1
1,2,4-triazole	1H-1,2,4-Triazole; s-Triazole; Pyrroldiazole; 1H,1,2,4-TRIAZOLE; TRIAZOLE (1,2,4)	≥0.1 - ≤1	CAS: 288-88-0

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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

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

### Section 4. First aid measures

#### Description of necessary first aid measures

<b>Eye contact</b>	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
<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. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
<b>Skin contact</b>	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.



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

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

**Potential acute health effects**

<b>Eye contact</b>	No known significant effects or critical hazards.
<b>Inhalation</b>	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Ingestion</b>	No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

<b>Eye contact</b>	No specific data.
<b>Inhalation</b>	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
<b>Skin contact</b>	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
<b>Ingestion</b>	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations

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

<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>Specific treatments</b>	No specific treatment.
<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. Fire-fighting measures

**Extinguishing media**

<b>Suitable extinguishing media</b>	Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</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>Special protective actions 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
<b>Environmental precautions</b>	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).



**Methods and materials for containment and cleaning up**

<b>Small spill</b>	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
<b>Large spill</b>	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. 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 (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

**Precautions for safe handling**

<b>Protective measures</b>	Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. 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. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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 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. Store locked up. 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.

## Section 8. Exposure controls/personal protection

**Control parameters**

**Occupational exposure limits**

**Ingredient name**

trometamol  
ethanediol

**Exposure limits**

None.  
**CAL OSHA PEL (United States, 1/2025)**

C: 100 mg/m<sup>3</sup>. Form: vapor.  
C: 40 ppm. Form: vapor.

**OSHA PEL 1989 (United States, 3/1989)**

CEIL: 50 ppm.  
CEIL: 125 mg/m<sup>3</sup>.

**ACGIH TLV (United States, 1/2024) A4.**

STEL 15 minutes: 10 mg/m<sup>3</sup>. Form: Inhalable fraction. Aerosol only..  
STEL 15 minutes: 50 ppm. Form: Vapor fraction.  
TWA 8 hours: 25 ppm. Form: Vapor fraction.

None.

1,2,4-triazole

**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: safety glasses with side-shields.

**Skin protection**



<b>Hand protection</b>	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.
<b>Body protection</b>	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.
<b>Other skin protection</b>	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.
<b>Respiratory protection</b>	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Liquid.
<b>Color</b>	Clear. Colorless.
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>pH</b>	9.4 [Conc. (% w/w): 100%]
<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>Vapor pressure</b>	Not available.

### Vapor Pressure at 20°C

### Vapor pressure at 50°C

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

**Relative vapor density** Not available.

**Relative density** Not available.

**Solubility(ies)**

Media	Result
cold water	Easily soluble
hot water	Easily soluble

**Solubility in water** Not available.

**Partition coefficient: n-octanol/water** Not available.

**Auto-ignition temperature** Not available.

Ingredient name	°C	°F	Method
ethanediol	398	748.4	

**Decomposition temperature** Not available.

**SADT** Not available.

**Viscosity** Not available.

**Flow time (ISO 2431)** Not available.

### Particle characteristics

**Median particle size** Not applicable.



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## 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 toxicological effects

#### Acute toxicity

Product/ingredient name	Result
ethanediol	<b>Rat - Oral - LD50</b> 4700 mg/kg
1,2,4-triazole	<b>Rat - Dermal - LD50</b> 3129 mg/kg Toxic effects: Behavioral - Somnolence (general depressed activity) Lung, Thorax, or Respiration - Respiratory depression
	<b>Rat - Oral - LD50</b> 1375 mg/kg Toxic effects: Behavioral - Somnolence (general depressed activity) Lung, Thorax, or Respiration - Respiratory depression
<b>Conclusion/Summary [Product]</b>	Not available.

#### Skin corrosion/irritation

Product/ingredient name	Result
1,2,4-triazole	<b>Rabbit - Skin - Mild irritant</b> <u>Amount/concentration applied:</u> 0.5 gm
<b>Conclusion/Summary [Product]</b>	Not available.

#### Serious eye damage/eye irritation

Product/ingredient name	Result
1,2,4-triazole	<b>Rabbit - Eyes - Severe irritant</b> <u>Amount/concentration applied:</u> 50 mg
<b>Conclusion/Summary [Product]</b>	Not available.

#### Respiratory corrosion/irritation

Not available.	
<b>Conclusion/Summary [Product]</b>	Not available.

#### Respiratory or skin sensitization

Not available.

<b>Skin</b>	
<b>Conclusion/Summary [Product]</b>	Not available.

#### Respiratory

<b>Conclusion/Summary [Product]</b>	Not available.
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**Germ cell mutagenicity**

Not available.

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

**Carcinogenicity**

Not available.

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

**Reproductive toxicity**

Not available.

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

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

Not available.

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

Not available.

**Aspiration hazard**

Not available.

**Information on the likely routes of exposure** Routes of entry anticipated: Oral, Dermal, Inhalation.

**Potential acute health effects**

<b>Eye contact</b>	No known significant effects or critical hazards.
<b>Inhalation</b>	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Ingestion</b>	No known significant effects or critical hazards.

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

<b>Eye contact</b>	No specific data.
<b>Inhalation</b>	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
<b>Skin contact</b>	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
<b>Ingestion</b>	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations

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

**Short term exposure**

**Potential immediate effects** Not available.  
**Potential delayed effects** Not available.

**Long term exposure**

**Potential immediate effects** Not available.  
**Potential delayed effects** Not available.



**Potential chronic health effects**

Not available.

<b>Conclusion/Summary [Product]</b>	Not available.
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<b>General</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>Reproductive toxicity</b>	May damage fertility or the unborn child.

**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)
Solution A Luminol Enhancer, 200ml; part of 'Amersham ECL start Western blotting reagent, for 4000 cm <sup>2</sup> membrane'	25000	N/A	N/A	N/A	N/A
ethanediol	500	N/A	N/A	N/A	N/A
1,2,4-triazole	1320	3129	N/A	N/A	N/A

**Section 12. Ecological information****Toxicity**

Product/ingredient name	Result
ethanediol	<b>Acute - LC50 - Fresh water</b> Fish - Fathead minnow - <i>Pimephales promelas</i> <u>Age:</u> ≤7 days 8050 mg/l [96 hours] <u>Effect:</u> Mortality
1,2,4-triazole	<b>Acute - LC50 - Fresh water</b> Crustaceans - Water flea - <i>Ceriodaphnia dubia</i> - Neonate 6900 mg/l [48 hours] <u>Effect:</u> Mortality
	<b>Acute - LC50 - Fresh water</b> US EPA Fish - Rainbow trout,donaldson trout - <i>Oncorhynchus mykiss</i> <u>Weight:</u> 1.27 g 498 ppm [96 hours] <u>Effect:</u> Mortality
<b>Conclusion/Summary [Product]</b>	Not available.

**Persistence and degradability**

Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
trometamol	-	-	Readily
ethanediol	-	-	Readily

**Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
1,2,4-triazole	-0.58	1	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 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

Product is not regulated as dangerous goods for transport.

## Section 15. Regulatory information

### U.S. Federal regulations

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

Clean Water Act (CWA) 311: Hydrogen chloride

### TSCA 12(b) - Chemical export notification

Not applicable.

### Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)

Listed

### Clean Air Act Section 602 Class I Substances

Not listed

### Clean Air Act Section 602 Class II Substances

Not listed

### DEA List I Chemicals (Precursor Chemicals)

Not listed

### DEA List II Chemicals (Essential Chemicals)

Not listed

### SARA 302/304

#### Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ (lbs)	SARA 304 RQ (lbs)	SARA 304 RQ (gallons)
Hydrogen chloride	0.01	Yes.	500	50.8	5000
<b>SARA 304 RQ</b>					508.2

### SARA 311/312

#### Classification

TOXIC TO REPRODUCTION - Category 1B

#### Composition/information on ingredients

Name	%	Classification
trometamol	3 - 5	SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A
ethanediol	1 - 3	ACUTE TOXICITY (oral) - Category 4
1,2,4-triazole	0.1 - 1	ACUTE TOXICITY (oral) - Category 4 EYE IRRITATION - Category 2A TOXIC TO REPRODUCTION - Category 1B

### SARA 313

Form R - Reporting requirements	Product name	CAS number	%
	ethanediol	107-21-1	1 - 3
Supplier notification	ethanediol	107-21-1	1 - 3

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

**Massachusetts** The following components are listed: ETHYLENE GLYCOL

**New York** The following components are listed: Ethylene glycol

**New Jersey** The following components are listed: ETHYLENE GLYCOL; 1,2-ETHANEDIOL

**Pennsylvania** The following components are listed: 1,2-ETHANEDIOL

### California Prop. 65

Ingredient name	No significant risk level	Maximum acceptable dosage level
Ethylene Glycol	-	Yes.



**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**

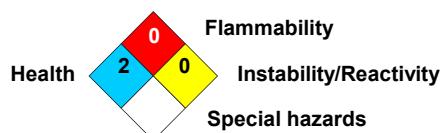
**United States** Not determined.

**Canada inventory** Not determined.

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## Section 16. Other information

**National Fire Protection Association (U.S.A.)**



**Procedure used to derive the classification**

**Classification**

TOXIC TO REPRODUCTION - Category 1B

**Justification**

Calculation method

**History**

**Date of printing** 2/17/2026

**Date of issue/Date of revision** 2/17/2026

**Date of previous issue** 11/27/2023

**Version** 4.01

sds\_author@cytiva.com

**Key to abbreviations**

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

N/A = Not available

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.

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