

# SAFETY DATA SHEET



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

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

### 1.1 Product identifier

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

**CAS number** : ~~10X GE Blocking Agent~~ -  
 Lyophilized  
 2X Hi-RPM Hybridization Buffer Not applicable.  
 Cyanine 3-Cytidine Bisphosphate Not applicable.

**Part no. (chemical kit)** : 5190-0408

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

### 1.2 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

**Uses advised against** : None known.

### 1.3 Details of the supplier of the safety data sheet

Agilent Technologies LDA UK Ltd.  
 5500 Lakeside Cheadle Royal Business Park,  
 Cheadle, Cheshire, SK8 3GR  
 United Kingdom  
 Tel: +44 (0) 345 712 5292  
 0800 603 1000

**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

### 1.4 Emergency telephone number

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +(44)-870-8200418

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : ~~10X GE Blocking Agent~~ UVCB  
 Lyophilized  
~~2X Hi-RPM Hybridization Buffer~~ Mixture  
 Cyanine 3-Cytidine Bisphosphate Mixture

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

## SECTION 2: Hazards identification

### 2X Hi-RPM

#### Hybridization Buffer

|      |                                    |            |
|------|------------------------------------|------------|
| H315 | SKIN CORROSION/IRRITATION          | Category 2 |
| H318 | SERIOUS EYE DAMAGE/EYE IRRITATION  | Category 1 |
| H400 | SHORT-TERM (ACUTE) AQUATIC HAZARD  | Category 1 |
| H411 | LONG-TERM (CHRONIC) AQUATIC HAZARD | Category 2 |

**Ingredients of unknown toxicity** : 2X Hi-RPM Hybridization Buffer  
 Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 10 - 30%  
 Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 10 - 30%  
 Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 10 - 30%


**Ingredients of unknown ecotoxicity** : 2X Hi-RPM Hybridization Buffer  
 Contains 15.9% of components with unknown hazards to the aquatic environment

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** : 2X 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.  
 H410 - Very toxic to aquatic life with long lasting effects.  
 Cyanine 3-Cytidine Bisphosphate  
 No known significant effects or critical hazards.

#### Precautionary statements

**Prevention** : 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 thoroughly after handling.  
 Cyanine 3-Cytidine Bisphosphate  
 Not applicable.

**Response** : 10X GE Blocking Agent Lyophilized  
 Not applicable.  
 2X Hi-RPM Hybridization Buffer  
 P391 - Collect spillage.  
 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.  
 Cyanine 3-Cytidine Bisphosphate  
 Not applicable.

## SECTION 2: Hazards identification

|   |  |  |
|---|--|--|
| <b>Storage</b>  | : 10X GE Blocking Agent<br>Lyophilized | Not applicable.  |
|   | 2X Hi-RPM Hybridization<br>Buffer      | Not applicable.  |
|   | Cyanine 3-Cytidine<br>Bisphosphate     | Not applicable.  |
| <b>Disposal</b>   | : 10X GE Blocking Agent<br>Lyophilized | Not applicable.  |
|   | 2X Hi-RPM Hybridization<br>Buffer      | P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. |
|   | Cyanine 3-Cytidine<br>Bisphosphate     | Not applicable.  |
| <b>Supplemental label elements</b>  | : 10X GE Blocking Agent<br>Lyophilized | Not applicable.  |
|   | 2X Hi-RPM Hybridization<br>Buffer      | Not applicable.  |
|   | Cyanine 3-Cytidine<br>Bisphosphate     | Not applicable.  |
| <b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b> | : 10X GE Blocking Agent<br>Lyophilized | Not applicable.  |
|   | 2X Hi-RPM Hybridization<br>Buffer      | Not applicable.  |
|   | Cyanine 3-Cytidine<br>Bisphosphate     | Not applicable.  |
| <b>Special packaging requirements</b>   |  |  |
| <b>Containers to be fitted with child-resistant fastenings</b>  | : 10X GE Blocking Agent<br>Lyophilized | Not applicable.  |
|   | 2X Hi-RPM Hybridization<br>Buffer      | Not applicable.  |
|   | Cyanine 3-Cytidine<br>Bisphosphate     | Not applicable.  |
| <b>Tactile warning of danger</b>  | : 10X GE Blocking Agent<br>Lyophilized | Not applicable.  |
|   | 2X Hi-RPM Hybridization<br>Buffer      | Not applicable.  |
|   | Cyanine 3-Cytidine<br>Bisphosphate     | Not applicable.  |

### 2.3 Other hazards

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

|                                   | PBT | P   | B   | T  | vPvB | vP  | vB  |
|-----------------------------------|-----|-----|-----|----|------|-----|-----|
| 10X GE Blocking Agent Lyophilized | No  | N/A | N/A | No | N/A  | N/A | N/A |

2X Hi-RPM Hybridization Buffer This mixture does not contain any substances that are assessed to be a PBT or a vPvB.  
Cyanine 3-Cytidine Bisphosphate 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

|  |             |
|--|-------------|
| : 10X GE Blocking Agent<br>Lyophilized | None known. |
| 2X Hi-RPM Hybridization<br>Buffer      | None known. |
| Cyanine 3-Cytidine<br>Bisphosphate     | None known. |

Substances identified as having endocrine disruptor properties

| Ingredient name  | Impact      |
|--|-------------|
| 2X Hi-RPM Hybridization Buffer<br>Polyoxyethylene octyl phenyl ether | Environment |

### SECTION 3: Composition/information on ingredients

**3.1 Substances** : 10X GE Blocking Agent Lyophilized UVCB  
 2X Hi-RPM Hybridization Buffer Mixture  
 Cyanine 3-Cytidine Bisphosphate Mixture

| Product/ingredient name   | Identifiers                     | %    | Classification  | Type    |
|---|---------------------------------|------|---|---------|
| 10X GE Blocking Agent Lyophilized DNA   | -                               | 100  | Not classified.   | [1]     |
| 2X Hi-RPM Hybridization Buffer<br>Lithium chloride  | EC: 231-212-3<br>CAS: 7447-41-8 | ≤12  | Acute Tox. 4, H302<br>Acute Tox. 4, H312<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319   | [1]     |
| Lithium dodecyl sulphate  | EC: 218-058-2<br>CAS: 2044-56-6 | ≤6.4 | Flam. Sol. 1, H228<br>Acute Tox. 4, H302<br>Acute Tox. 4, H332<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>STOT SE 3, H335<br>Aquatic Chronic 3, H412 | [1]     |
| Polyoxyethylene octyl phenyl ether  | CAS: 9002-93-1                  | ≤6.4 | Acute Tox. 4, H302<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Aquatic Acute 1, H400 (M=10)<br>Aquatic Chronic 1, H410 (M=1)                          | [1] [2] |
| Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-(trimethylsilyloxy)-1-disiloxanyl]propyl] ether | CAS: 134180-76-0                | ≤3   | Acute Tox. 4, H332<br>Eye Irrit. 2, H319<br>Aquatic Chronic 3, H412   | [1]     |
|   |                                 |      | <b>See Section 16 for the full text of the H statements declared above.</b>   |         |

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  
 10X GE Blocking Agent Lyophilized [1] Constituent  
 2X Hi-RPM Hybridization Buffer [1] Substance classified with a health or environmental hazard  
 [2] Substance of equivalent concern

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

### SECTION 4: First aid measures

#### 4.1 Description of 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 medical attention if irritation occurs.

## SECTION 4: First aid measures

|                     |   |                                   |   |
|---------------------|---|-----------------------------------|---|
| <b>Inhalation</b>   | : | 10X GE Blocking Agent Lyophilized | 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.   |
| <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.  |
|                     |   | Cyanine 3-Cytidine Bisphosphate   | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.  |
| <b>Ingestion</b>    | : | 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 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. 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.  |

## SECTION 4: First aid measures

|                                   |                                     |   |
|-----------------------------------|-------------------------------------|---|
| <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.  |

### 4.2 Most important symptoms and effects, both acute and delayed

#### Over-exposure signs/symptoms

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

### 4.3 Indication of any immediate medical attention and special treatment needed

|                            |                                     |   |
|----------------------------|-------------------------------------|---|
| <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.  |
|                            |                                     |   |

## SECTION 5: Firefighting measures

### 5.1 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                  | None known.   |
|                                       | Bisphosphate                        |   |

### 5.2 Special hazards arising from the substance or mixture

|  |                                     |  |
|--|-------------------------------------|--|
| <b>Hazards from the substance or mixture</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 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. |
|  | Cyanine 3-Cytidine Bisphosphate     | In a fire or if heated, a pressure increase will occur and the container may burst.  |
| <b>Hazardous combustion products</b>         | : 10X GE Blocking Agent Lyophilized | Decomposition products may include the following materials:<br>carbon dioxide<br>carbon monoxide<br>nitrogen oxides<br>phosphorus oxides   |
|  | 2X Hi-RPM Hybridization Buffer      | Decomposition products may include the following materials:<br>carbon dioxide<br>carbon monoxide<br>nitrogen oxides<br>sulfur oxides<br>halogenated compounds<br>metal oxide/oxides  |
|  | Cyanine 3-Cytidine Bisphosphate     | No specific data.  |

### 5.3 Advice for firefighters

|   |                                     |   |
|---|-------------------------------------|---|
| <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

### 6.1 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 through spilt material. Put on appropriate personal protective equipment.  |
| <b>For emergency responders</b>    | : 10X GE Blocking Agent Lyophilized | 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".  |

### 6.2 Environmental precautions

|                                     |  |
|-------------------------------------|--|
| : 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. Collect spillage. |
| 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).  |

### 6.3 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. May be harmful to the environment if released. Dispose of spillages under controlled conditions. |
|                                | 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 6: Accidental release measures

**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

### 7.1 Precautions for safe handling

|   |   |  |
|---|---|--|
| <b>Protective measures</b>                    | : 10X GE Blocking Agent Lyophilized<br>2X Hi-RPM Hybridization Buffer   | Put on appropriate personal protective equipment (see Section 8).<br>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 or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.  |
| <b>Advice on general occupational hygiene</b> | : Cyanine 3-Cytidine Bisphosphate<br>10X GE Blocking Agent Lyophilized<br>2X Hi-RPM Hybridization Buffer<br>Cyanine 3-Cytidine Bisphosphate | Put on appropriate personal protective equipment (see Section 8).<br>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.<br>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.<br>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

|                |   |  |
|----------------|---|--|
| <b>Storage</b> | : 10X GE Blocking Agent Lyophilized<br>2X Hi-RPM Hybridization Buffer<br>Cyanine 3-Cytidine | 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.<br>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. See Section 10 for incompatible materials before handling or use.<br>Store in accordance with local regulations. Store in original |
|----------------|---|--|

## SECTION 7: Handling and storage

Bisphosphate

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 thresholds

#### Danger criteria

| Category   | Notification and MAPP threshold | Safety report threshold |
|--|---------------------------------|-------------------------|
| <input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer<br>E1 | 100 tonne                       | 200 tonne               |

### 7.3 Specific end use(s)

|                        |   |   |
|------------------------|---|---|
| <b>Recommendations</b> | <input checked="" type="checkbox"/> 10X GE Blocking Agent Lyophilized | Industrial applications, Professional applications. |
|                        | <input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer    | Industrial applications, Professional applications. |
|                        | <input checked="" type="checkbox"/> Cyanine 3-Cytidine Bisphosphate   | Industrial applications, Professional applications. |
|                        | <b>Industrial sector specific solutions</b>                           |   |
|                        | <input checked="" type="checkbox"/> 10X GE Blocking Agent Lyophilized | Not available.                                      |
|                        | <input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer    | Not available.                                      |
|                        | <input checked="" type="checkbox"/> Cyanine 3-Cytidine Bisphosphate   | Not available.                                      |

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

No exposure limit value known.

#### Biological exposure indices

No exposure indices known.

**Recommended monitoring procedures** : Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

| Product/ingredient name  | Type | Exposure              | Value                | Population         | Effects  |
|--|------|-----------------------|----------------------|--------------------|----------|
| <input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer<br>Lithium chloride | DNEL | Long term Oral        | 7.32 mg/kg bw/day    | General population | Systemic |
|  | DNEL | Long term Inhalation  | 10 mg/m <sup>3</sup> | General population | Systemic |
|  | DNEL | Long term Inhalation  | 10 mg/m <sup>3</sup> | Workers            | Systemic |
|  | DNEL | Short term Oral       | 21.96 mg/kg bw/day   | General population | Systemic |
|  | DNEL | Short term Inhalation | 30 mg/m <sup>3</sup> | General population | Systemic |
|  | DNEL | Short term Inhalation | 30 mg/m <sup>3</sup> | Workers            | Systemic |
|  | DNEL | Short term Dermal     | 50 mg/kg             | General            | Systemic |

## SECTION 8: Exposure controls/personal protection

|                          |      |                      |                        |                    |          |
|--------------------------|------|----------------------|------------------------|--------------------|----------|
| Lithium dodecyl sulphate | DNEL | Long term Dermal     | 73.2 mg/kg bw/day      | General population | Systemic |
|                          | DNEL | Long term Dermal     | 73.2 mg/kg bw/day      | Workers            | Systemic |
|                          | DNEL | Short term Dermal    | 100 mg/kg bw/day       | Workers            | Systemic |
|                          | DNEL | Long term Inhalation | 2.26 mg/m <sup>3</sup> | General population | Systemic |
|                          | DNEL | Long term Oral       | 2.6 mg/kg bw/day       | General population | Systemic |
|                          | DNEL | Long term Inhalation | 7.6 mg/m <sup>3</sup>  | Workers            | Systemic |
|                          | DNEL | Long term Dermal     | 260 mg/kg bw/day       | General population | Systemic |
|                          | DNEL | Long term Dermal     | 433.3 mg/kg bw/day     | Workers            | Systemic |

### PNECs

No PNECs 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: 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.

**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

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

### 9.1 Information on basic physical and chemical properties

#### Appearance

|   |   |  |                                   |
|---|---|--|-----------------------------------|
| <b>Physical state</b>                               | : | 10X GE Blocking Agent Lyophilized<br>2X Hi-RPM Hybridization Buffer<br>Cyanine 3-Cytidine Bisphosphate | Solid. [lyophilised]<br>Liquid.   |
| <b>Colour</b>                                       | : | 10X GE Blocking Agent Lyophilized<br>2X Hi-RPM Hybridization Buffer<br>Cyanine 3-Cytidine Bisphosphate | Not available.                    |
| <b>Odour</b>  | : | 10X GE Blocking Agent Lyophilized<br>2X Hi-RPM Hybridization Buffer<br>Cyanine 3-Cytidine Bisphosphate | Not available.                    |
| <b>Odour threshold</b>                              | : | 10X GE Blocking Agent Lyophilized<br>2X Hi-RPM Hybridization Buffer<br>Cyanine 3-Cytidine Bisphosphate | Not available.                    |
| <b>Melting point/freezing point</b>                 | : | 10X GE Blocking Agent Lyophilized<br>2X Hi-RPM Hybridization Buffer<br>Cyanine 3-Cytidine Bisphosphate | Not available.<br>0°C             |
| <b>Initial boiling point and boiling range</b>      | : | 10X GE Blocking Agent Lyophilized<br>2X Hi-RPM Hybridization Buffer<br>Cyanine 3-Cytidine Bisphosphate | Not available.<br>100°C           |
| <b>Flammability</b>                                 | : | 10X GE Blocking Agent Lyophilized<br>2X Hi-RPM Hybridization Buffer<br>Cyanine 3-Cytidine Bisphosphate | Not available.<br>Not applicable. |
| <b>Upper/lower flammability or explosive limits</b> | : | 10X GE Blocking Agent Lyophilized<br>2X Hi-RPM Hybridization Buffer<br>Cyanine 3-Cytidine Bisphosphate | Not applicable.                   |

#### Flash point

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

#### Auto-ignition temperature

:

**SECTION 9: Physical and chemical properties**

| Ingredient name                       | °C  | Method |
|---------------------------------------|-----|--------|
| <b>2X Hi-RPM Hybridization Buffer</b> |     |        |
| Lithium dodecyl sulphate              | 366 |        |

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

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

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

| Solubility(ies) | Media                                 | Result  |
|-----------------|---------------------------------------|---------|
|                 | <b>10X GE Blocking Agent</b>          |         |
|                 | <b>Lyophilized</b>                    |         |
|                 | water                                 | Soluble |
|                 | <b>2X Hi-RPM Hybridization Buffer</b> |         |
|                 | water                                 | Soluble |
|                 | <b>Cyanine 3-Cytidine</b>             |         |
|                 | <b>Bisphosphate</b>                   |         |
|                 | methanol                              | Soluble |
|                 | diethyl ether                         | Soluble |
|                 | acetone                               | Soluble |
|                 | water                                 | Soluble |

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

| Vapour pressure | Ingredient name                       | Vapour Pressure at 20°C |      |        | Vapour pressure at 50°C |      |        |
|-----------------|---------------------------------------|-------------------------|------|--------|-------------------------|------|--------|
|                 |                                       | mm Hg                   | kPa  | Method | mm Hg                   | kPa  | Method |
|                 | <b>2X Hi-RPM Hybridization Buffer</b> |                         |      |        |                         |      |        |
|                 | water                                 | 23.8                    | 3.2  |        | 92.258                  | 12.3 |        |
|                 | Polyoxyethylene octyl phenyl ether    | 0.997581                | 0.13 |        |                         |      |        |
|                 | <b>Cyanine 3-Cytidine</b>             |                         |      |        |                         |      |        |
|                 | <b>Bisphosphate</b>                   |                         |      |        |                         |      |        |
|                 | water                                 | 23.8                    | 3.2  |        | 92.258                  | 12.3 |        |

## SECTION 9: Physical and chemical properties

|                             |                                 |                 |
|-----------------------------|---------------------------------|-----------------|
| <b>Evaporation rate</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>Vapour density</b>       | : 10X GE Blocking Agent         | Not applicable. |
|                             | Lyophilized                     |                 |
|                             | 2X Hi-RPM Hybridization Buffer  | Not available.  |
|                             | Cyanine 3-Cytidine Bisphosphate | Not available.  |
| <b>Explosive properties</b> | : 10X GE Blocking Agent         | Not available.  |
|                             | Lyophilized                     |                 |
|                             | 2X Hi-RPM Hybridization Buffer  | Not available.  |
|                             | Cyanine 3-Cytidine Bisphosphate | Not available.  |
| <b>Oxidising properties</b> | : 10X GE Blocking Agent         | Not available.  |
|                             | Lyophilized                     |                 |
|                             | 2X Hi-RPM Hybridization Buffer  | Not available.  |
|                             | Cyanine 3-Cytidine Bisphosphate | Not available.  |

### Particle characteristics

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

### 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

|                                |                                 |  |
|--------------------------------|---------------------------------|--|
| <b>10.1 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. |
| <b>10.2 Chemical stability</b> | : 10X GE Blocking Agent         | The product is stable.   |
|                                | Lyophilized                     |  |
|                                | 2X Hi-RPM Hybridization Buffer  | The product is stable.   |
|                                | Cyanine 3-Cytidine Bisphosphate | The product is stable.   |

## SECTION 10: Stability and reactivity

|  |                                     |  |
|--|-------------------------------------|--|
| <b>10.3 Possibility of hazardous reactions</b> | : 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.                      |
|  |                                     |  |
| <b>10.4 Conditions to avoid</b>                | : 10X GE Blocking Agent Lyophilized | No specific data.  |
|  | 2X Hi-RPM Hybridization Buffer      | No specific data.  |
|  | Cyanine 3-Cytidine Bisphosphate     | No specific data.  |
|  |                                     |  |
| <b>10.5 Incompatible materials</b>             | : 10X GE Blocking Agent Lyophilized | May react or be incompatible with oxidising materials.   |
|  | 2X Hi-RPM Hybridization Buffer      | May react or be incompatible with oxidising materials.   |
|  | Cyanine 3-Cytidine Bisphosphate     | May react or be incompatible with oxidising materials.   |
|  |                                     |  |
| <b>10.6 Hazardous decomposition products</b>   | : 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

### 11.1 Information on toxicological effects

#### Acute toxicity

| Product/ingredient name                            | Result                             | Species            | Dose        | Exposure |
|--|------------------------------------|--------------------|-------------|----------|
| 2X Hi-RPM Hybridization Buffer<br>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  | -        |

#### Acute toxicity estimates

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

#### Irritation/Corrosion

## SECTION 11: Toxicological information

| Product/ingredient name                                   | Result                   | Species | Score | Exposure        | Observation |
|---|--------------------------|---------|-------|-----------------|-------------|
| <b>2X Hi-RPM Hybridization Buffer</b><br>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 | -           |

### Sensitiser

**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)

| Product/ingredient name   | Category   | Route of exposure | Target organs                |
|---|------------|-------------------|------------------------------|
| <b>2X Hi-RPM Hybridization Buffer</b><br>Lithium dodecyl sulphate | Category 3 | -                 | Respiratory tract irritation |

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on 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

**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.

**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.

**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.

## SECTION 11: Toxicological information

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

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

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

### 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

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

## SECTION 11: Toxicological information

|                              |   |   |
|------------------------------|---|---|
| <b>Carcinogenicity</b>       | : 10X GE Blocking Agent<br>Lyophilized<br>2X Hi-RPM Hybridization<br>Buffer<br>Cyanine 3-Cytidine<br>Bisphosphate | No known significant effects or critical hazards.<br>No known significant effects or critical hazards.<br>No known significant effects or critical hazards. |
| <b>Mutagenicity</b>          | : 10X GE Blocking Agent<br>Lyophilized<br>2X Hi-RPM Hybridization<br>Buffer<br>Cyanine 3-Cytidine<br>Bisphosphate | No known significant effects or critical hazards.<br>No known significant effects or critical hazards.<br>No known significant effects or critical hazards. |
| <b>Reproductive toxicity</b> | : 10X GE Blocking Agent<br>Lyophilized<br>2X Hi-RPM Hybridization<br>Buffer<br>Cyanine 3-Cytidine<br>Bisphosphate | No known significant effects or critical hazards.<br>No known significant effects or critical hazards.<br>No known significant effects or critical hazards. |
| <b>Other information</b>     | : 10X GE Blocking Agent<br>Lyophilized<br>2X Hi-RPM Hybridization<br>Buffer<br>Cyanine 3-Cytidine<br>Bisphosphate | Not available.<br>Adverse symptoms may include the following: May cause skin sensitisation.<br>Not available.   |

## SECTION 12: Ecological information

### 12.1 Toxicity

| Product/ingredient name                             | Result   | Species   | Exposure             |
|---|--|---|----------------------|
| 10X Hi-RPM Hybridization Buffer<br>Lithium chloride | Acute EC50 112 mg/l Fresh water                                      | Algae - Desmodesmus subspicatus   | 72 hours             |
|   | Acute EC50 249 mg/l Fresh water<br>Acute LC50 17000 µg/l Fresh water | Daphnia - Daphnia magna<br>Fish - Colorado squawfish - Ptychocheilus lucius - Swim-up | 48 hours<br>96 hours |
| Polyoxyethylene octyl phenyl ether                  | 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             |
|   | Acute LC50 5.85 mg/l Fresh water                                     | Crustaceans - Water flea - Ceriodaphnia rigaudi - Neonate                             | 48 hours             |
|   | Acute LC50 11.2 mg/l Fresh water                                     | Daphnia - Water flea - Daphnia magna - Neonate  | 48 hours             |
|   | Acute LC50 4500 µg/l Fresh water                                     | Fish - Fathead minnow - Pimephales promelas   | 96 hours             |

### 12.2 Persistence and degradability

| Product/ingredient name   | Aquatic half-life | Photolysis  | Biodegradability              |
|---|-------------------|-------------|-------------------------------|
| 10X Hi-RPM Hybridization Buffer<br>Lithium chloride<br>Lithium dodecyl sulphate<br>Polyoxyethylene octyl phenyl ether | -<br>-<br>-       | -<br>-<br>- | Readily<br>Readily<br>Readily |

### 12.3 Bioaccumulative potential

## SECTION 12: Ecological information

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

### 12.4 Mobility in soil

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

Mobility : Not available.

### 12.5 Results of PBT and vPvB assessment

| Product/ingredient name   | PBT | P   | B   | T  | vPvB | vP  | vB  |
|---|-----|-----|-----|----|------|-----|-----|
| <input checked="" type="checkbox"/> 10X GE Blocking Agent Lyophilized DNA | No  | N/A | N/A | No | N/A  | N/A | N/A |

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

## SECTION 13: Disposal considerations

### 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** : The classification of the product may meet the criteria for a hazardous waste.

#### 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** : Dispose of material(s) and residues under controlled conditions. 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  | IMDG   | IATA   |
|---------------------------------|--|--|--|
| 14.1 UN number                  | <input checked="" type="checkbox"/> UN3082   | <input checked="" type="checkbox"/> UN3082   | <input checked="" type="checkbox"/> UN3082   |
| 14.2 UN proper shipping name    | <input checked="" type="checkbox"/> ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Polyoxyethylene octyl phenyl ether) | <input checked="" type="checkbox"/> ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Polyoxyethylene octyl phenyl ether) | <input checked="" type="checkbox"/> Environmentally hazardous substance, liquid, n.o.s. (Polyoxyethylene octyl phenyl ether) |
| 14.3 Transport hazard class(es) | <input checked="" type="checkbox"/><br>  | <input checked="" type="checkbox"/><br>  | <input checked="" type="checkbox"/><br>  |

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

**SECTION 14: Transport information**

|                                   |      |      |      |
|-----------------------------------|------|------|------|
| <b>14.4 Packing group</b>         |      |      |      |
| <b>14.5 Environmental hazards</b> | Yes. | Yes. | Yes. |

**Additional information**

**Remarks:** De minimis quantities

**ADR/RID** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

**Hazard identification number** 90  
**Limited quantity** 5 L  
**Special provisions** 274, 335, 601, 375  
**Tunnel code** (-)

**IMDG** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

**Emergency schedules** F-A, S-F  
**Special provisions** 274, 335, 969

**IATA** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

**Quantity limitation** Passenger and Cargo Aircraft: 450 L. Packaging instructions: 964. Cargo Aircraft Only: 450 L. Packaging instructions: 964. Limited Quantities - Passenger Aircraft: 30 kg. Packaging instructions: Y964.  
**Special provisions** A97, A158, A197, A215

**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 IMO instruments** : Not available.

**SECTION 15: Regulatory information**

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

**UK (GB)/REACH**

**Annex XIV - List of substances subject to authorisation**

**Annex XIV**

| Intrinsic property  | Ingredient name   | Status | Reference number | Date of revision |
|---|---|--------|------------------|------------------|
| <input checked="" type="checkbox"/> <b>Hi-RPM Hybridization Buffer</b><br>Substance of equivalent concern for environment | 4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated covering well-defined substances and UVCB substances, polymers and homologues | Listed | 42               | 1/1/2021         |

**Substances of very high concern**

## SECTION 15: Regulatory information

| Intrinsic property  | Ingredient name   | Status    | Reference number | Date of revision |
|---|---|-----------|------------------|------------------|
| <input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer<br>Substance of equivalent concern for environment | 4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated covering well-defined substances and UVCB substances, polymers and homologues | Candidate | -                | 12/19/2012       |

### Ozone depleting substances

Not listed.

### Prior Informed Consent (PIC)

Not listed.

### Persistent Organic Pollutants

Not listed.

### Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not listed.

|              |  |                 |
|--------------|--|-----------------|
| <b>Label</b> | : <input checked="" type="checkbox"/> 10X GE Blocking Agent<br>Lyophilized | Not applicable. |
|              | 2X Hi-RPM Hybridization Buffer   | Not applicable. |
|              | Cyanine 3-Cytidine Bisphosphate  | Not applicable. |

### Seveso Directive

This product is not controlled under the Seveso Directive.

### Danger criteria

|  |
|--|
| <b>Category</b>  |
| <input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer<br>E1 |

### EU regulations

**Industrial emissions (integrated pollution prevention and control) - Air** : Listed

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

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

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

## SECTION 15: Regulatory information

### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

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

## SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

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

### Procedure used to derive the classification

| Classification   | Justification  |
|--|--|
| <b>✔X Hi-RPM Hybridization Buffer</b><br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Aquatic Acute 1, H400<br>Aquatic Chronic 2, H411 | Calculation method<br>Calculation method<br>Calculation method<br>Calculation method |

### Full text of abbreviated H statements

|                                       |   |
|---------------------------------------|---|
| <b>✔X Hi-RPM Hybridization Buffer</b> |   |
| H228                                  | Flammable solid.                                      |
| H302                                  | Harmful if swallowed.                                 |
| H312                                  | Harmful in contact with skin.                         |
| H315                                  | Causes skin irritation.                               |
| H318                                  | Causes serious eye damage.                            |
| H319                                  | Causes serious eye irritation.                        |
| H332                                  | Harmful if inhaled.                                   |
| H335                                  | May cause respiratory irritation.                     |
| H400                                  | Very toxic to aquatic life.                           |
| H410                                  | Very toxic to aquatic life with long lasting effects. |
| H411                                  | Toxic to aquatic life with long lasting effects.      |
| H412                                  | Harmful to aquatic life with long lasting effects.    |

## SECTION 16: Other information

### [Full text of classifications](#)

#### **2X Hi-RPM**

##### **Hybridization Buffer**

|                   |   |
|-------------------|---|
| Acute Tox. 4      | ACUTE TOXICITY - Category 4                                   |
| Aquatic Acute 1   | SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1                |
| Aquatic Chronic 1 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1               |
| Aquatic Chronic 2 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2               |
| Aquatic Chronic 3 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3               |
| Eye Dam. 1        | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1                |
| Eye Irrit. 2      | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2                |
| Flam. Sol. 1      | FLAMMABLE SOLIDS - Category 1                                 |
| Skin Irrit. 2     | SKIN CORROSION/IRRITATION - Category 2                        |
| STOT SE 3         | SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3 |

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

**Date of previous issue** : 24/02/2021

**Version** : 4

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