

SAFETY DATA SHEET

miRNA Labeling Reagent and Hybridization Kit, Part Number 5190-0408

Section 1. Identification

Product identifier : miRNA Labeling Reagent and Hybridization Kit, Part Number 5190-0408

Part no. (chemical kit) : 5190-0408

Part no. : 10X GE Blocking Agent Lyophilized 5190-0415
 2X Hi-RPM Hybridization Buffer 5190-0416
 Cyanine 3-Cytidine Bisphosphate 5190-0408-P

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

Identified uses : Analytical reagent.
 10X GE Blocking Agent Lyophilized 125 µg
 2X Hi-RPM Hybridization Buffer 600 µl
 Cyanine 3-Cytidine Bisphosphate 27 µl

Supplier/Manufacturer : Agilent Technologies, Inc.
 5301 Stevens Creek Blvd
 Santa Clara, CA 95051, USA
 800-227-9770

Emergency telephone number (with hours of operation) : CHEMTREC®: 1-800-424-9300

Section 2. Hazard identification

Classification of the substance or mixture

Hi-RPM Hybridization

Buffer

H315 SKIN IRRITATION - Category 2
 H318 SERIOUS EYE DAMAGE - Category 1
 H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
 H400 AQUATIC HAZARD (ACUTE) - Category 1
 H411 AQUATIC HAZARD (LONG-TERM) - Category 2

GHS label elements

Hazard pictograms

: Hi-RPM Hybridization Buffer



Signal word

: 10X GE Blocking Agent Lyophilized No signal word.
 2X Hi-RPM Hybridization Buffer Danger
 Cyanine 3-Cytidine Bisphosphate No signal word.

Hazard statements

: 10X GE Blocking Agent Lyophilized No known significant effects or critical hazards.
 2X Hi-RPM Hybridization Buffer H315 - Causes skin irritation.
 H318 - Causes serious eye damage.
 H373 - May cause damage to organs through prolonged or repeated exposure.

Section 2. Hazard identification

H400 - Very toxic to aquatic life.
 H411 - Toxic to aquatic life with long lasting effects.
 No known significant effects or critical hazards.

Cyanine 3-Cytidine
 Bisphosphate

Precautionary statements

Prevention

: 10X GE Blocking Agent
 Lyophilized
 2X Hi-RPM Hybridization
 Buffer

Not applicable.

P280 - Wear protective gloves. Wear eye or face protection.
 P273 - Avoid release to the environment.
 P260 - Do not breathe vapor.
 P264 - Wash thoroughly after handling.
 Not applicable.

Response

Cyanine 3-Cytidine
 Bisphosphate

: 10X GE Blocking Agent
 Lyophilized
 2X Hi-RPM Hybridization
 Buffer

Not applicable.

P391 - Collect spillage.

P314 - Get medical advice or attention if you feel unwell.
 P362 + P364 - Take off contaminated clothing and wash it before reuse.
 P302 + P352 - IF ON SKIN: Wash with plenty of water.
 P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
 Not applicable.

Storage

Cyanine 3-Cytidine
 Bisphosphate

: 10X GE Blocking Agent
 Lyophilized
 2X Hi-RPM Hybridization
 Buffer

Not applicable.

Not applicable.

Disposal

Cyanine 3-Cytidine
 Bisphosphate

: 10X GE Blocking Agent
 Lyophilized
 2X Hi-RPM Hybridization
 Buffer

Not applicable.

P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
 Not applicable.

Supplemental label elements

Cyanine 3-Cytidine
 Bisphosphate

: 10X GE Blocking Agent
 Lyophilized
 2X Hi-RPM Hybridization
 Buffer

None known.

Cyanine 3-Cytidine
 Bisphosphate

None known.

2X Hi-RPM Hybridization
 Buffer

None known.

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment:
 15.9%

Section 2. Hazard identification

Other hazards which do not result in classification	: 10X GE Blocking Agent Lyophilized	None known.
	: 2X Hi-RPM Hybridization Buffer	None known.
	: Cyanine 3-Cytidine	None known.
	: Bisphosphate	

Section 3. Composition/information on ingredients

Substance/mixture	: 10X GE Blocking Agent Lyophilized	Substance
	: 2X Hi-RPM Hybridization Buffer	Mixture
	: Cyanine 3-Cytidine	Mixture
	: Bisphosphate	

Ingredient name	Synonyms	% (w/w)	CAS number
10X GE Blocking Agent Lyophilized			
DNA	10X GE Blocking Agent Lyophilized	100	-
2X Hi-RPM Hybridization Buffer			
Lithium chloride	Lithium chloride	≥10 - ≤30	7447-41-8
Lithium dodecyl sulphate	sulfuric acid, monododecyl ester, lithium salt	≥5 - ≤10	2044-56-6
Polyoxyethylene octyl phenyl ether	Triton X-100	≥5 - ≤10	9002-93-1
Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-[(trimethylsilyloxy)-1-disiloxanyl]propyl] ether	Methyloxirane	≥1 - ≤5	134180-76-0

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

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

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

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact	: 10X GE Blocking Agent Lyophilized	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	: 2X Hi-RPM Hybridization Buffer	Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.
	: Cyanine 3-Cytidine Bisphosphate	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get

Section 4. First-aid measures

Inhalation

: 10X GE Blocking Agent
Lyophilized

medical attention if irritation occurs.

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

2X Hi-RPM Hybridization
Buffer

Get medical attention immediately. Call a poison center or physician. 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. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Cyanine 3-Cytidine
Bisphosphate

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact

: 10X GE Blocking Agent
Lyophilized

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

2X Hi-RPM Hybridization
Buffer

Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of 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. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Cyanine 3-Cytidine
Bisphosphate

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion

: 10X GE Blocking Agent
Lyophilized

Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

2X Hi-RPM Hybridization
Buffer

Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention

Section 4. First-aid measures

Cyanine 3-Cytidine
Bisphosphate

immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	No known significant effects or critical hazards. Causes serious eye damage. No known significant effects or critical hazards.
Inhalation	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	No known significant effects or critical hazards. Causes skin irritation. No known significant effects or critical hazards.
Ingestion	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	No specific data. Adverse symptoms may include the following: pain watering redness No specific data.
Inhalation	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	No specific data. No specific data. No specific data.
Skin contact	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer	No specific data. Adverse symptoms may include the following: pain or irritation redness blistering may occur

Section 4. First-aid measures

	Cyanine 3-Cytidine Bisphosphate	No specific data.
Ingestion	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer	No specific data. Adverse symptoms may include the following: stomach pains
	Cyanine 3-Cytidine Bisphosphate	No specific data.

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

Notes to physician	: 10X GE Blocking Agent Lyophilized	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	2X Hi-RPM Hybridization Buffer	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	Cyanine 3-Cytidine Bisphosphate	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer	No specific treatment.
	Cyanine 3-Cytidine Bisphosphate	No specific treatment.
Protection of first-aiders	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer	No action shall be taken involving any personal risk or without suitable training. 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.
	Cyanine 3-Cytidine Bisphosphate	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer	Use an extinguishing agent suitable for the surrounding fire.
	Cyanine 3-Cytidine Bisphosphate	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer	None known.
	Cyanine 3-Cytidine Bisphosphate	None known.

Section 5. Fire-fighting measures

Specific hazards arising from the chemical	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer	No specific fire or explosion hazard.
Hazardous thermal decomposition products	Cyanine 3-Cytidine Bisphosphate : 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. In a fire or if heated, a pressure increase will occur and the container may burst. Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds metal oxide/oxides No specific data.
Special protective actions for fire-fighters	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	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. 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. 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	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: 10X GE Blocking Agent Lyophilized	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
	2X Hi-RPM Hybridization Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	Cyanine 3-Cytidine Bisphosphate	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
For emergency responders	: 10X GE Blocking Agent Lyophilized	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	2X Hi-RPM Hybridization Buffer	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Cyanine 3-Cytidine Bisphosphate	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	: 10X GE Blocking Agent Lyophilized	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	2X Hi-RPM Hybridization Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.
	Cyanine 3-Cytidine Bisphosphate	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Section 6. Accidental release measures

Methods for cleaning up	: 10X GE Blocking Agent Lyophilized	Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
	2X Hi-RPM Hybridization Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	Cyanine 3-Cytidine Bisphosphate	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	: 10X GE Blocking Agent Lyophilized	Put on appropriate personal protective equipment (see Section 8).
	2X Hi-RPM Hybridization Buffer	Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Advice on general occupational hygiene	Cyanine 3-Cytidine Bisphosphate	Put on appropriate personal protective equipment (see Section 8).
	: 10X GE Blocking Agent Lyophilized	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.
	2X Hi-RPM Hybridization Buffer	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.
	Cyanine 3-Cytidine Bisphosphate	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.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities	: 10X GE Blocking Agent Lyophilized	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	2X Hi-RPM Hybridization Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	Cyanine 3-Cytidine Bisphosphate	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Biological exposure indices

None known.

Appropriate engineering controls

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

Environmental exposure controls

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

Individual protection measures

Hygiene measures

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

Section 8. Exposure controls/personal protection

- 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.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties and safety characteristics

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

Appearance

- Physical state** : 10X GE Blocking Agent Lyophilized Solid. [lyophilised]
2X Hi-RPM Hybridization Buffer Liquid.
Cyanine 3-Cytidine Bisphosphate Liquid.
- Color** : 10X GE Blocking Agent Lyophilized Not available.
2X Hi-RPM Hybridization Buffer Not available.
Cyanine 3-Cytidine Bisphosphate Not available.
- Odor** : 10X GE Blocking Agent Lyophilized Not available.
2X Hi-RPM Hybridization Buffer Not available.
Cyanine 3-Cytidine Bisphosphate Not available.
- Odor threshold** : 10X GE Blocking Agent Lyophilized Not available.
2X Hi-RPM Hybridization Buffer Not available.
Cyanine 3-Cytidine Bisphosphate Not available.
- pH** :

Section 9. Physical and chemical properties and safety characteristics

Melting point/freezing point :

10X GE Blocking Agent Lyophilized	Not available.
2X Hi-RPM Hybridization Buffer	6.1
Cyanine 3-Cytidine Bisphosphate	Not available.

10X GE Blocking Agent Lyophilized	Not available.
2X Hi-RPM Hybridization Buffer	Not available.
Cyanine 3-Cytidine Bisphosphate	0°C (32°F)

Boiling point, initial boiling point, and boiling range :

10X GE Blocking Agent Lyophilized	Not available.
2X Hi-RPM Hybridization Buffer	Not available.
Cyanine 3-Cytidine Bisphosphate	100°C (212°F)

Flash point :

Ingredient name	Closed cup			Open cup		
	°C	°F	Method	°C	°F	Method
2X Hi-RPM Hybridization Buffer						
Polyoxyethylene octyl phenyl ether	251	483.8				

Evaporation rate :

10X GE Blocking Agent Lyophilized	Not available.
2X Hi-RPM Hybridization Buffer	Not available.
Cyanine 3-Cytidine Bisphosphate	Not available.

Flammability :

10X GE Blocking Agent Lyophilized	Not available.
2X Hi-RPM Hybridization Buffer	Not applicable.
Cyanine 3-Cytidine Bisphosphate	Not applicable.

Lower and upper explosion limit/flammability limit :

10X GE Blocking Agent Lyophilized	Not applicable.
2X Hi-RPM Hybridization Buffer	Not available.
Cyanine 3-Cytidine Bisphosphate	Not available.

Vapor pressure :

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
2X Hi-RPM Hybridization Buffer						
water	23.8	3.2		92.258	12.3	
Polyoxyethylene octyl phenyl ether	0.997581	0.13				

Section 9. Physical and chemical properties and safety characteristics

	Cyanine 3-Cytidine Bisphosphate					
	water	23.8	3.2		92.258	12.3

Relative vapor density : 10X GE Blocking Agent Lyophilized Not applicable.
 2X Hi-RPM Hybridization Buffer Not available.
 Cyanine 3-Cytidine Bisphosphate Not available.

Relative density : 10X GE Blocking Agent Lyophilized Not available.
 2X Hi-RPM Hybridization Buffer Not available.
 Cyanine 3-Cytidine Bisphosphate Not available.

Solubility(ies) :

Media	Result
<input checked="" type="checkbox"/> 10X GE Blocking Agent Lyophilized water	Soluble
<input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer water	Soluble
<input checked="" type="checkbox"/> Cyanine 3-Cytidine Bisphosphate methanol	Soluble
	Soluble
	Soluble
	Soluble

Partition coefficient: n-octanol/water : 10X GE Blocking Agent Lyophilized Not available.
 2X Hi-RPM Hybridization Buffer Not applicable.
 Cyanine 3-Cytidine Bisphosphate Not applicable.

Auto-ignition temperature :

Ingredient name	°C	°F	Method
<input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer			
Lithium dodecyl sulphate	366	690.8	

Decomposition temperature : 10X GE Blocking Agent Lyophilized Not available.
 2X Hi-RPM Hybridization Buffer Not available.
 Cyanine 3-Cytidine Bisphosphate Not available.

Viscosity : 10X GE Blocking Agent Lyophilized Not applicable.
 2X Hi-RPM Hybridization Buffer Not available.
 Cyanine 3-Cytidine Bisphosphate Not available.

Section 9. Physical and chemical properties and safety characteristics

Particle characteristics

Median particle size	: 10X GE Blocking Agent Lyophilized	Not available.
	2X Hi-RPM Hybridization Buffer	Not applicable.
	Cyanine 3-Cytidine Bisphosphate	Not applicable.

Section 10. Stability and reactivity

Reactivity	: 10X GE Blocking Agent Lyophilized	No specific test data related to reactivity available for this product or its ingredients.
	2X Hi-RPM Hybridization Buffer	No specific test data related to reactivity available for this product or its ingredients.
	Cyanine 3-Cytidine Bisphosphate	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: 10X GE Blocking Agent Lyophilized	The product is stable.
	2X Hi-RPM Hybridization Buffer	The product is stable.
	Cyanine 3-Cytidine Bisphosphate	The product is stable.
Possibility of hazardous reactions	: 10X GE Blocking Agent Lyophilized	Under normal conditions of storage and use, hazardous reactions will not occur.
	2X Hi-RPM Hybridization Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	Cyanine 3-Cytidine Bisphosphate	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: 10X GE Blocking Agent Lyophilized	No specific data.
	2X Hi-RPM Hybridization Buffer	No specific data.
	Cyanine 3-Cytidine Bisphosphate	No specific data.
Incompatible materials	: 10X GE Blocking Agent Lyophilized	May react or be incompatible with oxidizing materials.
	2X Hi-RPM Hybridization Buffer	May react or be incompatible with oxidizing materials.
	Cyanine 3-Cytidine Bisphosphate	May react or be incompatible with oxidizing materials.
Hazardous decomposition products	: 10X GE Blocking Agent Lyophilized	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	2X Hi-RPM Hybridization Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Cyanine 3-Cytidine Bisphosphate	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2X Hi-RPM Hybridization Buffer Lithium chloride	LC50 Inhalation Dusts and mists	Rat - Male, Female	>5.57 mg/l	4 hours
	LD50 Dermal	Rabbit	1629 mg/kg	-
	LD50 Dermal	Rat	1488 mg/kg	-
	LD50 Oral	Rat	526 mg/kg	-
	Lithium dodecyl sulphate	Rat	>5000 mg/kg	-
	Polyoxyethylene octyl phenyl ether	Rat	1800 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2X Hi-RPM Hybridization Buffer Lithium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Skin - Severe irritant	Rabbit	-	24 hours 500 mg	-
Polyoxyethylene octyl phenyl ether	Skin - Mild irritant	Rabbit	-	24 hours 500 uL	-

Sensitization

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)

Name	Category	Route of exposure	Target organs
2X Hi-RPM Hybridization Buffer Lithium chloride	Category 3	-	Respiratory tract irritation
Lithium dodecyl sulphate	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
2X Hi-RPM Hybridization Buffer Lithium chloride	Category 2	-	cardiovascular system, central nervous system (CNS), kidneys, thyroid

Section 11. Toxicological information

Aspiration hazard

Not available.

Information on the likely routes of exposure

: 10X GE Blocking Agent Lyophilized	Not available.
2X Hi-RPM Hybridization Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Cyanine 3-Cytidine Bisphosphate	Not available.

Potential acute health effects

Eye contact

: 10X GE Blocking Agent Lyophilized	No known significant effects or critical hazards.
2X Hi-RPM Hybridization Buffer	Causes serious eye damage.
Cyanine 3-Cytidine Bisphosphate	No known significant effects or critical hazards.

Inhalation

: 10X GE Blocking Agent Lyophilized	No known significant effects or critical hazards.
2X Hi-RPM Hybridization Buffer	No known significant effects or critical hazards.
Cyanine 3-Cytidine Bisphosphate	No known significant effects or critical hazards.

Skin contact

: 10X GE Blocking Agent Lyophilized	No known significant effects or critical hazards.
2X Hi-RPM Hybridization Buffer	Causes skin irritation.
Cyanine 3-Cytidine Bisphosphate	No known significant effects or critical hazards.

Ingestion

: 10X GE Blocking Agent Lyophilized	No known significant effects or critical hazards.
2X Hi-RPM Hybridization Buffer	No known significant effects or critical hazards.
Cyanine 3-Cytidine Bisphosphate	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

: 10X GE Blocking Agent Lyophilized	No specific data.
2X Hi-RPM Hybridization Buffer	Adverse symptoms may include the following: pain watering redness
Cyanine 3-Cytidine Bisphosphate	No specific data.

Inhalation

: 10X GE Blocking Agent Lyophilized	No specific data.
2X Hi-RPM Hybridization Buffer	No specific data.
Cyanine 3-Cytidine Bisphosphate	No specific data.

Section 11. Toxicological information

Skin contact	: 10X GE Blocking Agent Lyophilized	No specific data.
	2X Hi-RPM Hybridization Buffer	Adverse symptoms may include the following: pain or irritation redness blistering may occur
Ingestion	Cyanine 3-Cytidine Bisphosphate	No specific data.
	: 10X GE Blocking Agent Lyophilized	No specific data.
	2X Hi-RPM Hybridization Buffer	Adverse symptoms may include the following: stomach pains
	Cyanine 3-Cytidine Bisphosphate	No specific data.

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	: 10X GE Blocking Agent	No known significant effects or critical hazards.
	Lyophilized	
	2X Hi-RPM Hybridization Buffer	May cause damage to organs through prolonged or repeated exposure.
	Cyanine 3-Cytidine Bisphosphate	No known significant effects or critical hazards.
Carcinogenicity	: 10X GE Blocking Agent	No known significant effects or critical hazards.
	Lyophilized	
	2X Hi-RPM Hybridization Buffer	No known significant effects or critical hazards.
	Cyanine 3-Cytidine Bisphosphate	No known significant effects or critical hazards.
Mutagenicity	: 10X GE Blocking Agent	No known significant effects or critical hazards.
	Lyophilized	
	2X Hi-RPM Hybridization Buffer	No known significant effects or critical hazards.
	Cyanine 3-Cytidine Bisphosphate	No known significant effects or critical hazards.
Reproductive toxicity	: 10X GE Blocking Agent	No known significant effects or critical hazards.
	Lyophilized	
	2X Hi-RPM Hybridization Buffer	No known significant effects or critical hazards.
	Cyanine 3-Cytidine Bisphosphate	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
2X Hi-RPM Hybridization Buffer					
2X Hi-RPM Hybridization Buffer	2598.7	10804.4	N/A	565.6	23.1
Lithium chloride	526	1488	N/A	N/A	N/A
Lithium dodecyl sulphate	500	N/A	N/A	N/A	1.5
Polyoxyethylene octyl phenyl ether	1800	N/A	N/A	N/A	N/A
Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy]-1-disiloxanyl]propyl] ether	N/A	N/A	N/A	11	N/A

Other information	: <input checked="" type="checkbox"/> 2X GE Blocking Agent Lyophilized	Not available.
	: <input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer	Adverse symptoms may include the following: May cause skin sensitization.
	: <input type="checkbox"/> Cyanine 3-Cytidine Bisphosphate	Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
2X Hi-RPM Hybridization Buffer			
Lithium chloride	Acute EC50 112 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Acute EC50 249 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 17000 µg/l Fresh water	Fish - Ptychocheilus lucius - Swim-up	96 hours
	Acute NOEC 25 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Acute NOEC 63.4 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute NOEC 59.4 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Polyoxyethylene octyl phenyl ether	Acute LC50 5.85 mg/l Fresh water	Crustaceans - Ceriodaphnia rigaudi - Neonate	48 hours
	Acute LC50 11.2 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4500 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2X Hi-RPM Hybridization Buffer			
Lithium chloride	-	-	Readily
Lithium dodecyl sulphate	-	-	Readily
Polyoxyethylene octyl phenyl ether	-	-	Readily

Bioaccumulative potential

Section 12. Ecological information

Product/ingredient name	LogP _{ow}	BCF	Potential
2X Hi-RPM Hybridization Buffer Polyoxyethylene octyl phenyl ether	4.86	-	high

Mobility in soil

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

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

Section 13. Disposal considerations

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

Section 14. Transport information

TDG / IMDG / IATA : Not regulated.

Additional information

Remarks: De minimis quantities

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

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

Canadian lists

Canadian NPRI : The following components are listed: octylphenol and its ethoxylates

CEPA Toxic substances : None of the components are listed.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Section 15. Regulatory information

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia	: Not determined.
Canada	: Not determined.
China	: Not determined.
Eurasian Economic Union	: Russian Federation inventory : Not determined.
Japan	: Japan inventory (CSCL) : Not determined. Japan inventory (ISHL) : Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: Not determined.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: Not determined.
Viet Nam	: Not determined.

Section 16. Other information

History

Date of issue/Date of revision : 11/21/2022

Date of previous issue : 02/24/2021

Version : 7

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

Procedure used to derive the classification

Classification	Justification
2X Hi-RPM Hybridization Buffer SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 2	Calculation method Calculation method Calculation method Calculation method Calculation method

2X Indicates information that has changed from previously issued version.

Notice to reader

Section 16. Other information

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