

# 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

Analytical chemistry.

10X GE Blocking Agent Lyophilized	125 µg
2X Hi-RPM Hybridization Buffer	600 µl
Cyanine 3-Cytidine Bisphosphate	27 µl

**Supplier/Manufacturer** : Agilent Technologies Australia Pty Ltd  
 679 Springvale Road  
 Mulgrave  
 Victoria 3170, Australia  
 1800 802 402

**Emergency telephone number (with hours of operation)** : CHEMTREC®: (61)-290372994

## Section 2. Hazard(s) identification

### Classification of the substance or mixture

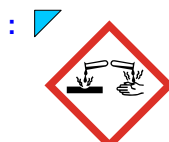
#### 2X Hi-RPM Hybridization Buffer

H315	SKIN CORROSION/IRRITATION - Category 2
H318	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
H402	ACUTE AQUATIC HAZARD - Category 3
H412	LONG-TERM AQUATIC HAZARD - Category 3

10X GE Blocking Agent Lyophilized	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 100%
2X Hi-RPM Hybridization Buffer	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 10.9%
Cyanine 3-Cytidine Bisphosphate	Not applicable.
10X GE Blocking Agent Lyophilized	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 100%
2X Hi-RPM Hybridization Buffer	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 10.9%
Cyanine 3-Cytidine Bisphosphate	Not applicable.

### GHS label elements

#### Hazard pictograms



## Section 2. Hazard(s) identification

<b>Signal word</b>	: 10X GE Blocking Agent Lyophilized	No signal word.
	2X Hi-RPM Hybridization Buffer	DANGER
	Cyanine 3-Cytidine Bisphosphate	No signal word.
<b>Hazard statements</b>	: 10X GE Blocking Agent Lyophilized	No known significant effects or critical hazards.
	2X Hi-RPM Hybridization Buffer	H318 - Causes serious eye damage.  H315 - Causes skin irritation. H412 - Harmful to aquatic life with long lasting effects.
	Cyanine 3-Cytidine Bisphosphate	No known significant effects or critical hazards.
<b><u>Precautionary statements</u></b>		
<b>Prevention</b>	: 10X GE Blocking Agent Lyophilized	Not applicable.
	2X Hi-RPM Hybridization Buffer	P280 - Wear protective gloves. Wear eye or face protection. P273 - Avoid release to the environment. P264 - Wash hands thoroughly after handling.
	Cyanine 3-Cytidine Bisphosphate	Not applicable.
<b>Response</b>	: 10X GE Blocking Agent Lyophilized	Not applicable.
	2X Hi-RPM Hybridization Buffer	P302 + P352 + P362-2 + P363 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. P332 + P313 - If skin irritation occurs: Get medical attention. 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 physician.
	Cyanine 3-Cytidine Bisphosphate	Not applicable.
<b>Storage</b>	: 10X GE Blocking Agent Lyophilized	Not applicable.
	2X Hi-RPM Hybridization Buffer	Not applicable.
	Cyanine 3-Cytidine Bisphosphate	Not applicable.
<b>Disposal</b>	: 10X GE Blocking Agent Lyophilized	Not applicable.
	2X Hi-RPM Hybridization Buffer	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	Cyanine 3-Cytidine Bisphosphate	Not applicable.
<b>Supplemental label elements</b>	: 10X GE Blocking Agent Lyophilized	Not applicable.
	2X Hi-RPM Hybridization Buffer	Not applicable.
	Cyanine 3-Cytidine Bisphosphate	Not applicable.

## Section 2. Hazard(s) identification

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

## Section 3. Composition and ingredient information

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

### CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
<b>10X GE Blocking Agent Lyophilized</b>	100	
DNA		
<b>2X Hi-RPM Hybridization Buffer</b>		
4-Morpholineethanesulfonic acid, hydrate (1:1)	≤8.5	145224-94-8
Lithium chloride	≤7	7447-41-8
Lithium dodecyl sulphate	≤4	2044-56-6
Polyoxyethylene octyl phenyl ether	≤3	9002-93-1
Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-(trimethylsilyloxy)-1-disiloxanyl]propyl] ether	≤3	134180-76-0

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

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

## Section 4. First aid measures

### Description of necessary first aid measures

<b>Eye contact</b>	<b>10X GE Blocking Agent</b>	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.
	Lyophilized	
	<b>2X Hi-RPM Hybridization Buffer</b>	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	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.
	Bisphosphate	
<b>Inhalation</b>	<b>10X GE Blocking Agent</b>	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.
	Lyophilized	
	<b>2X Hi-RPM Hybridization Buffer</b>	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-

## Section 4. First aid measures

		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.
<b>Skin contact</b>	: 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. Flush contaminated skin with plenty of water.
	Cyanine 3-Cytidine Bisphosphate	Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
<b>Ingestion</b>	: 10X GE Blocking Agent Lyophilized	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.
	2X Hi-RPM Hybridization Buffer	Get medical attention immediately. Call a poison center or physician. 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. 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 immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	Cyanine 3-Cytidine Bisphosphate	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

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

## Section 4. First aid measures

### Potential acute health effects

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

### Over-exposure signs/symptoms

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

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

## Section 4. First aid measures

<b>Notes to physician</b>	: 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.
<b>Specific treatments</b>	: 10X GE Blocking Agent Lyophilized	No specific treatment.
	2X Hi-RPM Hybridization Buffer	No specific treatment.
	Cyanine 3-Cytidine Bisphosphate	No specific treatment.
<b>Protection of first-aiders</b>	: 10X GE Blocking Agent Lyophilized	No action shall be taken involving any personal risk or without suitable training.
	2X Hi-RPM Hybridization Buffer	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. Firefighting measures

### Extinguishing media

<b>Suitable extinguishing media</b>	: 10X GE Blocking Agent Lyophilized	Use an extinguishing agent suitable for the surrounding fire.
	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.
<b>Unsuitable extinguishing media</b>	: 10X GE Blocking Agent Lyophilized	None known.
	2X Hi-RPM Hybridization Buffer	None known.
	Cyanine 3-Cytidine Bisphosphate	None known.
<b>Specific hazards arising from the chemical</b>	: 10X GE Blocking Agent Lyophilized	No specific fire or explosion hazard.
	2X Hi-RPM Hybridization Buffer	In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful 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.
	Cyanine 3-Cytidine Bisphosphate	In a fire or if heated, a pressure increase will occur and the container may burst.

## Section 5. Firefighting measures

<b>Hazardous thermal decomposition products</b>	: 10X GE Blocking Agent Lyophilized	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
	2X Hi-RPM Hybridization Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds metal oxide/oxides
	Cyanine 3-Cytidine Bisphosphate	No specific data.
<b>Special protective actions for fire-fighters</b>	: 10X GE Blocking Agent Lyophilized	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.
	2X Hi-RPM Hybridization Buffer	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.
	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.
<b>Special protective equipment for fire-fighters</b>	: 10X GE Blocking Agent Lyophilized	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	2X Hi-RPM Hybridization Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	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.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	: 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 spilt 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 spilt material. Do not breathe vapour 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

## Section 6. Accidental release measures

<b>For emergency responders</b>	: 10X GE Blocking Agent Lyophilized	through spilt material. Put on appropriate personal protective equipment. 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".
	2X Hi-RPM Hybridization Buffer	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".
	Cyanine 3-Cytidine Bisphosphate	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

<b>Environmental precautions</b>	: 10X GE Blocking Agent Lyophilized	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).
	2X Hi-RPM Hybridization Buffer	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). Water polluting material. May be harmful to the environment if released in large quantities.
	Cyanine 3-Cytidine Bisphosphate	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).

### Methods and material for containment and cleaning up

<b>Methods for cleaning up</b>	: 10X GE Blocking Agent Lyophilized	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.
	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

<b>Protective measures</b>	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer	Put on appropriate personal protective equipment (see Section 8). Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapour 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
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## Section 7. Handling and storage

<b>Advice on general occupational hygiene</b>	Cyanine 3-Cytidine Bisphosphate : 10X GE Blocking Agent Lyophilized	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. Put on appropriate personal protective equipment (see Section 8).
	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.
<b>Conditions for safe storage, including any incompatibilities</b>	: 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 unlabelled containers. Use appropriate containment to avoid environmental contamination.
	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 unlabelled containers. Use appropriate containment to avoid environmental contamination.
	Cyanine 3-Cytidine Bisphosphate	Do not store above the following temperature: -20°C (-4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls and personal protection

### Control parameters

#### Occupational exposure limits

None.

- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

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

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

### 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

### Appearance

<b>Physical state</b>	: 10X GE Blocking Agent	Solid. [lyophilised]
	Lyophilized	
	2X Hi-RPM Hybridization Buffer	Liquid.
	Cyanine 3-Cytidine Bisphosphate	Liquid.

## Section 9. Physical and chemical properties

<b>Colour</b>	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	Not available. Not available. Not available.
<b>Odour</b>	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	Not available. Not available. Not available.
<b>Odour threshold</b>	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	Not available. Not available. Not available.
<b>pH</b>	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	Not available. 6.1 Not available.
<b>Melting point</b>	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	Not available. Not available. 0°C (32°F)
<b>Boiling point</b>	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	Not available. Not available. 100°C (212°F)
<b>Flash point</b>	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	Not available. Not available. Not available.
<b>Evaporation rate</b>	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	Not available. Not available. Not available.
<b>Flammability (solid, gas)</b>	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	Not available. Not applicable. Not applicable.
<b>Lower and upper explosive (flammable) limits</b>	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	Not available. Not available. Not available.

## Section 9. Physical and chemical properties

<b>Vapour pressure</b>	: 10X GE Blocking Agent	Not available.
	Lyophilized	
	2X Hi-RPM Hybridization Buffer	Not available.
	Cyanine 3-Cytidine Bisphosphate	Not available.
<b>Vapour density</b>	: 10X GE Blocking Agent	Not available.
	Lyophilized	
	2X Hi-RPM Hybridization Buffer	Not available.
	Cyanine 3-Cytidine Bisphosphate	Not available.
<b>Relative density</b>	: 10X GE Blocking Agent	Not available.
	Lyophilized	
	2X Hi-RPM Hybridization Buffer	Not available.
	Cyanine 3-Cytidine Bisphosphate	Not available.
<b>Solubility</b>	: 10X GE Blocking Agent	Soluble in the following materials: cold water and hot water.
	Lyophilized	
	2X Hi-RPM Hybridization Buffer	Soluble in the following materials: cold water and hot water.
	Cyanine 3-Cytidine Bisphosphate	Easily soluble in the following materials: cold water, hot water, methanol, diethyl ether and acetone.
<b>Partition coefficient: n-octanol/water</b>	: 10X GE Blocking Agent	Not available.
	Lyophilized	
	2X Hi-RPM Hybridization Buffer	Not available.
	Cyanine 3-Cytidine Bisphosphate	Not available.
<b>Auto-ignition temperature</b>	: 10X GE Blocking Agent	Not available.
	Lyophilized	
	2X Hi-RPM Hybridization Buffer	Not available.
	Cyanine 3-Cytidine Bisphosphate	Not available.
<b>Decomposition temperature</b>	: 10X GE Blocking Agent	Not available.
	Lyophilized	
	2X Hi-RPM Hybridization Buffer	Not available.
	Cyanine 3-Cytidine Bisphosphate	Not available.
<b>Viscosity</b>	: 10X GE Blocking Agent	Not available.
	Lyophilized	
	2X Hi-RPM Hybridization Buffer	Not available.
	Cyanine 3-Cytidine Bisphosphate	Not available.

## Section 10. Stability and reactivity

<b>Reactivity</b>	: 10X GE Blocking Agent	No specific test data related to reactivity available for this product or its ingredients.
	Lyophilized	
	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.

## Section 10. Stability and reactivity

<b>Chemical stability</b>	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	The product is stable.  The product is stable.  The product is stable.
<b>Possibility of hazardous reactions</b>	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	No specific data.  No specific data.  No specific data.
<b>Incompatible materials</b>	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	May react or be incompatible with oxidising materials.  May react or be incompatible with oxidising materials.  May react or be incompatible with oxidising materials.
<b>Hazardous decomposition products</b>	: 10X GE Blocking Agent Lyophilized  2X Hi-RPM Hybridization Buffer  Cyanine 3-Cytidine Bisphosphate	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.  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
<b>2X Hi-RPM Hybridization Buffer</b> Lithium chloride  Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-(trimethylsilyloxy)-1-disiloxanyl]propyl] ether	LD50 Dermal	Rabbit	1629 mg/kg	-
	LD50 Dermal	Rat	1488 mg/kg	-
	LD50 Oral	Rat	526 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	1.08 mg/l	4 hours
	LD50 Dermal	Rabbit	1550 mg/kg	-
	LD50 Oral	Rat	3200 mg/kg	-

#### Irritation/Corrosion

## Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>2X Hi-RPM Hybridization Buffer</b> Lithium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 500 milligrams	-
Polyoxyethylene octyl phenyl ether	Eyes - Moderate irritant	Rabbit	-	24 hours 10 microliters	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters	-
Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-(trimethylsilyloxy)-1-disiloxanyl]propyl] ether	Skin - Mild irritant	Rabbit	-	-	-
	Eyes - Severe irritant	Rabbit	-	-	-

### Sensitisation

Product/ingredient name	Route of exposure	Species	Result
<b>2X Hi-RPM Hybridization Buffer</b> Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-(trimethylsilyloxy)-1-disiloxanyl]propyl] ether	skin	Guinea pig	Not sensitizing

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
<b>2X Hi-RPM Hybridization Buffer</b> 4-Morpholineethanesulfonic acid, hydrate (1:1)	Category 3	Not applicable.	Respiratory tract irritation
Lithium chloride	Category 3	Not applicable.	Respiratory tract irritation
Lithium dodecyl sulphate	Category 3	Not applicable.	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
<b>2X Hi-RPM Hybridization Buffer</b> Lithium chloride	Category 2	Oral	central nervous system (CNS)

### Aspiration hazard

## Section 11. Toxicological information

Not available.

<b>Information on likely routes of exposure</b>	: 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate	Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available.
<b>Potential acute health effects</b>		
<b>Eye contact</b>	: 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.
<b>Inhalation</b>	: 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.
<b>Skin contact</b>	: 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.
<b>Ingestion</b>	: 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.

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

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

## Section 11. Toxicological information

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

<b>General</b>	: 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.
<b>Carcinogenicity</b>	: 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.
<b>Mutagenicity</b>	: 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.
<b>Teratogenicity</b>	: 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.
<b>Developmental effects</b>	: 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.
<b>Fertility effects</b>	: 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



## Section 11. Toxicological information

### Acute toxicity estimates

Route	ATE value
<input checked="" type="checkbox"/> Hi-RPM Hybridization Buffer	
Oral	6426.4 mg/kg
Dermal	19957.1 mg/kg
Inhalation (dusts and mists)	63.53 mg/l

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
<input checked="" type="checkbox"/> Hi-RPM Hybridization Buffer			
Lithium chloride	Acute LC50 22000 µg/l Fresh water	Fish - Gila elegans - Swim-up	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
Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-(trimethylsilyl)oxy]-1-disiloxanyl]propyl] ether	Acute LC50 4500 µg/l Fresh water EC50 28.2 mg/l	Fish - Pimephales promelas Algae	96 hours 72 hours
	EC50 1.1 mg/l LC50 2.1 mg/l	Daphnia Fish	48 hours 96 hours

### Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
<input checked="" type="checkbox"/> Hi-RPM Hybridization Buffer			
Lithium chloride	-	-	Readily
Polyoxyethylene octyl phenyl ether	-	-	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<input checked="" type="checkbox"/> Hi-RPM Hybridization Buffer			
Polyoxyethylene octyl phenyl ether	4.86	-	high

### Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

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

## Section 13. Disposal considerations

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

## Section 14. Transport information

### Regulatory information

**ADG / IMDG / IATA** : Not regulated as Dangerous Goods according to the ADG Code .

**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 Annex II of Marpol and the IBC Code** : Not available.

## Section 15. Regulatory information

### Standard Uniform Schedule of Medicine and Poisons

Not regulated.

### Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

**Australia inventory (AICS)** : Not determined.

### 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 Inform Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### International lists

#### National inventory

**Canada** : Not determined.  
**China** : Not determined.  
**Europe** : Not determined.  
**Japan** : **Japan inventory (ENCS):** Not determined.  
**Japan inventory (ISHL):** Not determined.  
**Malaysia** : Not determined.

## Section 15. Regulatory information

<b>New Zealand</b>	: <input checked="" type="checkbox"/> Not determined.
<b>Philippines</b>	: <input checked="" type="checkbox"/> Not determined.
<b>Republic of Korea</b>	: <input checked="" type="checkbox"/> Not determined.
<b>Taiwan</b>	: <input checked="" type="checkbox"/> Not determined.
<b>Turkey</b>	: <input checked="" type="checkbox"/> Not determined.
<b>United States</b>	: <input checked="" type="checkbox"/> Not determined.

## Section 16. Any other relevant information

### History

<b>Date of issue/Date of revision</b>	: 23/02/2016
<b>Date of previous issue</b>	: 09/01/2014.
<b>Version</b>	: 4

### Key to abbreviations

: ADG = Australian Dangerous Goods
: ATE = Acute Toxicity Estimate
: BCF = Bioconcentration Factor
: GHS = Globally Harmonized System of Classification and Labelling of Chemicals
: IATA = International Air Transport Association
: IBC = Intermediate Bulk Container
: IMDG = International Maritime Dangerous Goods
: LogPow = logarithm of the octanol/water partition coefficient
: MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
: NOHSC = National Occupational Health and Safety Commission
: SUSMP = Standard Uniform Schedule of Medicine and Poisons
: UN = United Nations

### Procedure used to derive the classification

Classification	Justification
<input checked="" type="checkbox"/> <b>Hi-RPM Hybridization Buffer</b> Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 3, H402 Aquatic Chronic 3, H412	Calculation method Calculation method Calculation method Calculation method

**References** : Not available.

Indicates information that has changed from previously issued version.

### Notice to reader

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