

SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830 - United Kingdom (UK)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier		
Product name	•	2; part of 'ECL™ direct ling and detection system'
Catalogue Number	RPN3000	9 0 R P N 3 0 0 0
Component Number	RPN3004V2	
Product description	Not available.	
Product type	Liquid.	
Other means of identification	Not available.	

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

Identified uses

Analytical chemistry. Use in laboratories Scientific research and development

1.3 Details of the supplier of the safety data sheet

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> Cytiva Amersham Place Little Chalfont Buckinghamshire HP7 9NA United Kingdom +44 0800 515 313

> > Cytiva UK

Amersham Place

Little Chalfont Buckinghamshire HP7 9ŇA t: 0870 606 1921

Hours of operation 08.30 - 17.00

Person who prepared the MSDS : sds_author@cytiva.com

1.4 Emergency telephone number

Call INFOTRAC 24 Hour number: 001-352-323-3500 (Calll Collect).

National advisory body/Poison Centre

United Kingdom (UK)

United Kingdom (UK)

Health professionals should contact the National Poisons Information Service (NPIS) by telephone, or use TOXBASE www.toxbase.org.

NPIS http://www.npis.org/ advise that others seeking specific information on poisons should contact: In England and Wales: NHS Direct - 0845 4647 or 111 In Scotland: NHS 24 - 08454 24 24 24 In N Ireland: Contact your local GP or pharmacist during normal hours; click here (www. gpoutofhours.hscni.net/) for GP services Out-of-Hours.



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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Ingredients of unknown toxicity Not applicable.

Ingredients of unknown	Not applicable.
ecotoxicity	

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements	
Hazard pictograms	
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.
Hazardous ingredients	
Supplemental label elements	Contains reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1). May produce an allergic reaction. Safety data sheet available on request.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	Not applicable.
Special packaging requirements	
Containers to be fitted with child-resistant fastenings	Not applicable.
Tactile warning of danger	Not applicable.
2.3 Other hazards	
Product meets the criteria for PBT Annex XIII	Γ or vPvB according to Regulation (EC) No. 1907/2006,
This mixture does not contain any	substances that are assessed to be a PBT or a vPvB.
Other hazards which do not result in classification	None known.
SECTION 3: Composition	n/information on ingredients
-	Mixture
	ich within the current knowledge of the supplier and in the concentrations applicable, are classified

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

<u>Type</u>

1] Substance classified with a physical, health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

[6] Additional disclosure due to company policy



SECTION 4: First aid measures

4.1 Description of 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. 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. Protection of first-aiders No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

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

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment.
See toxicological information (Section 11)	

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or In a fire or if heated, a pressure increase will occur and the container may burst. mixture Hazardous combustion No specific data. products

5.3 Advice for firefighters

5.5 Advice for menginers	
Special precautions 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 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 spilt material. Put on appropriate personal protective equipment.
For emergency responders	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".
6.2 Environmental precautions	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).
6.3 Methods and material for containment and cleaning up	

and material for o ainment and cleaning up

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-Small spill 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.

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Detection reagent 2; part of 'ECL™ direct nucleic acid labelling and detection system'

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. Dispose of via a licensed waste disposal contractor.
6.4 Reference to other sections	See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

7.1 Trecautions for sale 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.	
7.2 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.	
7.3 Specific end use(s)		
Recommendations	Knalytical chemistry. Laboratory chemicals. Scientific research and development.	
Industrial sector specific solutions	Not available.	

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario (s).

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
DNELs/DMELs	
No DELs available.	
PNECs	
No PECs available.	
8.2 Exposure controls	
Appropriate engineering controls	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
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	

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Detection reagent 2; part of 'ECL	.™ direct nucleic acid labelling and detection system'	RPN3000
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should b times when handling chemical products if a risk assessment indicates this is necessar	
Body protection	Personal protective equipment for the body should be selected based on the task beir and the risks involved and should be approved by a specialist before handling this pro	
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected task being performed and the risks involved and should be approved by a specialist be handling this product.	
Respiratory protection	Based on the hazard and potential for exposure, select a respirator that meets the app standard or certification. Respirators must be used according to a respiratory protection ensure proper fitting, training, and other important aspects of use.	
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure th with the requirements of environmental protection legislation. In some cases, fume so filters or engineering modifications to the process equipment will be necessary to redu to acceptable levels.	rubbers,

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<u>Appearance</u>	
Physical state	Liquid.
Colour	Colourless.
Odour	Odourless.
Odour threshold	Not available.
рН	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Kot applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	Not considered to be flammable .
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/ water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not available.
9.2 Other information	
Burning time	Not applicable.
Burning rate	Not applicable.
Solubility in water	Not available.

SECTION 10: Stability and reactivity

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



SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity	
Conclusion/Summary	Not available.
Acute toxicity estimates	
N/A	

Irritation/Corrosion	
Conclusion/Summary	Not available.
Sensitisation	
Conclusion/Summary	Not available.
Mutagenicity	
Conclusion/Summary	Not available.
Carcinogenicity	
Conclusion/Summary	Not available.
Reproductive toxicity	
Conclusion/Summary	Not available.
<u>Teratogenicity</u>	
Conclusion/Summary	Not available.
<u>Specific target organ toxicity (single exposure)</u>	

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure	Routes of entry anticipated: Oral, Dermal, Inhalation.
Potential acute health effects	

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Inhalation	No known significant effects or critical hazards.	
Ingestion	No known significant effects or critical hazards.	
Skin contact	No known significant effects or critical hazards.	
Eye contact	No known significant effects or critical hazards.	
Symptoms related to the physical, chemical and toxicological characteristics		
Inhalation	No specific data.	
Ingestion	No specific data.	
Skin contact	No specific data.	

 Eye contact
 No specific data.

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

 Short term exposure

Potential immediate effects	Not available.
Potential delayed effects	Not available.
Long term exposure	
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Potential immediate effects Not available.

Potential delayed effects Not available.

Potential chronic health effects

Not available.

Conclusion/Summary	Not available.
General	No known significant effects or critical hazards.
Carcinogenicity	No known significant effects or critical hazards.



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Mutagenicity	No known significant effects or critical hazards.	
Teratogenicity	No known significant effects or critical hazards.	
Developmental effects	No known significant effects or critical hazards.	
Fertility effects	No known significant effects or critical hazards.	
Other information	Not available.	

SECTION 12: Ecological information

12.1 Toxicity

Conclusion/Summary Not available.

12.2 Persistence and degradability

Conclusion/Summary Not available.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (Koc) Not available.

Mobility

Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product	
Methods of disposal	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.
Hazardous waste	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.
Packaging	
Methods of disposal	The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
Special precautions	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 spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	ΙΑΤΑ
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

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14.6 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.
14.7 Transport in bulk according to Annex II of	Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

Marpol and the IBC Code

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the Not applicable. manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Other EU regulations

Industrial emissions Not listed (integrated pollution prevention and control) - Air

Industrial emissions Not listed (integrated pollution prevention and control) -Water

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

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

-	
Europe	Not determined.
United States	Not determined.
Canada inventory	Not determined.
China	All components are listed or exempted.
Japan	Japan inventory (ENCS): Not determined. Japan inventory (ISHL): Not determined.
15.2 Chemical safety assessment	This product contains substances for which Chemical Safety Assessments are still required.



SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms	ATE = Acute Toxicity Estimate
	CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
	DMEL = Derived Minimal Effect Level
	DNEL = Derived No Effect Level
	EUH statement = CLP-specific Hazard statement
	N/A = Not available
	PBT = Persistent, Bioaccumulative and Toxic
	PNEC = Predicted No Effect Concentration
	RRN = REACH Registration Number
	vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification Not classified.		Justification
Full text of classifications [CLP/ GHS]	Not applicable.	
Date of printing	28 April 2021	
Date of issue/ Date of revision	28 April 2021	
Date of previous issue	17 January 2020	
Version	8	
Notice to reader		
To the best of our knowledge, the i	nformation contained herein is a	ccurate However neither the above-named supplier nor any of its

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.





SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830 - United Kingdom (UK)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier		
Product name	of 'ECL Direct N	ridization buffer, 500 ml; part lucleic Acid Labelling and m, To label 5 μg'
Catalogue Number	RPN3000	9 0 R P N 3 0 0 0
Component Number	NIF826	
Product description	Not available.	
Product type	Liquid.	
Other means of identification	Not available.	

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

Identified uses

Analytical chemistry. Laboratory chemicals Scientific research and development

1.3 Details of the supplier of the safety data sheet

ne Betane er ine euppner		
<u>Supplier</u>	Cytiva Amersham Place Little Chalfont Buckinghamshire HP7 9NA United Kingdom +44 0800 515 313	Hours of operation 08.30 - 17.00
	Person who prepared the MSDS :	sds_author@cytiva.com
		1.4 Emergency telephone number
United Kingdom (UK)	Cytiva UK Amersham Place Little Chalfont Buckindhamshire	Call INFOTRAC 24 Hour number: 001-352-323-3500 (Calll Collect).

National advisory body/Poison Centre

 United Kingdom (UK)
 Health professionals should contact the National Poisons Information Service (NPIS) by telephone, or use TOXBASE www.toxbase.org .

 NPIS http://www.npis.org/ advise that others seeking specific information on poisons should contact: In England and Wales: NHS Direct - 0845 4647 or 111 In Scotland: NHS 24 - 08454 24 24 24 In N Ireland: Contact your local GP or pharmacist during normal hours; click here (www.gpoutofhours.hscni.net/) for GP services Out-of-Hours.

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Ingredients of unknown toxicity 41 percent of the mixture consists of component(s) of unknown acute dermal toxicity 41 percent of the mixture consists of component(s) of unknown acute inhalation toxicity

Ingredients of unknown Contains 5 % of components with unknown hazards to the aquatic environment ecotoxicity

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements	
Hazard pictograms	
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.
Hazardous ingredients	
Supplemental label elements	Not applicable.

Annex XVII - Restrictions on the Not applicable. manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Special packaging requirements

Containers to be fitted with Not applicable. child-resistant fastenings

Tactile warning of danger Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not None known. result in classification

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Mixture

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

<u>Type</u>

[1] Substance classified with a physical, health or environmental hazard

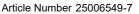
[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

[6] Additional disclosure due to company policy



SECTION 4: First aid measures

4.1 Description of 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.
Protection of first-aiders	m ko action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms		
Eye contact	No specific data.	
Inhalation	No specific data.	
Skin contact	No specific data.	
Ingestion	No specific data.	
4.3 Indication of any immediat	e medical attention and special treatment needed	
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.	
See toxicological information (Sec	tion 11)	
SECTION 5: Firefighting	measures	
5.1 Extinguishing media		
Suitable extinguishing media	Use an extinguishing agent suitable for the surrounding fire.	
Unsuitable extinguishing media	None known.	
5.2 Special hazards arising fro	om the substance or mixture	
Hazards from the substance or mixture	$ m f\!\!f\!h$ a fire or if heated, a pressure increase will occur and the container may burst.	
Hazardous combustion products	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides	

5.3 Advice for firefighters

3.5 Advice for menginers	
Special precautions 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 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 spilt material. Put on appropriate personal protective equipment.
For emergency responders	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".
6.2 Environmental precautions	Kvoid 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).

6.3 Methods and material for containment and cleaning up

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Page: 3/9 Validation date 28 April 2021 Version 7 ECL $^{\rm M}$ gold hybridization buffer, 500 ml; part of 'ECL Direct Nucleic Acid Labelling and Detection System, To label 5 $\mu g'$

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. Dispose of via a licensed waste disposal contractor.
6.4 Reference to other sections	See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures	Vut 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.		
7.2 Conditions for safe storage	e, 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.		
Seveso Directive - Reporting thr	<u>esholds (in tonnes)</u>		
Danger criteria			
Category	Notification and MAPP Safety report threshold threshold		
7.3 Specific end use(s)			
Recommendations	Knalytical chemistry. Laboratory chemicals. Scientific research and development.		
Industrial sector specific solutions	Not available.		

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario (s).

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DELs available.

PNECs

No PECs available.

8.2 Exposure controls

Appropriate engineering controls

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

Individual protection measures



ECL™gold hybridization buffer, 500 ml; part of 'ECL Direct Nucleic Acid Labelling and Detection System, To label 5 μg'

Detection System, To label 5 µg'		
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 befor 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 possible, the following protection should be worn, unless the assessment indicates a higher degr of protection: safety glasses with side-shields.	
Skin protection		
Hand protection	$\overline{\mathbf{C}}$ hemical-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 perform 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 ensure proper fitting, training, and other important aspects of use.	
Environmental exposure controls	al exposure 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 emission to acceptable levels.	

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<u>Appearance</u>	
Physical state	Liquid.
Colour	Brown.
Odour	Not available.
Odour threshold	Not available.
рН	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/ water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture.
Oxidising properties	Not available.
9.2 Other information	
Burning time	Not applicable.
Burning rate	Not applicable.
Solubility in water	Not available.

SECTION 10: Stability and reactivity		
10.1 Reactivity No specific test data related to reactivity available for this product or its ingredients.		
10.2 Chemical stability The product is stable.		
10.3 Possibility of hazardous Under normal conditions of storage and use, hazardous reactions will not occur. reactions		
10.4 Conditions to avoid	No specific data.	
10.5 Incompatible materials No specific data.		
10.6 Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.	

SECTION 11: Toxicological information

11.1 Information on toxicological effects		
Acute toxicity		
Conclusion/Summary	Not available.	
Acute toxicity estimates		
N/A		

Irritation/Corrosion	
Conclusion/Summary	Not available.
<u>Sensitisation</u>	
Conclusion/Summary	Not available.
<u>Mutagenicity</u>	
Conclusion/Summary	Not available.
Carcinogenicity	
Conclusion/Summary	Not available.
Reproductive toxicity	
Conclusion/Summary	Not available.
Teratogenicity	
Conclusion/Summary	Not available.
. . .	

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure) Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure	Routes of entry anticipated: Oral, Dermal, Inhalation.		
Potential acute health effects			
Inhalation	No known significant effects or critical hazards.		
Ingestion	No known significant effects or critical hazards.		
Skin contact	No known significant effects or critical hazards.		
Eye contact	No known significant effects or critical hazards.		
Symptoms related to the physical, chemical and toxicological characteristics			
Inhalation	No specific data.		
Ingestion	No specific data.		
Skin contact	No specific data.		
Eye contact	No specific data.		
Delayed and immediate effects as well as chronic effects from short and long-term exposure			
Short term exposure			
Potential immediate effects	Not available.		



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Potential delayed effects	Not available.
Long term exposure	
Potential immediate effects	Not available.
Potential delayed effects	Not available.
Potential chronic health effects	
Not available.	
	Net evellette
Conclusion/Summary	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.
Teratogenicity	No known significant effects or critical hazards.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.
Other information	Not available.
SECTION 12: Ecological	information
12.1 Toxicity	
Conclusion/Summary	Not available.
-	
12.2 Persistence and degradabilit	у
Conclusion/Summary	Not available.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (Koc) Not available.

Mobility Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product	
Methods of disposal	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.
Hazardous waste	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.
Packaging	
Methods of disposal	The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
Special precautions	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 spilt material and runoff and contact with soil, waterways, drains and sewers.



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SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

14.6 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.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Not available.

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the Not applicable. manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Other EU regulations

Industrial emissions Not listed (integrated pollution prevention and control) - Air

Industrial emissions Not listed (integrated pollution prevention and control) -Water

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

Danger criteria

Category

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals



Montreal Protocol (Annexes A, B, C, E)

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	
Europe	Not determined.
United States	All components are listed or exempted.
Canada inventory	All components are listed or exempted.
China	All components are listed or exempted.
Japan	Japan inventory (ENCS): All components are listed or exempted. Japan inventory (ISHL): Not determined.
15.2 Chemical safety assessment	This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms	ATE = Acute Toxicity Estimate CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level EUH statement = CLP-specific Hazard statement N/A = Not available PBT = Persistent, Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration RRN = REACH Registration Number
	vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification		Justification
Not classified.		
Full text of abbreviated H statements	Not applicable.	
Full text of classifications [CLP/ GHS]	Not applicable.	
Date of printing	28 April 2021	
Date of issue/ Date of revision	28 April 2021	
Date of previous issue	17 January 2020	
Version	7	
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.





SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830 - United Kingdom (UK)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

		1 5
1.1 Product identifier		
Product name	•	ent 1; part of 'ECL™ direct belling and detection system'
Catalogue Number	RPN3000	9 0 R P N 3 0 0 0
Component Number	RPN3004V1	
Product description	Not available.	
Product type	Liquid.	
Other means of identification	Not available.	

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

Identified uses

Analytical chemistry. Use in laboratories Scientific research and development

1.3 Details of the supplier of the safety data sheet

Sup	olier
-----	-------

Cytiva Amersham Place Little Chalfont Buckinghamshire HP7 9NA United Kingdom +44 0800 515 313

Cytiva UK

Amersham Place

Little Chalfont Buckinghamshire HP7 9NA t: 0870 606 1921 Hours of operation 08.30 - 17.00

Person who prepared the MSDS : sds_author@cytiva.com

1.4 Emergency telephone number

Call INFOTRAC 24 Hour number: 001-352-323-3500 (Calll Collect).

National advisory body/Poison Centre

United Kingdom (UK)

United Kingdom (UK)

Health professionals should contact the National Poisons Information Service (NPIS) by telephone, or use TOXBASE www.toxbase.org .

NPIS http://www.npis.org/ advise that others seeking specific information on poisons should contact: In England and Wales: NHS Direct - 0845 4647 or 111 In Scotland: NHS 24 - 08454 24 24 24 In N Ireland: Contact your local GP or pharmacist during normal hours; click here (www. gpoutofhours.hscni.net/) for GP services Out-of-Hours.



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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Ingredients of unknown toxicity Not applicable.

Ingredients of unknown	Not applicable.
ecotoxicity	

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements	
Hazard pictograms	
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.
Hazardous ingredients	
Supplemental label elements	$\overline{\mathbb{C}}$ ontains reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1). May produce an allergic reaction. Safety data sheet available on request.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	Not applicable.
Special packaging requirements	
Containers to be fitted with child-resistant fastenings	Not applicable.
Tactile warning of danger	Not applicable.
2.3 Other hazards	
Product meets the criteria for PBT Annex XIII	Γ or vPvB according to Regulation (EC) No. 1907/2006,
This mixture does not contain any	substances that are assessed to be a PBT or a vPvB.
Other hazards which do not result in classification	None known.
SECTION 3: Composition	n/information on ingredients
3.2 Mixtures	Mixture
There are no ingradiante present wh	ich within the surrent knowledge of the supplier and in the concentrations employed, are also affed

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

<u>Type</u>

1] Substance classified with a physical, health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

[6] Additional disclosure due to company policy



SECTION 4: First aid measures

4.1 Description of 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. 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. Protection of first-aiders No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

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

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment.
See toxicological information (Se	ection 11)

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	In a fire or if heated, a pressure increase will occur and the container may burst.	
Hazardous combustion products	No specific data.	
5.3 Advice for firefighters		
Special precautions 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.	

SECTION 6: Accidental release measures

6.1 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 spilt material. Put on appropriate personal protective equipment.
For emergency responders	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".
6.2 Environmental precautions	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).
6.3 Methods and material for containment and cleaning up	

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-Small spill 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.



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Detection reagent 1; part of 'ECL™ direct nucleic acid labelling and detection system'

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. Dispose of via a licensed waste disposal contractor.
6.4 Reference to other sections	See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

7.1 Trecautions for sale nationing		
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.	
7.2 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.	
7.3 Specific end use(s)		
Recommendations	Knalytical chemistry. Laboratory chemicals. Scientific research and development.	
Industrial sector specific solutions	Not available.	

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario (s).

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
DNELs/DMELs	
No DELs available.	
PNECs	
No PECs available.	
8.2 Exposure controls	
Appropriate engineering controls	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
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	

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etection reagent 1; part of 'ECL	. [™] direct nucleic acid labelling and detection system' RP	PN3000
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn a times when handling chemical products if a risk assessment indicates this is necessary.	at all
Body protection	Personal protective equipment for the body should be selected based on the task being perfor and the risks involved and should be approved by a specialist before handling this product.	ormed
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on task being performed and the risks involved and should be approved by a specialist before handling this product.	on the
Respiratory protection	Bessed 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 progression ensure proper fitting, training, and other important aspects of use.	
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they com 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 emis to acceptable levels.	rs,

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<u>Appearance</u>	
Physical state	Liquid.
Colour	Colourless.
Odour	Odourless.
Odour threshold	Not available.
рН	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	[Product does not sustain combustion.]
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/ water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not available.
9.2 Other information	
Burning time	Not applicable.
Burning rate	Not applicable.
Solubility in water	Not available.

SECTION 10: Stability and reactivity

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



SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity	
Conclusion/Summary	Not available.
Acute toxicity estimates	
N/A	

Irritation/Corrosion		
Conclusion/Summary	Not available.	
Sensitisation		
Conclusion/Summary	Not available.	
<u>Mutagenicity</u>		
Conclusion/Summary	Not available.	
Carcinogenicity		
Conclusion/Summary	No additional remark.	
Reproductive toxicity		
Conclusion/Summary	Not available.	
Teratogenicity		
Conclusion/Summary	Not available.	
Specific target organ toxicity (single exposure)		

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

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

Potential acute health effects

Inhalation	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Eye contact	No known significant effects or critical hazards.
Symptoms related to the physic	al, chemical and toxicological characteristics
Inhalation	No specific data.
Ingestion	No specific data.
Skin contact	No specific data.
Eye contact	No specific data.
Delayed and immediate effects a	as well as chronic effects from short and long-term exposure
Short term exposure	
Potential immediate effects	Not available.
Potential delayed effects	Not available.
Long term exposure	
Potential immediate effects	Not available.
Potential delayed effects	Not available.
Potential chronic health effects	
Not available.	
Conclusion/Summary	Not available.
General	No known significant effects or critical hazards.
General	NO KIOWI SIGNICAN ENECIS OF CHILCAI NAZALUS.

Carcinogenicity No known significant effects or critical hazards.

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Detection reagent 1: part of 'ECI ™ c	direct nucleic acid labelling and detection system'
Deteotion reagent 1, part of LOE	and account system

Deteetien reagent i, parter 202	an oot naoioio aoia iaboining ana aotoonon oyotoini	
Mutagenicity	No known significant effects or critical hazards.	
Teratogenicity	No known significant effects or critical hazards.	
Developmental effects	No known significant effects or critical hazards.	
Fertility effects	No known significant effects or critical hazards.	
Other information	Not available.	

SECTION 12: Ecological information

12.1 Toxicity

Conclusion/Summary Not available.

12.2 Persistence and degradability

Conclusion/Summary Not available.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (Koc) Not available.

Mobility

Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product	
Methods of disposal	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.
Hazardous waste	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.
Packaging	
Methods of disposal	The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
Special precautions	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 spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	ΙΑΤΑ
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

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14.6 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.
14.7 Transport in bulk according to Annex II of	Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

Marpol and the IBC Code

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the Not applicable. manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Other EU regulations

Industrial emissions Not listed (integrated pollution prevention and control) - Air

Industrial emissions Not listed (integrated pollution prevention and control) -Water

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

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

Europe	Not determined.
•	Not dotominou.
United States	Not determined.
Canada inventory	Not determined.
China	All components are listed or exempted.
Japan	Japan inventory (ENCS): Not determined. Japan inventory (ISHL): Not determined.
15.2 Chemical safety assessment	This product contains substances for which Chemical Safety Assessments are still required.



SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms	ATE = Acute Toxicity Estimate
	CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
	DMEL = Derived Minimal Effect Level
	DNEL = Derived No Effect Level
	EUH statement = CLP-specific Hazard statement
	N/A = Not available
	PBT = Persistent, Bioaccumulative and Toxic
	PNEC = Predicted No Effect Concentration
	RRN = REACH Registration Number
	vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification		Justification
Not classified.		
Full text of abbreviated H statements	Not applicable.	
Full text of classifications [CLP/ GHS]	Not applicable.	
Date of printing	28 April 2021	
Date of issue/ Date of revision	28 April 2021	
Date of previous issue	17 January 2020	
Version	8	
Notice to reader		
To the best of our knowledge, the i	nformation contained herein is a	ccurate However neither the above-named supplier nor any of its

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.





SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830 - United Kingdom (UK)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier Product name	•	part of 'ECL Direct™ nucleic and detection system'
Catalogue Number	RPN3000	
Component Number	NIF822	
Product description	Not available.	
Product type	Liquid.	
Other means of identification	Not available.	

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

Identified uses

Analytical chemistry. Laboratory chemicals Scientific research and development

1.3 Details of the supplier of the safety data sheet

Supp	<u>olier</u>
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Cytiva Amersham Place Little Chalfont Buckinghamshire HP7 9NA United Kingdom +44 0800 515 313

Cytiva UK

Amersham Place

Little Chalfont Buckinghamshire HP7 9NA t: 0870 606 1921 Hours of operation 08.30 - 17.00

Person who prepared the MSDS : sds_author@cytiva.com

1.4 Emergency telephone number

Call INFOTRAC 24 Hour number: 001-352-323-3500 (Calll Collect).

National advisory body/Poison Centre

United Kingdom (UK)

United Kingdom (UK)

Health professionals should contact the National Poisons Information Service (NPIS) by telephone, or use TOXBASE www.toxbase.org .

NPIS http://www.npis.org/ advise that others seeking specific information on poisons should contact: In England and Wales: NHS Direct - 0845 4647 or 111 In Scotland: NHS 24 - 08454 24 24 24 In N Ireland: Contact your local GP or pharmacist during normal hours; click here (www. gpoutofhours.hscni.net/) for GP services Out-of-Hours.



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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Ingredients of unknown toxicity Not applicable.

Ingredients of unknown	Not applicable.
ecotoxicity	

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements		
Hazard pictograms		
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.	
Hazardous ingredients		
Supplemental label elements	Not applicable.	
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	Not applicable.	
Special packaging requirements		
Containers to be fitted with child-resistant fastenings	Not applicable.	
Tactile warning of danger	Not applicable.	
2.3 Other hazards		
Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII		
This mixture does not contain any	substances that are assessed to be a PBT or a vPvB.	

Other hazards which do not None known. result in classification

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Mixture

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

<u>Type</u>

1 Substance classified with a physical, health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

[6] Additional disclosure due to company policy



SECTION 4: First aid measures

4.1 Description of 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.
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.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

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

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment.
See toxicological information (Section 11)	

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media None known.

5.2 Special hazards arising from the substance or mixture

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Hazards from the substance or mixture	In a fire or if heated, a pressure increase will occur and the container may burst.		
Hazardous combustion products	No specific data.		
5.3 Advice for firefighters			
Special precautions 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.		

SECTION 6: Accidental release measures

6.1 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 spilt material. Put on appropriate personal protective equipment.
For emergency responders	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".
6.2 Environmental precautions	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).
6.3 Methods and material for containment and cleaning up	

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Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-Small spill 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.



Control DNA; part of 'ECL Direct™ nucleic acid labelling and detection system'

RPN3000

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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. Dispose of via a licensed waste disposal contractor.
6.4 Reference to other sections	See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

7.11 recautions for sale nation		
Protective measures	Put on appropriate personal protective equipment (see Section 8).	
Advice on general occupational hygiene	al 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.	
7.2 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.	
7.3 Specific end use(s)		
Recommendations	Knalytical chemistry. Laboratory chemicals. Scientific research and development.	
Industrial sector specific solutions	Not available.	

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario (s).

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
DNELs/DMELs	
No DELs available.	
PNECs	
No PECs available.	
8.2 Exposure controls	
Appropriate engineering controls	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
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	

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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.
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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<u>Appearance</u>	
Physical state	Liquid.
Colour	Colourless.
Odour	Odourless.
Odour threshold	Not available.
рН	Not available.
Melting point/freezing point	0°C
Initial boiling point and boiling range	100°C
Flash point	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/ water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not available.
9.2 Other information	
Burning time	Not applicable.
Burning rate	Not applicable.
Solubility in water	Not available.

SECTION 10: Stability and reactivity

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



SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity	
Conclusion/Summary	Not available.
Acute toxicity estimates	
N/A	

Irritation/Corrosion		
Conclusion/Summary	Not available.	
Sensitisation		
Conclusion/Summary	Not available.	
Mutagenicity		
Conclusion/Summary	Not available.	
Carcinogenicity		
Conclusion/Summary	Not available.	
Reproductive toxicity		
Conclusion/Summary	Not available.	
Teratogenicity		
Conclusion/Summary	Not available.	
Specific target organ toxicity (single exposure)		

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure	Routes of entry anticipated: Oral, Dermal, Inhalation.
Potential acute health effects	

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Inhalation	No known significant effects or critical hazards.	
Ingestion	No known significant effects or critical hazards.	
Skin contact	No known significant effects or critical hazards.	
Eye contact	No known significant effects or critical hazards.	
Symptoms related to the physical, chemical and toxicological characteristics		
Inhalation	No specific data.	
Ingestion	No specific data.	
Skin contact	No specific data.	
Eye contact	No specific data.	

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

Short term exposure	
Potential immediate effects	Not available.
Potential delayed effects	Not available.
Long term exposure	
Potential immediate effects	Not available.
Potential delayed effects	Not available
Potential chronic health effects	
Not available.	
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Conclusion/Summary	Not available.	
General	No known significant effects or critical hazards.	
Carcinogenicity	No known significant effects or critical hazards.	



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Control DNA; part of 'ECL Direct™ nucleic acid labelling and detection system'		RPN3000
Mutagenicity	No known significant effects or critical hazards.	
Teratogenicity	No known significant effects or critical hazards.	
Developmental effects	No known significant effects or critical hazards.	
Fertility effects	No known significant effects or critical hazards.	
Other information	Not available.	

SECTION 12: Ecological information

12.1 Toxicity

Conclusion/Summary Not available.

12.2 Persistence and degradability

Conclusion/Summary Not available.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (Koc) Not available.

Mobility

Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product	
Methods of disposal	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.
Hazardous waste	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.
Packaging	
Methods of disposal	The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
Special precautions	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 spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	ΙΑΤΑ
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

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14.6 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.
14.7 Transport in bulk according to Annex II of	Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

Marpol and the IBC Code

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the Not applicable. manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Other EU regulations

Industrial emissions Not listed (integrated pollution prevention and control) - Air

Industrial emissions Not listed (integrated pollution prevention and control) -Water

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

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

Europe	All components are listed or exempted.
United States	All components are listed or exempted.
Canada inventory	All components are listed or exempted.
China	All components are listed or exempted.
Japan	Japan inventory (ENCS): All components are listed or exempted. Japan inventory (ISHL): Not determined.
15.2 Chemical safety assessment	This product contains substances for which Chemical Safety Assessments are still required.



SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms	ATE = Acute Toxicity Estimate CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level EUH statement = CLP-specific Hazard statement N/A = Not available PBT = Persistent, Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration RRN = REACH Registration Number vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification		Justification
Not classified.		
Full text of abbreviated H statements	Not applicable.	
Full text of classifications [CLP/ GHS]	Not applicable.	
Date of printing	28 April 2021	
Date of issue/ Date of revision	28 April 2021	
Date of previous issue	17 January 2020	
Version	4	
Notice to reader		
To the best of our knowledge, the i	nformation contained herein is a	ccurate. However, neither the above-named supplier, nor any of its

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.



SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830 - United Kingdom (UK)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier		
Product name	•	eagent; part of 'ECL™ direct labelling and detection system'
Catalogue Number	RPN3000	
Component Number	NIF819	
Product description	Not available.	
Product type	Liquid.	
Other means of identification	Not available.	

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

Identified uses

Analytical chemistry. Laboratory chemicals Scientific research and development

1.3 Details of the supplier of the safety data sheet

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Cytiva Amersham Place Little Chalfont Buckinghamshire HP7 9NA United Kingdom +44 0800 515 313

Cytiva UK

Amersham Place

Little Chalfont Buckinghamshire HP7 9NA t: 0870 606 1921 Hours of operation 08.30 - 17.00

Person who prepared the MSDS : sds_author@cytiva.com

1.4 Emergency telephone number

Call INFOTRAC 24 Hour number: 001-352-323-3500 (Calll Collect).

National advisory body/Poison Centre

United Kingdom (UK)

United Kingdom (UK)

Health professionals should contact the National Poisons Information Service (NPIS) by telephone, or use TOXBASE www.toxbase.org .

NPIS http://www.npis.org/ advise that others seeking specific information on poisons should contact: In England and Wales: NHS Direct - 0845 4647 or 111 In Scotland: NHS 24 - 08454 24 24 24 In N Ireland: Contact your local GP or pharmacist during normal hours; click here (www. gpoutofhours.hscni.net/) for GP services Out-of-Hours.



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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS] Not classified.

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Ingredients of unknown toxicity	15 percent of the mixture consists of component(s) of unknown acute dermal toxicity 15 percent of the mixture consists of component(s) of unknown acute inhalation toxicity

Ingredients of unknown Not applicable. ecotoxicity

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements	
Hazard pictograms	
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.
Hazardous ingredients	
Supplemental label elements	Safety data sheet available on request.
Annex XVII - Restrictions on the	Not applicable.
manufacture, placing on the market and use of certain	
dangerous substances,	
mixtures and articles	
Special packaging requirements	
Containers to be fitted with	Not applicable.
Containers to be fitted with child-resistant fastenings	

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not None known. result in classification

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Mixture

			<u>Classification</u>	
Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Туре
Kodium carbonate	REACH #: 01-2119485498-19 EC: 207-838-8 CAS: 497-19-8 Index: 011-005-00-2	3 - 7	Eye Irrit. 2, H319 See Section 16 for the full text of the H statements declared above.	[1]

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, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Article Number 25006549-4



Page: 2/9 Validation date 28 April 2021 Version 5 **Type** [7] Substance classified with a physical, health or environmental hazard

[2] Substance with a workplace exposure limit

- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

[6] Additional disclosure due to company policy

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

SECTION 4: First aid measures

4.1 Description of 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.
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.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

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

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment.
See toxicological information (Section 11)	

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	Decomposition products may include the following materials: carbon dioxide carbon monoxide metal oxide/oxides
5.3 Advice for firefighters	
Special precautions 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.





SECTION 6: Accidental release measures

6.1 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 spilt material. Put on appropriate personal protective equipment.	
For emergency responders	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".	
6.2 Environmental precautions	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).	
6.3 Methods and material 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. Dispose of via a licensed waste disposal contractor.	
6.4 Reference to other sections	See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.	

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 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.	
7.2 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.	
7.3 Specific end use(s)		
Recommendations	Knalytical chemistry. Laboratory chemicals. Scientific research and development.	
Industrial sector specific solutions	Not available.	

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario (s).

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous
	substances will also be required.

DNELs/DMELs

Product/ingredient name	Туре	Exposure	Value	Population	Effects
sodium carbonate	DNEL DNEL	Short term Inhalation Long term Inhalation	0	General population Workers	Local Local

PNECs

8.2 Exposure controls	
Appropriate engineering controls	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
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.
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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<u>Appearance</u>	
Physical state	Liquid.
Colour	Colourless.
Odour	Not available.
Odour threshold	Not available.
рН	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	Not available.
Partition coefficient: n-octanol/ water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture.
Oxidising properties	Not available.
9.2 Other information	
Burning time	Not applicable.



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Burning rate	Not applicable.
Solubility in water	Not available.

SECTION 10: Stability and reactivity

10.1 Reactivity	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	The product is stable.
10.3 Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	No specific data.
10.4 Conditions to avoid 10.5 Incompatible materials	No specific data. No specific data.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
odium carbonate	LD50 Oral	Rat	4090 mg/kg	-
Conclusion/Summary	Not available.	•		

Conclusion/Summary

Acute toxicity estimates

Product/ingredient name		Oral (mg/ kg)	Dermal (mg/kg)	Inhalation (gases)	Inhalation (vapours)	Inhalation (dusts and
				(ppm)	(mg/l)	mists) (mg/ I)
sodium carbonate		4090	N/A	N/A	N/A	N/A
Irritation/Corrosion						
Conclusion/Summary	Not available.					
<u>Sensitisation</u>						
Conclusion/Summary	Not available.					
Mutagenicity						
Conclusion/Summary	Not available.					
Carcinogenicity						
Conclusion/Summary	Not available.					
Reproductive toxicity						
Conclusion/Summary	Not available.					
Teratogenicity						
Conclusion/Summary	Not available.					
<u>Specific target organ toxicity (s</u>	<u>ingle exposure)</u>					
Not available.						
Specific target organ toxicity (re	epeated exposure)					
Not available.						
Aspiration hazard						
Not available.						
Information on likely routes of exposure	Routes of entry anticipate	ed: Oral, Derma	al, Inhalation.			
Potential acute health effects						
Inhalation	No known significant effe	ects or critical h	azards.			
Ingestion	No known significant effe	ects or critical h	azards.			
Skin contact	No known significant effe	ects or critical h	azards.			
Eye contact	No known significant effe	ects or critical h	azards.			
Symptoms related to the physic	al, chemical and toxicolo	gical characte	ristics			
Inhalation	No specific data.					
Ingestion	No specific data.					

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Skin contact	No specific data.	
Eye contact	No specific data.	
Delayed and immediate effects	as well as chronic effects from short and long-term exposure	
Short term exposure		
Potential immediate effects	Not available.	
Potential delayed effects	Not available.	
Long term exposure		
Potential immediate effects	Not available.	
Potential delayed effects	Not available.	
Potential chronic health effects		
Not available.		
Conclusion/Summary	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.	
Teratogenicity	No known significant effects or critical hazards.	
Developmental effects	No known significant effects or critical hazards.	
Fertility effects	No known significant effects or critical hazards.	
Other information	Not available.	

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Codium carbonate	Acute EC50 242000 µg/l Fresh water Acute LC50 176000 µg/l Fresh water Acute LC50 265000 µg/l Fresh water Acute LC50 300000 µg/l Fresh water	Algae - Navicula seminulum Crustaceans - Amphipoda Daphnia - Daphnia magna Fish - Lepomis macrochirus	96 hours 48 hours 48 hours 96 hours
Conclusion/Summary	Not available.		·

12.2 Persistence and degradability

Conclusion/Summary Not available.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (Koc) Not available.

Mobility Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal	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.
Hazardous waste	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

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Packaging

Methods of disposal

Special precautions

The generation of waste should be avoided or minimised wherever possible. 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	ΙΑΤΑ
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

14.6 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.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

SECTION 15: Regulatory information

Not available.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the Not applicable. manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Other EU regulations

Industrial emissions Not listed (integrated pollution prevention and control) - Air

Industrial emissions Not listed (integrated pollution prevention and control) -Water

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

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Chemical Weapon Convention	List Schedules I, II & III Chemicals		
Not listed.	Not listed.		
<u>Montreal Protocol (Annexes A,</u>	<u>B, C, E)</u>		
Not listed.			
Stockholm Convention on Pers	istent Organic Pollutants		
Not listed.	Not listed.		
Rotterdam Convention on Prior Informed Consent (PIC)			
Not listed.			
UNECE Aarhus Protocol on POPs and Heavy Metals			
Not listed.			
Inventory list			
Europe	Not determined.		
United States	All components are listed or exempted.		
Canada inventory	All components are listed or exempted.		
China	All components are listed or exempted.		
Japan	Vapan inventory (ENCS) : All components are listed or exempted. Japan inventory (ISHL): Not determined.		

15.2 Chemical safety assessment

SECTION 16: Other information

Indicates information that has changed from previously issued version.

CLF DM DN EU N/A PB PN RR	E = Acute Toxicity Estimate P = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] EL = Derived Minimal Effect Level EL = Derived No Effect Level H statement = CLP-specific Hazard statement a = Not available T = Persistent, Bioaccumulative and Toxic EC = Predicted No Effect Concentration N = REACH Registration Number /B = Very Persistent and Very Bioaccumulative
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This product contains substances for which Chemical Safety Assessments are still required.

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification			Justification
Not classified.			
Full text of abbreviated H statements	H319	Causes serious eye	irritation.
Full text of classifications [CLP/ GHS]	Eye Irrit. 2	, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Date of printing	28 April 20	021	
Date of issue/ Date of revision	28 April 20	021	
Date of previous issue	17 Januar	y 2020	
Version	5		

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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SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830 - United Kingdom (UK)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier		
Product name	•••	nt; part of 'ECL™ Direct Nucleic g and Detection System'
Catalogue Number	RPN3000	
Component Number	NIP552	
Product description	Not available.	
Product type	Solid.	
Other means of identification	Not available.	

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

Identified uses

Analytical chemistry. Laboratory chemicals Scientific research and development

1.3 Details of the supplier of the safety data sheet

Supp	<u>olier</u>
------	--------------

Cytiva Amersham Place Little Chalfont Buckinghamshire HP7 9NA United Kingdom +44 0800 515 313

Cytiva UK

Amersham Place

Little Chalfont Buckinghamshire HP7 9ŇA t: 0870 606 1921

Hours of operation 08.30 - 17.00

Person who prepared the MSDS : sds_author@cytiva.com

1.4 Emergency telephone number

Call INFOTRAC 24 Hour number: 001-352-323-3500 (Calll Collect).

National advisory body/Poison Centre

United Kingdom (UK)

United Kingdom (UK)

Health professionals should contact the National Poisons Information Service (NPIS) by telephone, or use TOXBASE www.toxbase.org.

NPIS http://www.npis.org/ advise that others seeking specific information on poisons should contact: In England and Wales: NHS Direct - 0845 4647 or 111 In Scotland: NHS 24 - 08454 24 24 24 In N Ireland: Contact your local GP or pharmacist during normal hours; click here (www. gpoutofhours.hscni.net/) for GP services Out-of-Hours.



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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Ingredients of unknown toxicity 100 percent of the mixture consists of component(s) of unknown acute oral toxicity 100 percent of the mixture consists of component(s) of unknown acute dermal toxicity 100 percent of the mixture consists of component(s) of unknown acute inhalation toxicity Ingredients of unknown Contains 100 % of components with unknown hazards to the aquatic environment

ecotoxicity

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements	
Hazard pictograms	
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.
Hazardous ingredients	
Supplemental label elements	Not applicable.
Annex XVII - Restrictions on the	Not applicable.
manufacture, placing on the market and use of certain	
dangerous substances,	
mixtures and articles Special packaging requirements	
Containers to be fitted with child-resistant fastenings	Not applicable.
Ū	
Tactile warning of danger	Not applicable.
2.3 Other hazards	
Broduct mosts the criteria for BBT	or vPvB according to Pogulation (EC) No. 19

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not None known. result in classification

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Mixture

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

- 1] Substance classified with a physical, health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy

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SECTION 4: First aid measures

4.1 Description of 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.
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.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

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

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.	
Specific treatments	No specific treatment.	
See toxicological information (Section 11)		

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media None known.

5.2 Special hazards arising from the substance or mixture

eiz opeeiai nazarae aneing ne	
Hazards from the substance or mixture	No specific fire or explosion hazard.
Hazardous combustion products	No specific data.
5.3 Advice for firefighters	
Special precautions 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 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 spilt material. Put on appropriate personal protective equipment.	
For emergency responders	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".	
6.2 Environmental precautions	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).	
6.3 Methods and material for containment and cleaning up		
Small spill	Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.	
Large spill	Move containers from spill area. Prevent entry into sewers, water courses, basements or confined	

of via a licensed waste disposal contractor.

areas. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose

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6.4 Reference to other	See Section 1 for emergency contact information.
sections	See Section 8 for information on appropriate personal protective equipment.
	See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 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.	
7.2 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.	
7.3 Specific end use(s)		
Recommendations	Knalytical chemistry. Laboratory chemicals. Scientific research and development.	
Industrial sector specific solutions	Not available.	

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario (s).

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DELs available.

PNECs

No PECs available.

8.2 Exposure controls

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

 Individual protection measures
 Weah handa, forcerrea and face thereughly after handling chemical products, hefere esting.

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.



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Other skin protection	Appropriate footwear and any additional skin protection measures should be select task being performed and the risks involved and should be approved by a specialis handling this product.	
Respiratory protection	Based on the hazard and potential for exposure, select a respirator that meets the a standard or certification. Respirators must be used according to a respiratory prote ensure proper fitting, training, and other important aspects of use.	
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure with the requirements of environmental protection legislation. In some cases, fume filters or engineering modifications to the process equipment will be necessary to re to acceptable levels.	scrubbers,

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<u>Appearance</u>	
Physical state	Solid.
Colour	White.
Odour	Odourless.
Odour threshold	Not available.
рН	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	[Product does not sustain combustion.]
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	Not available.
Partition coefficient: n-octanol/ water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not available.
9.2 Other information	
Burning time	Not available.
Burning rate	Not available.
Solubility in water	Not available.

SECTION 10: Stability and reactivity

10.1 Reactivity 10.2 Chemical stability 10.3 Possibility of hazardous reactions	No specific test data related to reactivity available for this product or its ingredients. The product is stable. Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	No specific data.
10.5 Incompatible materials	No specific data.
10.6 Hazardous	Under normal conditions of storage and use, hazardous decomposition products should not be
decomposition products	produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity	
Conclusion/Summary	Not available.
Acute toxicity estimates	
N/A	

Irritation/Corrosion	
Conclusion/Summary	Not available.
Sensitisation	
Conclusion/Summary	Not available.
Mutagenicity	
Conclusion/Summary	Not available.
Carcinogenicity	
Conclusion/Summary	Not available.
Reproductive toxicity	
Conclusion/Summary	Not available.
Teratogenicity	
Conclusion/Summary	Not available.
Specific target organ toxicity (single exposure)	

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Skin contact

Not available.

Information on likely routes of exposure	Routes of entry anticipated: Oral, Dermal, Inhalation.
Potential acute health effects	

InhalationNo known significant effects or critical hazards.IngestionNo known significant effects or critical hazards.Skin contactNo known significant effects or critical hazards.Eye contactNo known significant effects or critical hazards.Symptoms related to the physical, chemical and toxicological characteristicsInhalationNo specific data.IngestionNo specific data.

No specific data.

	•
Eye contact	No specific data.
Delayed and immediate effects	as well as chronic effects from short and long-term exposure
Short term exposure	
Potential immediate effects	Not available.
Potential delayed effects	Not available.
Long term exposure	

Potential immediate effects Not available.

Potential delayed effects Not available.

Potential chronic health effects

Not available.

Conclusion/Summary	Not available.
General	No known significant effects or critical hazards.
Carcinogenicity	No known significant effects or critical hazards.

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Blocking Agent; part of 'ECL'	Direct Nucleic Acid Labellin	ig and Detection System'

007	6 ,
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.
Other information	Not available.

SECTION 12: Ecological information

12.1 Toxicity

Conclusion/Summary Not available.

12.2 Persistence and degradability

Conclusion/Summary Not available.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (Koc) Not available.

Mobility

Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product	
Methods of disposal	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.
Hazardous waste	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.
Packaging	
Methods of disposal	The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
Special precautions	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 spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	ΙΑΤΑ
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

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14.6 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.
14.7 Transport in bulk	Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

Marpol and the IBC Code

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the Not applicable. manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Other EU regulations

Industrial emissions Not listed (integrated pollution prevention and control) - Air

Industrial emissions Not listed (integrated pollution prevention and control) -Water

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

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

Europe	Not determined.
United States	Not determined.
Canada inventory	Not determined.
China	Not determined.
Japan	Japan inventory (ENCS): Not determined. Japan inventory (ISHL): Not determined.
15.2 Chemical safety assessment	This product contains substances for which Chemical Safety Assessments are still required.



SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms	ATE = Acute Toxicity Estimate
-	CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
	DMEL = Derived Minimal Effect Level
	DNEL = Derived No Effect Level
	EUH statement = CLP-specific Hazard statement
	N/A = Not available
	PBT = Persistent, Bioaccumulative and Toxic
	PNEC = Predicted No Effect Concentration
	RRN = REACH Registration Number
	vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification Not classified.		Justification
Full text of classifications [CLP/ GHS]	Not applicable.	
Date of printing	28 April 2021	
Date of issue/ Date of revision	28 April 2021	
Date of previous issue	17 January 2020	
Version	4	
Notice to reader		
To the best of our knowledge, the i	nformation contained herein is a	ccurate However neither the above-named supplier nor any of its

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.



SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830 - United Kingdom (UK)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier Product name	•	le; part of 'ECL™ direct nucleic
Catalogue Number	RPN3000	and detection system'
Component Number	NIF820	, , , , , , , , , , , , , , , , , , ,
Product description	Not available.	
Product type	Liquid.	
Other means of identification	Not available.	

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

Identified uses

Analytical chemistry. Laboratory chemicals Scientific research and development

1.3 Details of the supplier of the safety data sheet

<u>Sup</u>	<u>plier</u>
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Cytiva Amersham Place Little Chalfont Buckinghamshire HP7 9NA United Kingdom +44 0800 515 313

Cytiva UK

Amersham Place

Little Chalfont Buckinghamshire HP7 9NA t: 0870 606 1921 Hours of operation 08.30 - 17.00

Person who prepared the MSDS : sds author@cytiva.com

1.4 Emergency telephone number

Call INFOTRAC 24 Hour number: 001-352-323-3500 (Calll Collect).

National advisory body/Poison Centre

United Kingdom (UK)

United Kingdom (UK)

Health professionals should contact the National Poisons Information Service (NPIS) by telephone, or use TOXBASE www.toxbase.org .

NPIS http://www.npis.org/ advise that others seeking specific information on poisons should contact: In England and Wales: NHS Direct - 0845 4647 or 111 In Scotland: NHS 24 - 08454 24 24 24 In N Ireland: Contact your local GP or pharmacist during normal hours; click here (www. gpoutofhours.hscni.net/) for GP services Out-of-Hours.



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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

 Kin Irrit. 2, H315

 Eye Irrit. 2, H319

 Resp. Sens. 1, H334

 Skin Sens. 1, H317

 STOT SE 3, H335

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Ingredients of unknown toxicity 1.5 percent of the mixture consists of component(s) of unknown acute dermal toxicity

Ingredients of unknown Not applicable. ecotoxicity

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms



Signal word	Danger
Hazard statements	Causes serious eye irritation. Causes skin irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause respiratory irritation.
Precautionary statements	
Prevention	$\overline{\mathbf{W}}$ ear protective gloves. Wear eye or face protection. Avoid breathing vapour.
Response	F INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or physician.
Storage	Store locked up.
Disposal	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients	glutaral
Supplemental label elements	Not applicable.

Annex XVII - Restrictions on the Not applicable. manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Special packaging requirements

Containers to be fitted with Not applicable. child-resistant fastenings

Tactile warning of danger Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not None known. result in classification



SECTION 3: Composition/information on ingredients

3.2 Mixtures Mixture

			<u>Classification</u>	
Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Туре
giutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	1.5	Acute Tox. 3, H301 Acute Tox. 2, H330 Skin Corr. 1B, H314 Resp. Sens. 1, H334 Skin Sens. 1A, H317 STOT SE 3, H335 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 2, H411 EUH071 See Section 16 for the full text of the H statements declared above.	[1] [2]

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, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

Substance classified with a physical, health or environmental hazard
 Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

[6] Additional disclosure due to company policy

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

SECTION 4: First aid measures

4.1 Description of 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. Continue to rinse for at least 10 minutes. Get medical attention.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. 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 the event of any complaints or symptoms, avoid further exposure.
Skin contact	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 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 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.
Protection of first-aiders	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.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact	Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	Adverse symptoms may include the following: respiratory tract irritation coughing wheezing and breathing difficulties asthma

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	t nucleic acid labelling and detection system' RPN3
Skin contact	Adverse symptoms may include the following: irritation redness
Ingestion	No specific data.
4.2 Indication of any immediat	a madiaal attention and anapial tractment meaded
-	e medical attention and special treatment needed
Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment.
See toxicological information (Sec	tion 11)
SECTION 5: Firefighting	measures
5.1 Extinguishing media	
Suitable extinguishing media	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	None known.
5.2 Special hazards arising fro	m the substance or mixture
Hazards from the substance or mixture	$ m f\!h$ a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	Decomposition products may include the following materials: carbon dioxide
producto	carbon monoxide
5.3 Advice for firefighters	
Special precautions for fire- fighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a firm 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 apparat (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
SECTION 6: Accidental r	elease measures
6.1 Personal precautions, prot	ective 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 o walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For omergency responders	If specialised clothing is required to deal with the spillage, take note of any information in Section

For emergency respondersIf 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".6.2 EnvironmentalKvoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

precautions Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material 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. 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. 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.
6.4 Reference to other sections	See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

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Glutaraldehyde; part of 'ECL™ direc	t nucleic acid labelling and detection system'	RPN3000
Protective measures	Put on appropriate personal protective equipment (see Section 8). Persons with a histor sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease sh be employed in any process in which this product is used. Do not get in eyes or on skin Do not ingest. Avoid breathing vapour or mist. Use only with adequate ventilation. We appropriate respirator when ventilation is inadequate. Keep in the original container or a approved alternative made from a compatible material, kept tightly closed when not in us containers retain product residue and can be hazardous. Do not reuse container.	nould not or clothing. ar an
Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handle and processed. Workers should wash hands and face before eating, drinking and smok Remove contaminated clothing and protective equipment before entering eating areas. Section 8 for additional information on hygiene measures.	king.
7.2 Conditions for safe storage	e, including any incompatibilities	
	Store in accordance with local regulations. Store in original container protected from dir in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10 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 preven Do not store in unlabelled containers. Use appropriate containment to avoid environment contamination. See Section 10 for incompatible materials before handling or use.	D) and food a. nt leakage.
7.3 Specific end use(s)		
Recommendations	Knalytical chemistry. Laboratory chemicals. Scientific research and development.	
Industrial sector specific solutions	Not available.	

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario (s).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name		Exposure limit values		
ğlutaral		EH40/2005 WELs (United Kingdom (UK), 8/2018). Inhalation sensitiser. STEL: 0.2 mg/m ³ 15 minutes. STEL: 0.05 ppm 15 minutes. TWA: 0.2 mg/m ³ 8 hours. TWA: 0.05 ppm 8 hours.		
Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmospl biological monitoring may be required to determine the effectiveness of the ventilatio control measures and/or the necessity to use respiratory protective equipment. Refe be made to monitoring standards, such as the following: European Standard EN 685 atmospheres - Guidance for the assessment of exposure by inhalation to chemical ar comparison with limit values and measurement strategy) European Standard EN 144 (Workplace atmospheres - Guide for the application and use of procedures for the as exposure to chemical and biological agents) European Standard EN 482 (Workplace - General requirements for the performance of procedures for the measurement of ch Reference to national guidance documents for methods for the determination of haza substances will also be required.			

DNELs/DMELs

Product/ingredient name	Туре	Exposure	Value	Population	Effects
glutaral		5	J.	Workers Workers	Local Local

PNECs

No PECs available.

8.2 Exposure controls

Appropriate engineering controls	Use only with adequate ventilation. 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.
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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
Skin protection	

Glutaraldehyde; part of 'ECL™ direct nucleic acid labelling and detection system'

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.
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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<u>Appearance</u>	
Physical state	Liquid.
Colour	Colourless.
Odour	Not available.
Odour threshold	Not available.
рН	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/ water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not available.
9.2 Other information	
Burning time	Not applicable.
Burning rate	Not applicable.
Solubility in water	Not available.

SECTION 10: Stability and reactivity

10.1 Reactivity	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	The product is stable.
10.3 Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	No specific data.
10.5 Incompatible materials	No specific data.



10.6 Hazardous Under normal conditions of storage and use, hazardous decomposition products should not be produced. decomposition products

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
glutaral	LC50 Inhalation Vapour LD50 Oral	Rat Rat	480 mg/m³ 134 mg/kg	4 hours -
Conclusion/Summary	Not available.			

Conclusion/Summary

Acute toxicity estimates

Product/ingredient name	Oral (mg/ kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/ I)
Glutaraldehyde - NIF820 - GROUP	8933.3	N/A	N/A	33.3	N/A
glutaral	134	N/A	N/A	0.5	N/A

Irritation/Corrosion	
Conclusion/Summary	Not available.
Sensitisation	
Conclusion/Summary	Not available.
<u>Mutagenicity</u>	
Conclusion/Summary	Not available.
Carcinogenicity	
Conclusion/Summary	Not available.
Reproductive toxicity	
Conclusion/Summary	Not available.
Teratogenicity	
Conclusion/Summary	Not available.
Specific target organ toxicity (si	ingle exposure)

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
glutaral	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

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

Potential acute health effects

Inhalation	May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Ingestion	No known significant effects or critical hazards.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Symptoms related to the	e physical, chemical and toxicological characteristics
Inhalation	Adverse symptoms may include the following: respiratory tract irritation coughing wheezing and breathing difficulties asthma
Ingestion	No specific data.
Skin contact	Adverse symptoms may include the following: irritation



redness

Gutaraldehyde; part of 'ECL™ dire		PN3000
Eye contact	Adverse symptoms may include the following: pain or irritation watering	
Delawed and immediate offers	redness	
	as well as chronic effects from short and long-term exposure	
Short term exposure		
Potential immediate effects	Not available.	
Potential delayed effects	Not available.	
Long term exposure		
Potential immediate effects	Not available.	
Potential delayed effects	Not available.	
Potential chronic health effects		
Not available.		
Conclusion/Summary	Not available.	
General	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very lo levels.	W
Carcinogenicity	No known significant effects or critical hazards.	
Mutagenicity	No known significant effects or critical hazards.	
Teratogenicity	No known significant effects or critical hazards.	
Developmental effects	No known significant effects or critical hazards.	
Fertility effects	No known significant effects or critical hazards.	
Other information	Not available.	

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
glutaral	Acute EC50 14.6 ppm Fresh water Acute LC50 5.4 ppm Fresh water	Daphnia - Daphnia magna Fish - Pimephales promelas	48 hours 96 hours
Conclusion/Summary	Not available.		

12.2 Persistence and degradability

Conclusion/Summary

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
glutaral	-	-	Not readily

12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
glutaral	-0.36	-	low

12.4 Mobility in soil

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

Mobility Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Not available.

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



SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product	
Methods of disposal	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.
Hazardous waste	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.
Packaging	
Methods of disposal	The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
Special precautions	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

	ADR/RID	ADN	IMDG	ΙΑΤΑ
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

14.6 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.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the Not applicable. manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Other EU regulations

Article Number 25006549-5



Industrial emissions	Not listed
(integrated pollution	
prevention and control) - Air	

Industrial emissions Not listed (integrated pollution prevention and control) -Water

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals Not listed.

Montreal Protocol (Annexes A, B, C, E)

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

Europe	All components are listed or exempted.
United States	All components are listed or exempted.
Canada inventory	All components are listed or exempted.
China	All components are listed or exempted.
Japan	Japan inventory (ENCS) : All components are listed or exempted. Japan inventory (ISHL): Not determined.
15.2 Chemical safety assessment	This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms	ATE = Acute Toxicity Estimate CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level EUH statement = CLP-specific Hazard statement N/A = Not available PBT = Persistent, Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration RRN = REACH Registration Number vPvB = Very Persistent and Very Bioaccumulative
	VFVD - Very Fersistent and Very bloaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Kin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319 Resp. Sens. 1, H334	Calculation method Calculation method
Skin Sens. 1, H317	Calculation method
STOT SE 3, H335	Calculation method

Glutaraldehyde; part of 'ECL™ direct nucleic acid labelling and detection system'

	chaololo ao	la laboling and able	Journ a Jorenn	1.1.10
Full text of abbreviated H	<mark>H</mark> 301	Toxic if swallowed.		
statements	H314 H315 H317 H319 H330	Causes skin irritation May cause an aller Causes serious eye Fatal if inhaled.	gic skin reaction. e irritation.	
	H334 H335 H400 H411	May cause respirat Very toxic to aquati	5	
Full text of classifications [CLP/ GHS]	Acute Tox Aquatic Ac Aquatic Ch EUH071 Eye Irrit. 2 Resp. Sen Skin Corr. Skin Irrit. 2 Skin Sens	. 3, H301 cute 1, H400 nronic 2, H411 , H319 is. 1, H334 1B, H314 2, H315 . 1, H317 . 1A, H317	ACUTE TOXICITY (inhalation) - Category 2 ACUTE TOXICITY (oral) - Category 3 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 Corrosive to the respiratory tract. SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 RESPIRATORY SENSITISATION - Category 1 SKIN CORROSION/IRRITATION - Category 1 SKIN CORROSION/IRRITATION - Category 2 SKIN SENSITISATION - Category 1 SKIN SENSITISATION - Category 1 SKIN SENSITISATION - Category 1 SKIN SENSITISATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOS (Respiratory tract irritation) - Category 3	2
Date of printing	28 April 20)21		
Date of issue/ Date of revision	28 April 20)21		
Date of previous issue	17 Januar	y 2020		
Version	6			
Notice to meeter				

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.





SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830 - United Kingdom (UK)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier Product name		'ECL Direct™ nucleic acid etection system'
Catalogue Number	RPN3000	
Component Number	NIF107	
EC number	Not available.	
REACH Registration number		
Registratio	on number	Legal entity
Exempt from REACH: According and Annex IV of REACH	to the provisions of Article 2(7)(a)	-
CAS number	Not available.	
Product description	Not available.	
Product type	Liquid.	
Other means of identification	Not available.	

Identified uses

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

Analytical chemistry. Laboratory chemicals Scientific research and development

1.3 Details of the supplier of the safety data sheet

<u>Supplier</u>	Cytiva Amersham Place Little Chalfont Buckinghamshire HP7 9NA United Kingdom +44 0800 515 313	Hours of operation 08.30 - 17.00
	Person who prepared the MSDS :	sds_author@cytiva.com
		1.4 Emergency telephone number
United Kingdom (UK)	Cytiva UK Amersham Place Little Chalfont Buckinghamshire HP7 9NA t: 0870 606 1921	Call INFOTRAC 24 Hour number: 001-352-323-3500 (Calll Collect).



Water; part of 'ECL Direct™ nucleic acid labelling and detection system'

United Kingdom (UK)	Health professionals should contact the National Poisons Information Service (NPIS) by telephone, or use TOXBASE www.toxbase.org .
	NPIS http://www.npis.org/ advise that others seeking specific information on poisons should contact: In England and Wales: NHS Direct - 0845 4647 or 111 In Scotland: NHS 24 - 08454 24 24 In N Ireland: Contact your local GP or pharmacist during normal hours; click here (www. gpoutofhours.hscni.net/) for GP services Out-of-Hours.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition

Mono-constituent substance

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements					
Hazard pictograms					
Signal word	No signal word.				
Hazard statements	No known significant	t effects or crit	tical hazards.		
Precautionary statements	0				
Prevention	Not applicable.				
Response	Not applicable.				
Storage	Not applicable.				
Disposal	Not applicable.				
Supplemental label elements	Not applicable.				
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	Not applicable.				
Special packaging requirements	1				
Containers to be fitted with child-resistant fastenings	Not applicable.				
Tactile warning of danger	Not applicable.				
2.3 Other hazards					
Product meets the criteria for PBT Annex XIII	Γ or vPvB according	to Regulation	n (EC) No. 1907/2006,		
PBT P	В	т	vPvB	vP	vB
N/A N/A	N/A	N/A	N/A	N/A	N/A
Other hazards which do not result in classification	None known.				

SECTION 3: Composition/information on ingredients

3.1 Substances Mono-constituent substance

			<u>Classification</u>	
Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Туре
Water	REACH #: Annex IV EC: 231-791-2 CAS: 7732-18-5	100	Not classified.	[A]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.



Type

[A] Constituent [B] Impurity

[C] Stabilising additive

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	No special recommendations.
Inhalation	No special recommendations.
Skin contact	No special recommendations.
Ingestion	No special recommendations.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

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

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	No specific treatment.		
Specific treatments	No specific treatment.		
See toxicological information (Section 11)			

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	No specific data.
5.3 Advice for firefighters	
Special precautions 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 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 spilt material. Put on appropriate personal protective equipment.
For emergency responders	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".
6.2 Environmental precautions	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).
C 2 Matheda and material for a	enternment and cleaning up

6.3 Methods and material for containment and cleaning up

Small spillStop 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.



Water; part of 'ECL Direct™ nu	cleic acid labelling and detection system'	RPN3000
Large spill	Stop leak if without risk. Move containers from spill area. Prevent entry into basements or confined areas. Wash spillages into an effluent treatment pla follows. Contain and collect spillage with non-combustible, absorbent mate vermiculite or diatomaceous earth and place in container for disposal accord Dispose of via a licensed waste disposal contractor.	ant or proceed as erial e.g. sand, earth,
6.4 Reference to other sections	See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipmen See Section 13 for additional waste treatment information.	t.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

T.I Flecautions for sale nation	ing in the second se
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.
7.2 Conditions for safe storage	e, 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
7.3 Specific end use(s)	
Recommendations	Knalytical chemistry. Laboratory chemicals. Scientific research and development.
Industrial sector specific solutions	Not available.

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario (s).

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
DNELs/DMELs	
No DELs available.	
PNECs	
No PECs available.	
8.2 Exposure controls	
Appropriate engineering controls	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
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	

Article Number 25006549-3

Water; part of 'ECL Direct™ nucleic acid labelling and detection system'

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.		
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.		

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<u>Appearance</u>	
Physical state	Liquid.
Colour	Colourless.
Odour	Odourless.
Odour threshold	Not available.
рН	Not available.
Melting point/freezing point	O°C
Initial boiling point and boiling range	100°C
Flash point	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	1
Solubility(ies)	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/ water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not available.
9.2 Other information	
Burning time	Not applicable.
Burning rate	Not applicable.
Solubility in water	Not available.

SECTION 10: Stability and reactivity

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



SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity	
Conclusion/Summary	Not available.
N/A	

Irritation/Corrosion	
Conclusion/Summary	Not available.
Sensitisation	
Conclusion/Summary	Not available.
Mutagenicity	
Conclusion/Summary	Not available.
Carcinogenicity	
Conclusion/Summary	Not available.
Reproductive toxicity	
Conclusion/Summary	Not available.
Teratogenicity	
Conclusion/Summary	Not available.
Specific target organ toxicity (sin	ngle exposure)
Not available.	
Specific target organ toxicity (re	peated exposure)
Not available.	
Aspiration hazard	
Not available.	
Information on likely routes of exposure	Routes of entry anticipated: Oral, Dermal, Inhalation.
Potential acute health effects	
Inhalation	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Eye contact	No known significant effects or critical hazards.
Symptoms related to the physica	al, chemical and toxicological characteristics
Inhalation	No specific data.
Ingestion	No specific data.
Skin contact	No specific data.
Eye contact	No specific data.
Delayed and immediate effects a	s well as chronic effects from short and long-term exposure
Short term exposure	
Potential immediate effects	Not available.
Potential delayed effects	Not available.
Long term exposure	
Potential immediate effects	Not available.
Potential delayed effects	Not available.
Potential chronic health effects	
Not available.	
Conclusion/Summary	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.
	č

Article Number 25006549-3



SECTION 12: Ecological information

12.1 Toxicity

Conclusion/Summary Not available.

12.2 Persistence and degradability

Conclusion/Summary Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Water	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
Water	-1.38	-	low

12.4 Mobility in soil

Soil/water partition coefficient (Koc) Not available.

Mobility	Not availab	le.					
12.5 Results of PBT and vPvB as	sessment						
Product/ingredient name	PBT	Р	В	Т	vPvB	vP	vB
Water- NIF107 - GROUP	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12.6 Other adverse effects	No known s	No known significant effects or critical hazards.					

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product	
Methods of disposal	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.
Hazardous waste	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.
Packaging	
Methods of disposal	The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
Special precautions	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 spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-



Water; part of 'ECL Direct™ nucleic acid labelling and detection system'

RPN3000

14.5 Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

14.6 Special precautions
for userTransport 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.

14.7 Transport in bulk Not available. according to Annex II of Marpol and the IBC Code

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the Not applicable. manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Other EU regulations

Industrial emissions Not listed (integrated pollution prevention and control) - Air

Industrial emissions Not listed (integrated pollution prevention and control) -Water

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

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Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Europe	All components are listed or exempted.
United States	All components are listed or exempted.
Canada inventory	All components are listed or exempted.
China	All components are listed or exempted.
Japan	Japan inventory (ENCS): All components are listed or exempted. Japan inventory (ISHL): Not determined.

Article Number 25006549-3



Water; part of 'ECL Direct™ nucleic acid labelling and detection system'

15.2 Chemical safety This product contains substances for which Chemical Safety Assessments are still required. **assessment**

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms	ATE = Acute Toxicity Estimate CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level EUH statement = CLP-specific Hazard statement
	N/A = Not available
	PBT = Persistent, Bioaccumulative and Toxic
	PNEC = Predicted No Effect Concentration
	RRN = REACH Registration Number
	vPvB = Very Persistent and Very Bioaccumulative
Procedure used to derive the cla	ssification according to Regulation (EC) No. 1272/2008 ICL P/GHS1

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification		Justification
Not classified.		
Full text of abbreviated H statements	Not applicable.	·
Full text of classifications [CLP/ GHS]	Not applicable.	
Date of printing	28 April 2021	
Date of issue/ Date of revision	28 April 2021	
Date of previous issue	17 January 2020	
Version	4	
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.



SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830 - United Kingdom (UK)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

ECL[™] direct nucleic acid labelling and detection system

0 R P N 3 0 0

Catalogue Number	RPN3000	
Product description	Not available.	

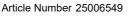
Product type L Other means of identification

Not available. Liquid. Not available.

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

1.2 Kelevant luentineu use	s of the substance of mixture and	uses auviseu agailist
Knalytical chemistry. Laboratory chemicals Scientific research and develo	Identified	uses
1.3 Details of the supplier	of the safety data sheet	
<u>Supplier</u>	Cytiva Amersham Place Little Chalfont Buckinghamshire HP7 9NA United Kingdom +44 0800 515 313	Hours of operation 08.30 - 17.00
	Person who prepar	ed the MSDS : sds_author@cytiva.com
		1.4 Emergency telephone number
United Kingdom (UK)	Cytiva UK Amersham Place Little Chalfont Buckinghamshire HP7 9NA t: 0870 606 1921	Call INFOTRAC 24 Hour number: 001-352-323-3500 (Calll Collect).
National advisory body/Poiso	on Centre	
United Kingdom (UK)	Health professionals should contact the National Poisons Information Service (NPIS) by telephone, or use TOXBASE www.toxbase.org.	

NPIS http://www.npis.org/ advise that others seeking specific information on poisons should contact: In England and Wales: NHS Direct - 0845 4647 or 111 In Scotland: NHS 24 - 08454 24 24 24 In N Ireland: Contact your local GP or pharmacist during normal hours; click here (www. gpoutofhours.hscni.net/) for GP services Out-of-Hours.





Page: 1/11 Validation date 28 April 2021 Version 5

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

 Kin Irrit. 2, H315

 Eye Irrit. 2, H319

 Resp. Sens. 1, H334

 Skin Sens. 1, H317

 STOT SE 3, H335

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Ingredients of unknown toxicity 1.5 percent of the mixture consists of component(s) of unknown acute dermal toxicity

Ingredients of unknown Not applicable. ecotoxicity

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms



Signal word	Danger
Hazard statements	Causes serious eye irritation. Causes skin irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause respiratory irritation.
Precautionary statements	
Prevention	$oldsymbol{\overline{W}}$ ear protective gloves. Wear eye or face protection. Avoid breathing vapour.
Response	F INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or physician.
Storage	Store locked up.
Disposal	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients	glutaral
Supplemental label elements	Not applicable.

Annex XVII - Restrictions on the Not applicable. manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Special packaging requirements

Containers to be fitted with Not applicable. child-resistant fastenings

Tactile warning of danger Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not None known. result in classification



SECTION 3: Composition/information on ingredients

3.2 Mixtures Mixture

			<u>Classification</u>	
Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Туре
ថ្មីlutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X		Acute Tox. 3, H301 Acute Tox. 2, H330 Skin Corr. 1B, H314 Resp. Sens. 1, H334 Skin Sens. 1A, H317 STOT SE 3, H335 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 2, H411 EUH071 See Section 16 for the full text of the H statements declared above.	[1] [2]

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, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

Substance classified with a physical, health or environmental hazard
 Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

[6] Additional disclosure due to company policy

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

SECTION 4: First aid measures

4.1 Description of 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. Continue to rinse for at least 10 minutes. Get medical attention.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. 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 the event of any complaints or symptoms, avoid further exposure.
Skin contact	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 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 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.
Protection of first-aiders	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.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact	Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	Adverse symptoms may include the following: respiratory tract irritation coughing wheezing and breathing difficulties asthma



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Skin contact	Adverse symptoms may include the following: irritation redness
Ingestion	No specific data.
4.3 Indication of any immediat	e medical attention and special treatment needed
Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment.
See toxicological information (Sec	stion 11)
SECTION 5: Firefighting	measures
5.1 Extinguishing media	
Suitable extinguishing media	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	None known.
5.2 Special hazards arising fro	om the substance or mixture
Hazards from the substance or mixture	${ m f\!h}$ a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	Decomposition products may include the following materials: carbon dioxide
products	carbon monoxide
5.3 Advice for firefighters	
Special precautions 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
SECTION 6: Accidental r	elease measures
6.1 Personal precautions, pro	tective 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 spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear

	walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	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".
6.2 Environmental precautions	Kvoid 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).
6.3 Methods and material for	containment and cleaning up

6.3 Methods and material 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. 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. 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.
6.4 Reference to other sections	See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling



ECL[™] direct nucleic acid labelling and detection system

LOL direct indefete acid labeling a		10000
Protective measures	Put on appropriate personal protective equipment (see Section 8). Persons with a history of sk sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease should no be employed in any process in which this product is used. Do not get in eyes or on skin or cloth Do not ingest. Avoid breathing vapour or mist. 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. Emcontainers retain product residue and can be hazardous. Do not reuse container.	ot ning.
Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, store and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See als Section 8 for additional information on hygiene measures.	
7.2 Conditions for safe storage	e, including any incompatibilities	
	Store in accordance with local regulations. Store in original container protected from direct sum in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and f 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 leaka Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.	food
7.3 Specific end use(s)		
Recommendations	Analytical chemistry. Laboratory chemicals. Scientific research and development.	
Industrial sector specific solutions	Not available.	

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario (s).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name		Exposure limit values		
ğlutaral		EH40/2005 WELs (United Kingdom (UK), 8/2018). Inhalation sensitiser. STEL: 0.2 mg/m ³ 15 minutes. STEL: 0.05 ppm 15 minutes. TWA: 0.2 mg/m ³ 8 hours. TWA: 0.05 ppm 8 hours.		
Recommended monitoring procedures	biological monitoring control measures ar be made to monitori atmospheres - Guid comparison with lim (Workplace atmospl exposure to chemica - General requirement	ins ingredients with exposure limits, personal, workplace atmosphere or g may be required to determine the effectiveness of the ventilation or other nd/or the necessity to use respiratory protective equipment. Reference should ing standards, such as the following: European Standard EN 689 (Workplace ance for the assessment of exposure by inhalation to chemical agents for it values and measurement strategy) European Standard EN 14042 heres - Guide for the application and use of procedures for the assessment of al and biological agents) European Standard EN 482 (Workplace atmospheres ents for the performance of procedures for the measurement of chemical agents) al guidance documents for methods for the determination of hazardous b be required.		

DNELs/DMELs

Product/ingredient name	Туре	Exposure	Value	Population	Effects
glutaral		5	J.	Workers Workers	Local Local

PNECs

No PECs available.

8.2 Exposure controls

Appropriate engineering controls	Use only with adequate ventilation. 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.
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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
Skin protection	

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.	У
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.	C
Environmental exposure	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.

SECTION 9: Physical and chemical properties

controls

9.1 Information on basic physical and chemical properties

<u>Appearance</u>	
Physical state	Liquid.
Colour	Colourless.
Odour	Not available.
Odour threshold	Not available.
рН	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/ water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not available.
9.2 Other information	
Burning time	Not applicable.
Burning rate	Not applicable.
Solubility in water	Not available.

SECTION 10: Stability and reactivity

10.1 Reactivity	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	The product is stable.
10.3 Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	No specific data.
10.5 Incompatible materials	No specific data.



10.6 Hazardous Under normal conditions of storage and use, hazardous decomposition products should not be produced. decomposition products

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
glutaral	LC50 Inhalation Vapour LD50 Oral	Rat Rat	480 mg/m³ 134 mg/kg	4 hours -
Conclusion/Summary	Not available.			

Conclusion/Summary

Acute toxicity estimates

Product/ingredient name	Oral (mg/ kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/ I)
Glutaraldehyde - NIF820 - GROUP	8933.3	N/A	N/A	33.3	N/A
glutaral	134	N/A	N/A	0.5	N/A

Irritation/Corrosion	
Conclusion/Summary	Not available.
Sensitisation	
Conclusion/Summary	Not available.
<u>Mutagenicity</u>	
Conclusion/Summary	Not available.
Carcinogenicity	
Conclusion/Summary	Not available.
Reproductive toxicity	
Conclusion/Summary	Not available.
<u>Teratogenicity</u>	
Conclusion/Summary	Not available.
Specific target organ toxicity (si	nale exposure)

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
glutaral	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

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

Potential acute health effects

Inhalation	May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.			
Ingestion	No known significant effects or critical hazards.			
Skin contact	Causes skin irritation. May cause an allergic skin reaction.			
Eye contact	Causes serious eye irritation.			
Symptoms related to the physic	al, chemical and toxicological characteristics			
Inhalation	Adverse symptoms may include the following: respiratory tract irritation coughing wheezing and breathing difficulties asthma			
Ingestion	No specific data.			
Skin contact	Adverse symptoms may include the following: irritation			



redness

ECL™ direct nucleic acid labelling	and detection system	RPN3000
Eye contact	Adverse symptoms may include the following: pain or irritation watering redness	
Delayed and immediate effects	as well as chronic effects from short and long-term exposure	
Short term exposure		
Potential immediate effects	Not available.	
Potential delayed effects	Not available.	
Long term exposure		
Potential immediate effects	Not available.	
Potential delayed effects	Not available.	
Potential chronic health effects	2	
Not available.		
Conclusion/Summary	Not available.	
General	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very levels.	low
Carcinogenicity	No known significant effects or critical hazards.	
Mutagenicity	No known significant effects or critical hazards.	
Teratogenicity	No known significant effects or critical hazards.	
Developmental effects	No known significant effects or critical hazards.	
Fertility effects	No known significant effects or critical hazards.	
Other information	Not available.	

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
glutaral	Acute EC50 14.6 ppm Fresh water Acute LC50 5.4 ppm Fresh water	Daphnia - Daphnia magna Fish - Pimephales promelas	48 hours 96 hours
Conclusion/Summary	Not available.		

12.2 Persistence and degradability

Conclusion/Summary

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
glutaral	-	-	Not readily

12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
glutaral	-0.36	-	low

12.4 Mobility in soil

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

Mobility Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Not available.

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



SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product	
Methods of disposal	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.
Hazardous waste	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.
Packaging	
Methods of disposal	The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
Special precautions	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

	ADR/RID	ADN	IMDG	ΙΑΤΑ
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

14.6 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.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the Not applicable. manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Other EU regulations



Not listed

Industrial emissions Not listed (integrated pollution prevention and control) -Water

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals Not listed.

Montreal Protocol (Annexes A, B, C, E)

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

<u>inventory net</u>	
Europe	All components are listed or exempted.
United States	All components are listed or exempted.
Canada inventory	All components are listed or exempted.
China	All components are listed or exempted.
Japan	Japan inventory (ENCS) : All components are listed or exempted. Japan inventory (ISHL): Not determined.
15.2 Chemical safety assessment	This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms	ATE = Acute Toxicity Estimate CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level EUH statement = CLP-specific Hazard statement N/A = Not available PBT = Persistent, Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration RRN = REACH Registration Number vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Resp. Sens. 1, H334	Calculation method
Skin Sens. 1, H317	Calculation method
STOT SE 3, H335	Calculation method



ECL[™] direct nucleic acid labelling and detection system

ECL ^{IM} direct nucleic acid labelling a		n system		RPN30
Full text of abbreviated H	4301	Toxic if swallowed		
statements	H314 H315	Causes severe ski Causes skin irritati	in burns and eye damage.	
	H317	May cause an alle		
	H319	Causes serious ev		
	H330	Fatal if inhaled.		
	H334	j jj ji j		
	H335	May cause respira	5	
	H400	Very toxic to aquat		
	H411	•	e with long lasting effects.	
Full text of classifications [CLP/			ACUTE TOXICITY (inhalation) - Category 2	
GHS]	Acute Tox	cute 1, H400	ACUTE TOXICITY (oral) - Category 3 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category	1
		hronic 2, H411	LONG-TERM (ACOTE) AQUATIC HAZARD - Category	
	EUH071	10110 2, 11411	Corrosive to the respiratory tract.	y 2
	Eye Irrit. 2	, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2	
		ns. 1, H334	RESPIRATORY SENSITISATION - Category 1	
		1B, H314	SKIN CORROSION/IRRITATION - Category 1B	
	Skin Irrit. 2		SKIN CORROSION/IRRITATION - Category 2	
	Skin Sens	a. 1A, H317	SKIN SENSITISATION - Category 1 SKIN SENSITISATION - Category 1A	
	STOT SE		SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPO	SURF
	010102	0,11000	(Respiratory tract irritation) - Category 3	COLL
Date of printing	28 April 20)21		
Date of issue/ Date of revision	28 April 20)21		
Date of previous issue	15 Februa	ıry 2021		
Version	5			
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.





SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830 - United Kingdom (UK)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

ECL[™] direct nucleic acid labelling and detection system

0 R P N 3 0 0

Catalogue Number	RPN3000	
Product description	Not available.	

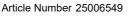
Product type L Other means of identification

Not available. Liquid. Not available.

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

1.2 Kelevant luentineu use	s of the substance of mixture and	uses auviseu agailist
Knalytical chemistry. Laboratory chemicals Scientific research and develo	Identified	uses
1.3 Details of the supplier	of the safety data sheet	
<u>Supplier</u>	Cytiva Amersham Place Little Chalfont Buckinghamshire HP7 9NA United Kingdom +44 0800 515 313	Hours of operation 08.30 - 17.00
	Person who prepar	ed the MSDS : sds_author@cytiva.com
		1.4 Emergency telephone number
United Kingdom (UK)	Cytiva UK Amersham Place Little Chalfont Buckinghamshire HP7 9NA t: 0870 606 1921	Call INFOTRAC 24 Hour number: 001-352-323-3500 (Calll Collect).
National advisory body/Poiso	on Centre	
United Kingdom (UK)	Health professionals should contact or use TOXBASE www.toxbase.org	the National Poisons Information Service (NPIS) by telephone,

NPIS http://www.npis.org/ advise that others seeking specific information on poisons should contact: In England and Wales: NHS Direct - 0845 4647 or 111 In Scotland: NHS 24 - 08454 24 24 24 In N Ireland: Contact your local GP or pharmacist during normal hours; click here (www. gpoutofhours.hscni.net/) for GP services Out-of-Hours.





Page: 1/11 Validation date 28 April 2021 Version 5

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

 Kin Irrit. 2, H315

 Eye Irrit. 2, H319

 Resp. Sens. 1, H334

 Skin Sens. 1, H317

 STOT SE 3, H335

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Ingredients of unknown toxicity 1.5 percent of the mixture consists of component(s) of unknown acute dermal toxicity

Ingredients of unknown Not applicable. ecotoxicity

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms



Signal word	Danger
Hazard statements	Causes serious eye irritation. Causes skin irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause respiratory irritation.
Precautionary statements	
Prevention	$oldsymbol{\overline{W}}$ ear protective gloves. Wear eye or face protection. Avoid breathing vapour.
Response	F INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or physician.
Storage	Store locked up.
Disposal	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients	glutaral
Supplemental label elements	Not applicable.

Annex XVII - Restrictions on the Not applicable. manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Special packaging requirements

Containers to be fitted with Not applicable. child-resistant fastenings

Tactile warning of danger Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not None known. result in classification



SECTION 3: Composition/information on ingredients

3.2 Mixtures Mixture

			<u>Classification</u>	
Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Туре
ថ្មីlutaral	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X		Acute Tox. 3, H301 Acute Tox. 2, H330 Skin Corr. 1B, H314 Resp. Sens. 1, H334 Skin Sens. 1A, H317 STOT SE 3, H335 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 2, H411 EUH071 See Section 16 for the full text of the H statements declared above.	[1] [2]

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, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

Substance classified with a physical, health or environmental hazard
 Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

[6] Additional disclosure due to company policy

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

SECTION 4: First aid measures

4.1 Description of 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. Continue to rinse for at least 10 minutes. Get medical attention.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. 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 the event of any complaints or symptoms, avoid further exposure.
Skin contact	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 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 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.
Protection of first-aiders	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.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact	Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	Adverse symptoms may include the following: respiratory tract irritation coughing wheezing and breathing difficulties asthma



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Skin contact	Adverse symptoms may include the following: irritation redness	
Ingestion	No specific data.	
4.3 Indication of any immediat	e medical attention and special treatment needed	
Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.	
Specific treatments	No specific treatment.	
See toxicological information (Sec	stion 11)	
SECTION 5: Firefighting	measures	
5.1 Extinguishing media		
Suitable extinguishing media	Use an extinguishing agent suitable for the surrounding fire.	
Unsuitable extinguishing media	None known.	
5.2 Special hazards arising fro	om the substance or mixture	
Hazards from the substance or mixture	${ m f\!h}$ a fire or if heated, a pressure increase will occur and the container may burst.	
Hazardous combustion products	Decomposition products may include the following materials: carbon dioxide	
products	carbon monoxide	
5.3 Advice for firefighters		
Special precautions 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.	
SECTION 6: Accidental r	elease measures	
6.1 Personal precautions, pro	tective 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 spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear	

	walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	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".
6.2 Environmental precautions	Kvoid 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).
6.3 Methods and material for	containment and cleaning up

6.3 Methods and material 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. 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. 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.
6.4 Reference to other sections	See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling



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LOL direct indefete acid labeling a		10000
Protective measures	Put on appropriate personal protective equipment (see Section 8). Persons with a history of sk sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease should no be employed in any process in which this product is used. Do not get in eyes or on skin or cloth Do not ingest. Avoid breathing vapour or mist. 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. Emcontainers retain product residue and can be hazardous. Do not reuse container.	ot ning.
Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, store and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See als Section 8 for additional information on hygiene measures.	
7.2 Conditions for safe storage	e, including any incompatibilities	
	Store in accordance with local regulations. Store in original container protected from direct sum in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and f 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 leaka Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.	food
7.3 Specific end use(s)		
Recommendations	Analytical chemistry. Laboratory chemicals. Scientific research and development.	
Industrial sector specific solutions	Not available.	

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario (s).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name		Exposure limit values	
glutaral		EH40/2005 WELs (United Kingdom (UK), 8/2018). Inhalation sensitiser. STEL: 0.2 mg/m ³ 15 minutes. STEL: 0.05 ppm 15 minutes. TWA: 0.2 mg/m ³ 8 hours. TWA: 0.05 ppm 8 hours.	
Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.		

DNELs/DMELs

Product/ingredient name	Туре	Exposure	Value	Population	Effects
glutaral		5	J.	Workers Workers	Local Local

PNECs

No PECs available.

8.2 Exposure controls

Appropriate engineering controls	Use only with adequate ventilation. 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.
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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
Skin protection	

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.	У
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.	C
Environmental exposure	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.

SECTION 9: Physical and chemical properties

controls

9.1 Information on basic physical and chemical properties

<u>Appearance</u>	
Physical state	Liquid.
Colour	Colourless.
Odour	Not available.
Odour threshold	Not available.
рН	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/ water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not available.
9.2 Other information	
Burning time	Not applicable.
Burning rate	Not applicable.
Solubility in water	Not available.

SECTION 10: Stability and reactivity

10.1 Reactivity	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	The product is stable.
10.3 Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	No specific data.
10.5 Incompatible materials	No specific data.



10.6 Hazardous Under normal conditions of storage and use, hazardous decomposition products should not be produced. decomposition products

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
glutaral	LC50 Inhalation Vapour LD50 Oral	Rat Rat	480 mg/m³ 134 mg/kg	4 hours -
Conclusion/Summary	Not available.			

Conclusion/Summary

Acute toxicity estimates

Product/ingredient name	Oral (mg/ kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/ I)
Glutaraldehyde - NIF820 - GROUP	8933.3	N/A	N/A	33.3	N/A
glutaral	134	N/A	N/A	0.5	N/A

Irritation/Corrosion	
Conclusion/Summary	Not available.
Sensitisation	
Conclusion/Summary	Not available.
<u>Mutagenicity</u>	
Conclusion/Summary	Not available.
Carcinogenicity	
Conclusion/Summary	Not available.
Reproductive toxicity	
Conclusion/Summary	Not available.
<u>Teratogenicity</u>	
Conclusion/Summary	Not available.
Specific target organ toxicity (si	nale exposure)

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
glutaral	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

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

Potential acute health effects

Inhalation	May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Ingestion	No known significant effects or critical hazards.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Symptoms related to the physic	al, chemical and toxicological characteristics
Inhalation	Adverse symptoms may include the following: respiratory tract irritation coughing wheezing and breathing difficulties asthma
Ingestion	No specific data.
Skin contact	Adverse symptoms may include the following: irritation



redness

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Eye contact	Adverse symptoms may include the following: pain or irritation watering redness	
Delayed and immediate effects	as well as chronic effects from short and long-term exposure	
Short term exposure		
Potential immediate effects	Not available.	
Potential delayed effects	Not available.	
Long term exposure		
Potential immediate effects	Not available.	
Potential delayed effects	Not available.	
Potential chronic health effects	2	
Not available.		
Conclusion/Summary	Not available.	
General	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very levels.	low
Carcinogenicity	No known significant effects or critical hazards.	
Mutagenicity	No known significant effects or critical hazards.	
Teratogenicity	No known significant effects or critical hazards.	
Developmental effects	No known significant effects or critical hazards.	
Fertility effects	No known significant effects or critical hazards.	
Other information	Not available.	

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
glutaral	Acute EC50 14.6 ppm Fresh water Acute LC50 5.4 ppm Fresh water	Daphnia - Daphnia magna Fish - Pimephales promelas	48 hours 96 hours
Conclusion/Summary	Not available.		

12.2 Persistence and degradability

Conclusion/Summary

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
glutaral	-	-	Not readily

12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
glutaral	-0.36	-	low

12.4 Mobility in soil

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

Mobility Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Not available.

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



SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product	
Methods of disposal	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.
Hazardous waste	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.
Packaging	
Methods of disposal	The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
Special precautions	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

	ADR/RID	ADN	IMDG	ΙΑΤΑ
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

14.6 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.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the Not applicable. manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Other EU regulations



Not listed

Industrial emissions Not listed (integrated pollution prevention and control) -Water

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals Not listed.

Montreal Protocol (Annexes A, B, C, E)

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

<u>inventory net</u>	
Europe	All components are listed or exempted.
United States	All components are listed or exempted.
Canada inventory	All components are listed or exempted.
China	All components are listed or exempted.
Japan	Japan inventory (ENCS) : All components are listed or exempted. Japan inventory (ISHL): Not determined.
15.2 Chemical safety assessment	This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms	ATE = Acute Toxicity Estimate CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level EUH statement = CLP-specific Hazard statement N/A = Not available PBT = Persistent, Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration RRN = REACH Registration Number vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Resp. Sens. 1, H334	Calculation method
Skin Sens. 1, H317	Calculation method
STOT SE 3, H335	Calculation method



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ECL ^{IM} direct nucleic acid labelling a		n system		RPN30
Full text of abbreviated H	4301	Toxic if swallowed		
statements	H314 H315	Causes severe ski Causes skin irritati	in burns and eye damage.	
	H317 May cause an allergic skin reaction.			
	H319	- 5		
	H330			
	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled		
	H335	May cause respira	,	
	H400	Very toxic to aquat		
	H411	•	e with long lasting effects.	
Full text of classifications [CLP/			ACUTE TOXICITY (inhalation) - Category 2	
GHS]	Acute Tox	cute 1, H400	ACUTE TOXICITY (oral) - Category 3 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category	1
		hronic 2, H411	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category	
	EUH071	10110 2, 11411	Corrosive to the respiratory tract.	<i>y </i>
	Eye Irrit. 2	, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2	
		ns. 1, H334	RESPIRATORY SENSITISATION - Category 1	
		1B, H314	SKIN CORROSION/IRRITATION - Category 1B	
	Skin Irrit. 2		SKIN CORROSION/IRRITATION - Category 2	
	Skin Sens	a. 1A, H317	SKIN SENSITISATION - Category 1 SKIN SENSITISATION - Category 1A	
	STOT SE		SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPO	SURE
	01010L	0,11000	(Respiratory tract irritation) - Category 3	OUNE
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Version	5			
Notice to reader				

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