



Safety Data Sheet

Canada

Section 1. Identification

Product name

ECL™ gold hybridization buffer, 500 ml; part of 'ECL Direct Nucleic Acid Labelling and Detection System; To label 10 µg'

Catalogue Number

RPN3001



9 0 R P N 3 0 0 1

Component Number

NIF826

Product type

Liquid.

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

Identified uses

Analytical chemistry.
Laboratory chemicals
Scientific research and development

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

Importer Cytiva Canada
1055 Vernon Dr
Vancouver BC V6A 3P4
Canada
+1 778-956-2584

In case of emergency

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

Section 2. Hazard identification

Classification of the substance or mixture Not classified.

GHS label elements

Signal word No signal word.

Hazard statements No known significant effects or critical hazards.

Precautionary statements

Prevention Not applicable.

Response Not applicable.

Storage Not applicable.

Disposal Not applicable.

Supplemental label elements Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 41%
Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 41%
Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 5%



Section 3. Composition/information on ingredients

Substance/mixture Mixture
Other means of identification Not available.

Ingredient name	Synonyms	% (w/w)	CAS number
Urea	Carbamide; E 927b; carbonyl diamide; diaminomethane; carbonyldiamine; diaminomethanal; Carbamimidic acid; Carbonyldiamide; Varioform II; Urevert; Urepearl; Ureophil	≥15 - ≤40	CAS: 57-13-6
Sodium lauryl sulfate	Sulfuric acid monododecyl ester sodium salt (1:1); Sulfuric acid monododecyl ester sodium salt; Sulfuric acid, monododecyl ester, sodium salt; Dodecyl hydrogen sulfate; Sodium dodecyl sulfate; SODIUM LAURYL SULFATE; Dodecyl sodium sulphate; ethylcellulose, in the form of an aqueous dispersion containing hexadecan-1-ol (CAS RN 36653-82-4) and sodium dodecyl sulphate (CAS RN 151-21-3), containing by weight 27 (± 3) % of ethylcellulose; SODIUM MONODODECYL SULFATE; SODIUM LAURYL SULFATE, DENTAL GRADE; SODIUM LAURYL SULFATE 30%	≥0.1 - ≤1	CAS: 151-21-3

There are no 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	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	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	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	No known significant effects or critical hazards.
Inhalation	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	No specific data.
Inhalation	No specific data.
Skin contact	No specific data.
Ingestion	No specific data.

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

Notes to physician	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	No specific treatment.
Protection of first-aiders	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 Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media None known.

Specific hazards arising from the chemical In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
metal oxide/oxides

Special protective actions for fire-fighters 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 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 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 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 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

Small spill 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.

Large spill Stop leak if without risk. Move containers from spill area. 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. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

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

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

Conditions for safe storage, including any incompatibilities 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

Urea

Exposure limits

OARS WEEL (United States, 9/2024)

TWA 8 hours: 10 mg/m³.

Biological exposure indices

No exposure indices known.

Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

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

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection

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

Other skin protection

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

Respiratory protection

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

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	Liquid.
Color	Brown.
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Boiling point or initial boiling point and boiling range	Not available.
Flash point	Not applicable.
Burning time	Not applicable.
Burning rate	Not applicable.
Evaporation rate	Not available.
Flammability	Not available.
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	Not available.

Vapor Pressure at 20°C

Vapor pressure at 50°C

Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method
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water	17.5	2.3	
urea	0	0	EU A.4
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.		
Decomposition temperature	Not available.		
SADT	Not available.		
Viscosity	Not available.		
Flow time (ISO 2431)	Not available.		
Particle characteristics			
Median particle size	Not applicable.		

Section 10. Stability and reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	No specific data.
Incompatible materials	No specific data.
Hazardous decomposition products	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
Urea	Rat - Oral - LD50 8471 mg/kg
Sodium lauryl sulfate	Rat - Oral - LD50 1288 mg/kg
Conclusion/Summary [Product]	Not available.

Skin corrosion/irritation

Product/ingredient name	Result
Sodium lauryl sulfate	Human - Skin - Mild irritant <u>Duration of treatment/exposure:</u> 48 hours <u>Amount/concentration applied:</u> 5 %
	Human - Skin - Severe irritant <u>Duration of treatment/exposure:</u> 24 hours <u>Amount/concentration applied:</u> 10 %
	Guinea pig - Skin - Mild irritant <u>Duration of treatment/exposure:</u> 336 hours <u>Amount/concentration applied:</u> 25250 ppm
	Guinea pig - Skin - Mild irritant <u>Duration of treatment/exposure:</u> 24 hours <u>Amount/concentration applied:</u> 25250 ppm
	Guinea pig - Skin - Severe irritant <u>Duration of treatment/exposure:</u> 48 hours <u>Amount/concentration applied:</u> 25250 ppm
	Guinea pig - Skin - Severe irritant <u>Duration of treatment/exposure:</u> 72 hours <u>Amount/concentration applied:</u> 25250 ppm
	Human - Skin - Mild irritant



Duration of treatment/exposure: 24 hours
Amount/concentration applied: 0.5 %
Human - Skin - Moderate irritant
Duration of treatment/exposure: 24 hours
Amount/concentration applied: 10 pph
Man - Skin - Mild irritant
Duration of treatment/exposure: 24 hours
Amount/concentration applied: 5 %
Mouse - Skin - Moderate irritant
Duration of treatment/exposure: 24 hours
Amount/concentration applied: 5 %
Rabbit - Skin - Moderate irritant
Duration of treatment/exposure: 24 hours
Amount/concentration applied: 5 %
Rabbit - Skin - Severe irritant
Duration of treatment/exposure: 24 hours
Amount/concentration applied: 2.5 %
Mouse - Skin - Severe irritant
Duration of treatment/exposure: 4 hours
Amount/concentration applied: 1 pph
Rabbit - Skin - Mild irritant
Duration of treatment/exposure: 1 hours
Amount/concentration applied: 5 %

Conclusion/Summary Not available.
[Product]

Serious eye damage/eye irritation

Product/ingredient name	Result
Sodium lauryl sulfate	Rabbit - Eyes - Mild irritant <u>Duration of treatment/exposure:</u> 1 hours <u>Amount/concentration applied:</u> 5 pph Rabbit - Eyes - Severe irritant <u>Duration of treatment/exposure:</u> 1 hours <u>Amount/concentration applied:</u> 1 % Rabbit - Eyes - Severe irritant <u>Duration of treatment/exposure:</u> 1 hours <u>Amount/concentration applied:</u> 1 %

Conclusion/Summary Not available.
[Product]

Respiratory corrosion/irritation

Not available.

Conclusion/Summary Not available.
[Product]

Respiratory or skin sensitization

Not available.

Skin

Conclusion/Summary Not available.
[Product]

Respiratory

Conclusion/Summary Not available.
[Product]

Germ cell mutagenicity

Not available.

Conclusion/Summary Not available.
[Product]

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

Eye contact	No known significant effects or critical hazards.
Inhalation	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	No specific data.
Inhalation	No specific data.
Skin contact	No specific data.
Ingestion	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.
Potential delayed effects	Not available.

Potential chronic health effects

Not available.

Conclusion/Summary [Product]	Not available.
General	No known significant effects or critical hazards.
Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.

Reproductive toxicity 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)
Urea	8471	N/A	N/A	N/A	N/A
Sodium lauryl sulfate	1288	N/A	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name

Urea

Result

Acute - LC50 - Fresh water

Fish - Giant gourami - *Colisa fasciata* - Fingerling
5000 µg/l [96 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Fish - Rohu - *Labeo rohita* - Egg
16.7 mg/l [96 hours]

Effect: Mortality

Acute - EC50 - Fresh water

Daphnia - Water flea - *Daphnia magna* - Neonate
Age: <24 hours

3910 mg/l [48 hours]

Effect: Intoxication

Chronic - NOEC - Fresh water

Fish - Indian catfish - *Heteropneustes fossilis*
2 g/l [30 days]

Effect: Enzymes

Acute - LC50 - Fresh water

Fish - Carp, hawk fish - *Cirrhinus mrigala* - Larvae
Age: 2 days; Size: 4.5 mm; Weight: 51 mg

590 µg/l [96 hours]

Effect: Mortality

Acute - EC50 - Marine water

Algae - Diatom - *Skeletonema costatum*
1200 µg/l [96 hours]

Effect: Population

Acute - LC50 - Marine water

Crustaceans - Brine shrimp - *Artemia salina* - Adult
Age: 25 days; Size: 3.5 to 4.5 mm

900 µg/l [48 hours]

Effect: Mortality

Chronic - NOEC - Marine water

Algae - Sea Lettuce - *Ulva fasciata* - Zoa
1.25 mg/l [96 hours]

Effect: Reproduction

Chronic - NOEC - Fresh water

OECD
Crustaceans - Water flea - *Pseudosida ramosa* - Neonate
Age: <24 hours

1 mg/l [21 days]

Effect: Reproduction

Chronic - NOEC - Fresh water

OECD
Fish - Eastern mosquitofish - *Gambusia holbrooki*
Weight: 0.14 g
0.8 mg/l [28 days]

Effect: Enzymes

Sodium lauryl sulfate

Conclusion/Summary
[Product]

Not available.

Persistence and degradability

Not available.



9 5 2 5 0 0 6 5 5 0 7

Conclusion/Summary [Product]	Not available.
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Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Urea	-	-	Readily
Sodium lauryl sulfate	-	>60%; 28 day(s)	Readily
Bioaccumulative potential			
Product/ingredient name	LogP _{ow}	BCF	Potential
Urea	<-1.73	1	Low
Sodium lauryl sulfate	-2.03	-	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. 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	DOT Classification	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	-	-	-	-	-
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

Canadian lists

Canadian NPRI	None of the components are listed.
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	All components are listed or exempted.
United States	All components are listed or exempted.

Section 16. Other information

History

Date of printing	2/17/2026
Date of issue/Date of revision	2/17/2026
Date of previous issue	11/15/2019
Version	6.01
	sds_author@cytiva.com

Key to abbreviations

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
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

Classification	Justification
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Not classified.

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.