

Section 2. Hazards identification

2.2 GHS label elements

| | | |
|---|--|---|
| Hazard pictograms | : 2X Hi-RPM Hybridization Buffer | |
| Signal word | : 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate | No signal word. Danger No signal word. |
| Hazard statements | : 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate | No known significant effects or critical hazards. H315 - Causes skin irritation. H318 - Causes serious eye damage. H373 - May cause damage to organs through prolonged or repeated exposure. H400 - Very toxic to aquatic life. H411 - Toxic to aquatic life with long lasting effects. No known significant effects or critical hazards. |
| Precautionary statements | | |
| Prevention | : 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate | Not applicable. P280 - Wear protective gloves. Wear eye or face protection. P273 - Avoid release to the environment. P260 - Do not breathe vapor. P264 - Wash thoroughly after handling. Not applicable. |
| Response | : 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate | Not applicable. P391 - Collect spillage. P314 - Get medical advice or attention if you feel unwell. P362 + P364 - Take off contaminated clothing and wash it before reuse. P302 + P352 - IF ON SKIN: Wash with plenty of water. P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor. Not applicable. |
| Storage | : 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate | Not applicable. Not applicable. Not applicable. |
| Disposal | : 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate | Not applicable. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. Not applicable. |
| Supplemental label elements | : 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate | None known. None known. None known. |
| 2.3 Other hazards | | |
| Hazards not otherwise classified | : 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate | None known. None known. None known. |

Section 3. Composition/information on ingredients

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

| Ingredient name | % | CAS number |
|---|------|-------------|
| 10X GE Blocking Agent Lyophilized | | |
| DNA | 100 | - |
| 2X Hi-RPM Hybridization Buffer | | |
| Lithium chloride | ≤12 | 7447-41-8 |
| Lithium dodecyl sulphate | ≤6.4 | 2044-56-6 |
| Polyoxyethylene octyl phenyl ether | ≤6.4 | 9002-93-1 |
| Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy]-1-disiloxanyl]propyl] ether | ≤3 | 134180-76-0 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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

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

Section 4. First aid measures

4.1 Description of necessary first aid measures

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

Section 4. First aid measures

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.

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

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

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. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

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.

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. 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.

Cyanine 3-Cytidine Bisphosphate

Skin contact

: 10X GE Blocking Agent Lyophilized

2X Hi-RPM Hybridization Buffer

Cyanine 3-Cytidine Bisphosphate

Ingestion

: 10X GE Blocking Agent Lyophilized

2X Hi-RPM Hybridization Buffer

Cyanine 3-Cytidine Bisphosphate

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Section 4. First aid measures

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

Over-exposure signs/symptoms

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

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

| | | |
|-----------------------------------|--|---|
| Notes to physician | : 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate | 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. 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. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| Specific treatments | : 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate | No specific treatment. No specific treatment. No specific treatment. |
| Protection of first-aiders | : 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer | No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. |

Section 4. First aid measures

Cyanine 3-Cytidine Bisphosphate

Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

- : 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.

Unsuitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical

- : 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.

Hazardous thermal decomposition products

- : 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.

5.3 Advice for firefighters

Special protective actions for fire-fighters

- : 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

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters

| | |
|-------------------------------------|---|
| : 10X GE Blocking Agent Lyophilized | 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 | 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

For non-emergency personnel

| | |
|-------------------------------------|---|
| : 10X GE Blocking Agent Lyophilized | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. |
| 2X Hi-RPM Hybridization Buffer | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
| Cyanine 3-Cytidine Bisphosphate | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. |

For emergency responders

| | |
|-------------------------------------|---|
| : 10X GE Blocking Agent Lyophilized | If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |
| 2X Hi-RPM Hybridization Buffer | If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |
| Cyanine 3-Cytidine Bisphosphate | If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |

Section 6. Accidental release measures

| | | |
|--------------------------------------|-------------------------------------|--|
| 6.2 Environmental precautions | : 10X GE Blocking Agent Lyophilized | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). |
| | 2X Hi-RPM Hybridization Buffer | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage. |
| | Cyanine 3-Cytidine Bisphosphate | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). |

6.3 Methods and materials for containment and cleaning up

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

Section 7. Handling and storage

7.1 Precautions for safe handling

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

Section 7. Handling and storage

| | | |
|---|-------------------------------------|---|
| Advice on general occupational hygiene | : 10X GE Blocking Agent Lyophilized | Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. |
| | 2X Hi-RPM Hybridization Buffer | Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. |
| | Cyanine 3-Cytidine Bisphosphate | Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. |
| 7.2 Conditions for safe storage, including any incompatibilities | : 10X GE Blocking Agent Lyophilized | Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. |
| | 2X Hi-RPM Hybridization Buffer | Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. |
| | Cyanine 3-Cytidine Bisphosphate | Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. |

7.3 Specific end use(s)

Section 7. Handling and storage

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|---|--|
| Recommendations | : 10X GE Blocking Agent Lyophilized Industrial applications, Professional applications. 2X Hi-RPM Hybridization Buffer Industrial applications, Professional applications. Cyanine 3-Cytidine Bisphosphate Industrial applications, Professional applications. |
| Industrial sector specific solutions | : 10X GE Blocking Agent Lyophilized Not available. 2X Hi-RPM Hybridization Buffer Not available. Cyanine 3-Cytidine Bisphosphate Not available. |

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|--|-----------------|
| 10X GE Blocking Agent Lyophilized DNA | None. |
| 2X Hi-RPM Hybridization Buffer | |
| Lithium chloride | None. |
| Lithium dodecyl sulphate | None. |
| Polyoxyethylene octyl phenyl ether | None. |
| Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-(trimethylsilyl)oxy]-1-disiloxanyl]propyl] ether | None. |

Biological exposure indices

No exposure indices known.

8.2 Exposure controls

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

Individual protection measures

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

Section 8. Exposure controls/personal protection

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

Section 9. Physical and chemical properties and safety characteristics

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

Appearance

- Physical state** : 10X GE Blocking Agent Lyophilized Solid. [lyophilised]
2X Hi-RPM Hybridization Buffer Liquid.
Cyanine 3-Cytidine Bisphosphate Liquid.
- Color** : 10X GE Blocking Agent Lyophilized Not available.
2X Hi-RPM Hybridization Buffer Not available.
Cyanine 3-Cytidine Bisphosphate Not available.
- Odor** : 10X GE Blocking Agent Lyophilized Not available.
2X Hi-RPM Hybridization Buffer Not available.
Cyanine 3-Cytidine Bisphosphate Not available.
- Odor threshold** : 10X GE Blocking Agent Lyophilized Not available.
2X Hi-RPM Hybridization Buffer Not available.
Cyanine 3-Cytidine Bisphosphate Not available.
- pH** : 10X GE Blocking Agent Lyophilized Not available.
2X Hi-RPM Hybridization Buffer 6.1
Cyanine 3-Cytidine Bisphosphate Not available.
- Melting point/freezing point** : 10X GE Blocking Agent Lyophilized Not available.
2X Hi-RPM Hybridization Buffer Not available.
Cyanine 3-Cytidine Bisphosphate 0°C (32°F)
- Boiling point, initial boiling point, and boiling range** : 10X GE Blocking Agent Lyophilized Not available.
2X Hi-RPM Hybridization Buffer Not available.
Cyanine 3-Cytidine Bisphosphate 100°C (212°F)
- Flash point** :
- | Ingredient name | Closed cup | | | Open cup | | |
|------------------------------------|------------|-------|--------|----------|----|--------|
| | °C | °F | Method | °C | °F | Method |
| 2X Hi-RPM Hybridization Buffer | | | | | | |
| Polyoxyethylene octyl phenyl ether | 251 | 483.8 | | | | |
- Evaporation rate** : 10X GE Blocking Agent Lyophilized Not available.
2X Hi-RPM Hybridization Buffer Not available.
Cyanine 3-Cytidine Bisphosphate Not available.
- Flammability** : 10X GE Blocking Agent Lyophilized Not available.
2X Hi-RPM Hybridization Buffer Not applicable.
Cyanine 3-Cytidine Bisphosphate Not applicable.
- Lower and upper explosion limit/flammability limit** : 10X GE Blocking Agent Lyophilized Not applicable.
2X Hi-RPM Hybridization Buffer Not available.
Cyanine 3-Cytidine Bisphosphate Not available.
- Vapor pressure** :

Section 9. Physical and chemical properties and safety characteristics

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

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

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

Solubility(ies) :

| Media | Result |
|--|---------|
| 10X GE Blocking Agent Lyophilized | |
| water | Soluble |
| 2X Hi-RPM Hybridization Buffer | |
| water | Soluble |
| Cyanine 3-Cytidine Bisphosphate | |
| methanol | Soluble |
| diethyl ether | Soluble |
| acetone | Soluble |
| water | Soluble |

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

Auto-ignition temperature :

| Ingredient name | °C | °F | Method |
|---------------------------------------|-----|-------|--------|
| 2X Hi-RPM Hybridization Buffer | | | |
| Lithium dodecyl sulphate | 366 | 690.8 | |

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

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

Particle characteristics

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

Section 10. Stability and reactivity

| | | |
|--|--|--|
| 10.1 Reactivity | : 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate | No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. |
| 10.2 Chemical stability | : 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. |
| 10.3 Possibility of hazardous reactions | : 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. |
| 10.4 Conditions to avoid | : 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate | No specific data. No specific data. No specific data. |
| 10.5 Incompatible materials | : 10X GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer Cyanine 3-Cytidine Bisphosphate | May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. |
| 10.6 Hazardous decomposition products | : 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

11.1 Information on toxicological effects

Acute toxicity

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

Irritation/Corrosion

Section 11. Toxicological information

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

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

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

Specific target organ toxicity (repeated exposure)

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

Aspiration hazard

Not available.

Information on the likely routes of exposure :

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

Potential acute health effects

Eye contact :

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

Inhalation :

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

Section 11. Toxicological information

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

Symptoms related to the physical, chemical and toxicological characteristics

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

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

Short term exposure

| | |
|------------------------------------|------------------|
| Potential immediate effects | : Not available. |
| Potential delayed effects | : Not available. |

Long term exposure

| | |
|------------------------------------|------------------|
| Potential immediate effects | : Not available. |
| Potential delayed effects | : Not available. |

Potential chronic health effects

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

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

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

| | | |
|--------------------------|-------------------------------------|---|
| Other information | : 10X GE Blocking Agent Lyophilized | Not available. |
| | 2X Hi-RPM Hybridization Buffer | Adverse symptoms may include the following: May cause skin sensitization. |
| | Cyanine 3-Cytidine Bisphosphate | Not available. |

Section 12. Ecological information

12.1 Toxicity

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

12.2 Persistence and degradability

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

12.3 Bioaccumulative potential

Section 12. Ecological information

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

12.4 Mobility in soil

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

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

Section 13. Disposal considerations

13.1 Waste treatment methods

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

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

DOT / TDG / Mexico / IMDG / IATA : Not regulated.

Additional information

Remarks: De minimis quantities

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

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

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

U.S. Federal regulations : TSCA 8(a) PAIR: Polyoxyethylene octyl phenyl ether
TSCA 8(a) CDR Exempt/Partial exemption: Not determined

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : ~~10X~~ GE Blocking Agent Lyophilized 2X Hi-RPM Hybridization Buffer
Cyanine 3-Cytidine Bisphosphate

Not applicable.
SKIN IRRITATION - Category 2
SERIOUS EYE DAMAGE - Category 1
Not applicable.

Composition/information on ingredients

| Name | % | Classification |
|---|------|---|
| 10X Hi-RPM Hybridization Buffer | | |
| Lithium chloride | ≤12 | ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 |
| Lithium dodecyl sulphate | ≤6.4 | FLAMMABLE SOLIDS - Category 1 COMBUSTIBLE DUSTS ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 |
| Polyoxyethylene octyl phenyl ether | ≤6.4 | ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 |
| Dilithium N,N'-ethylenebis[N-(carboxymethyl)aminoacetate] | ≤10 | COMBUSTIBLE DUSTS |
| Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy]-1-disiloxanyl]propyl] ether | ≤3 | ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A |

State regulations

Massachusetts : None of the components are listed.

Section 15. Regulatory information

- New York** : None of the components are listed.
New Jersey : None of the components are listed.
Pennsylvania : None of the components are listed.
[California Prop. 65](#)

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

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

Section 16. Other information

Procedure used to derive the classification

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

History

- Date of issue** : 11/21/2022
Date of previous issue : 02/24/2021
Version : 7

Section 16. Other information

Key to abbreviations

- : 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)
- N/A = Not available
- UN = United Nations

✔ Indicates information that has changed from previously issued version.

Notice to reader

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