SAFETY DATA SHEET

Custom DNA Enzymatic DNA Labeling Bundle Room Temp Parts, Part Number 930946-1

Section 1. Identification

1.1 Product identifier
Product name: Custom DNA Enzymatic DNA Labeling Bundle Room Temp Parts, Part Number 930946-1
Part No. (Chemical Kit): 930946-1
Part No.: 10X aCGH Blocking Agent 930946-15
2X Hybridization Buffer 930946-14
Validation date: 1/19/2018

1.2 Relevant identified uses of the substance or mixture and uses advised against
Material uses:
- 10X aCGH Blocking Agent: lyophilized
- 2X Hybridization Buffer: 1.5 ml (1500 µl)

1.3 Details of the supplier of the safety data sheet
Supplier/Manufacturer: Agilent Technologies, Inc.
5301 Stevens Creek Blvd
Santa Clara, CA 95051, USA
800-227-9770

1.4 Emergency telephone number
In case of emergency: CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

2.1 Classification of the substance or mixture
OSHA/HCS status: 10X aCGH Blocking Agent COMBUSTIBLE DUSTS
2X Hybridization Buffer This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

10X aCGH Blocking Agent
- Comb. Dusts: SKIN IRRITATION - Category 2
- EYE IRRITATION - Category 2A
- SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

2X Hybridization Buffer
- SKIN IRRITATION - Category 2
- EYE IRRITATION - Category 2A
- SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS)) - Category 2

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Section 2. Hazards identification

**Ingredients of unknown toxicity**
- **10X aCGH Blocking Agent**
  - Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 30 - 60%
  - Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: > 60%
  - Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 30 - 60%

- **2X Hybridization Buffer**
  - Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 10 - 30%
  - Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30%
  - Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%

**2.2 GHS label elements**

**Hazard pictograms**
- **10X aCGH Blocking Agent**
- **2X Hybridization Buffer**

**Signal word**
- **10X aCGH Blocking Agent**
  - Warning
- **2X Hybridization Buffer**
  - Warning

**Hazard statements**
- **10X aCGH Blocking Agent**
  - No Code(s) - May form combustible dust concentrations in air.
  - H319 - Causes serious eye irritation.
  - H315 - Causes skin irritation.
  - H335 - May cause respiratory irritation.

- **2X Hybridization Buffer**
  - H319 - Causes serious eye irritation.
  - H315 - Causes skin irritation.
  - H373 - May cause damage to organs through prolonged or repeated exposure. (central nervous system (CNS))

**Precautionary statements**

**Prevention**
- **10X aCGH Blocking Agent**
  - P280 - Wear protective gloves. Wear eye or face protection.
  - P271 - Use only outdoors or in a well-ventilated area.
  - P261 - Avoid breathing dust.
  - P264 - Wash hands thoroughly after handling.

- **2X Hybridization Buffer**
  - P280 - Wear protective gloves. Wear eye or face protection.
  - P260 - Do not breathe vapor.
  - P264 - Wash hands thoroughly after handling.

**Response**
- **10X aCGH Blocking Agent**
  - P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
  - P302 + P352 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.
  - P332 + P313 - If skin irritation occurs: Get medical attention.
  - P305 + P351 + P338 - IF IN EYES: Rinse

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Section 2. Hazards identification

cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical attention.
P314 - Get medical attention if you feel unwell.
P302 + P352 + P362 + P364 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.
P332 + P313 - If skin irritation occurs: Get medical attention.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical attention.

Storage:

2X Hybridization Buffer
P405 - Store locked up.

Disposal:

2X Hybridization Buffer
P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements:

2X Hybridization Buffer
Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Prevent dust accumulation.

2.3 Other hazards

Hazards not otherwise classified:

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 as hazardous to health or the environment and hence require reporting in this section.

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### Section 4. First aid measures

<table>
<thead>
<tr>
<th>Condition</th>
<th>Substance(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eye contact</strong></td>
<td>10X aCGH Blocking Agent</td>
<td>Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.</td>
</tr>
<tr>
<td>2X Hybridization Buffer</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>10X aCGH Blocking Agent</td>
<td>Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In 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.</td>
</tr>
<tr>
<td>2X Hybridization Buffer</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Skin contact</strong></td>
<td>10X aCGH Blocking Agent</td>
<td>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.</td>
</tr>
<tr>
<td>2X Hybridization Buffer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Section 4. First aid measures

**Ingestion**: 10X aCGH Blocking Agent

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

2X Hybridization Buffer

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**4.2 Most important symptoms/effects, acute and delayed**

**Potential acute health effects**

**Eye contact**: 10X aCGH Blocking Agent

Causes serious eye irritation.

2X Hybridization Buffer

Causes serious eye irritation.

**Inhalation**: 10X aCGH Blocking Agent

May cause respiratory irritation.

2X Hybridization Buffer

No known significant effects or critical hazards.

**Skin contact**: 10X aCGH Blocking Agent

Causes skin irritation.

2X Hybridization Buffer

Causes skin irritation.

**Ingestion**: 10X aCGH Blocking Agent

No known significant effects or critical hazards.

2X Hybridization Buffer

No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

**Eye contact**: 10X aCGH Blocking Agent

Adverse symptoms may include the following: pain or irritation, watering, redness

2X Hybridization Buffer

Adverse symptoms may include the following: pain or irritation, watering, redness

**Inhalation**: 10X aCGH Blocking Agent

Adverse symptoms may include the following: respiratory tract irritation, coughing

2X Hybridization Buffer

No specific data.

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Section 4. First aid measures

| Protection of first-aiders | 10X aCGH Blocking Agent | 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. |
| 2X Hybridization Buffer | 10X aCGH Blocking Agent | 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. |

Notes to physician:

| 10X aCGH Blocking Agent | 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 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. |

Specific treatments:

| 10X aCGH Blocking Agent | No specific treatment. |
| 2X Hybridization Buffer | No specific treatment. |

Ingestion:

| 10X aCGH Blocking Agent | No specific data. |
| 2X Hybridization Buffer | No specific data. |

Adverse symptoms may include the following:

- irritation
- redness

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media:

| 10X aCGH Blocking Agent | Use dry chemical powder. |
| 2X Hybridization Buffer | Use an extinguishing agent suitable for the surrounding fire. |

Unsuitable extinguishing media:

| 10X aCGH Blocking Agent | Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture. |
| 2X Hybridization Buffer | None known. |

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical:

| 10X aCGH Blocking Agent | May form explosible dust-air mixture if dispersed. In a fire or if heated, a pressure increase will occur and the container may burst. |
| 2X Hybridization Buffer | Decomposition products may include the following materials: carbon dioxide, carbon monoxide, nitrogen oxides, phosphorus oxides, halogenated compounds. |

Hazardous thermal decomposition products:

| 10X aCGH Blocking Agent | Decomposition products may include the following |
| 2X Hybridization Buffer | Decomposition products may include the following |
Section 5. Fire-fighting measures

5.3 Advice for firefighters

Special protective actions for fire-fighters
- 10X aCGH Blocking Agent: 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- 2X Hybridization Buffer

Special protective equipment for fire-fighters
- 10X aCGH Blocking Agent: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- 2X 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.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
- 10X aCGH Blocking Agent: 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- 2X Hybridization Buffer

For emergency responders
- 10X aCGH Blocking Agent: 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". 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 Hybridization Buffer

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Section 6. Accidental release measures

6.2 Environmental precautions

10X aCGH Blocking Agent
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 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).

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up

10X aCGH Blocking Agent
Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

2X 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.

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures

10X aCGH Blocking Agent
Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

2X Hybridization Buffer
Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. 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.
Section 7. Handling and storage

Advice on general occupational hygiene

10X aCGH Blocking Agent
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 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.

7.2 Conditions for safe storage, including any incompatibilities

10X aCGH Blocking Agent
Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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 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. 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)

Recommendations

10X aCGH Blocking Agent
Industrial applications, Professional applications.

2X Hybridization Buffer
Industrial applications, Professional applications.

Industrial sector specific solutions

10X aCGH Blocking Agent
Not applicable.

2X Hybridization Buffer
Not applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

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Section 8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X aCGH Blocking Agent</td>
<td>None.</td>
</tr>
<tr>
<td>Trometamol</td>
<td>None.</td>
</tr>
<tr>
<td>2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride</td>
<td>None.</td>
</tr>
<tr>
<td>2X Hybridization Buffer</td>
<td>None.</td>
</tr>
<tr>
<td>4-Morpholineethanesulfonic acid, hydrate (1:1)</td>
<td>None.</td>
</tr>
<tr>
<td>Lithium chloride</td>
<td>None.</td>
</tr>
<tr>
<td>Lithium dodecyl sulphate</td>
<td>None.</td>
</tr>
<tr>
<td>Polyoxyethylene octyl phenyl ether</td>
<td>None.</td>
</tr>
<tr>
<td>Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy]-1-disiloxyanyl]propyl] ether</td>
<td>None.</td>
</tr>
</tbody>
</table>

### 8.2 Exposure controls

**Appropriate engineering controls**: Use only with adequate ventilation. 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 and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

**Skin protection**

**Hand protection**: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection**: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection**: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection**: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

**Appearance**

<table>
<thead>
<tr>
<th>Property</th>
<th>10X aCGH Blocking Agent</th>
<th>2X Hybridization Buffer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical state</strong></td>
<td>Solid. [lyophilized]</td>
<td>Liquid.</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Odor threshold</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Not available.</td>
<td>8</td>
</tr>
<tr>
<td><strong>Melting point</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Boiling point</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>Not available.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Lower and upper explosive</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>(flammable) limits</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>Not available.</td>
<td>Soluble in the following materials: cold water and hot water.</td>
</tr>
<tr>
<td><strong>Partition coefficient: n-</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>octanol/water</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Section 10. Stability and reactivity

10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability

The product is stable.

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Section 10. Stability and reactivity

10.3 Possibility of hazardous reactions

- 10X aCGH Blocking Agent
  Under normal conditions of storage and use, hazardous reactions will not occur.
- 2X Hybridization Buffer
  Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

- 10X aCGH Blocking Agent
  Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame).
  Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.

- 2X Hybridization Buffer
  No specific data.

10.5 Incompatible materials

- 10X aCGH Blocking Agent
  Reactive or incompatible with the following materials:
  oxidizing materials

- 2X Hybridization Buffer
  May react or be incompatible with oxidizing materials.

10.6 Hazardous decomposition products

- 10X aCGH Blocking Agent
  Under normal conditions of storage and use, hazardous decomposition products should not be produced.

- 2X Hybridization Buffer
  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

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
</table>
| 10X aCGH Blocking Agent | Trometamol
LD50 Dermal           | Rat    | >5000 mg/kg | -       |
|                         | LD50 Oral | Rat    | 5000 mg/kg | -       |
| 2X Hybridization Buffer | Lithium chloride
LD50 Dermal           | Rabbit | 1629 mg/kg | -       |
|                         | LD50 Oral | Rat    | 1488 mg/kg | -       |
|                         | LD50 Oral | Rat    | 526 mg/kg  | -       |
|                         | LD50 Oral | Rat    | >5000 mg/kg | -       |
|                         | Lithium dodecyl sulphate
LD50 Oral               | Rat    | 1800 mg/kg | -       |
|                         | Polyoxyethylene octyl phenyl ether
LD50 Oral               | Rat    | >5000 mg/kg | -       |
|                         | Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,
LD50 Dermal | Rat    | 1.08 mg/l | 4 hours |
|                         | 3-tetramethyl-1-[ (trimethylsilyl)oxy]
LD50 Oral               | Rat    | 1550 mg/kg | -       |
|                         | -1-disiloxanyl]propyl] ether
LD50 Oral               | Rat    | 3200 mg/kg | -       |

Irritation/Corrosion

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Section 11. Toxicological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X aCGH Blocking Agent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trometamol</td>
<td>Skin - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>25 Percent</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skin - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>500 milligrams</td>
<td></td>
</tr>
<tr>
<td>2X Hybridization Buffer</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 100 milligrams</td>
<td></td>
</tr>
<tr>
<td>Lithium chloride</td>
<td>Skin - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td></td>
</tr>
<tr>
<td>Polyoxyethylene octyl phenyl ether</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 10 milliters</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milliters</td>
<td></td>
</tr>
<tr>
<td>Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-[ (trimethylsilyl)oxy] -1-disiloxanyl]propyl ether</td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

Sensitization

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Route of exposure</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Hybridization Buffer</td>
<td>skin</td>
<td>Guinea pig</td>
<td>Not sensitizing</td>
</tr>
</tbody>
</table>

Mutagenicity
Not available.

Carcinogenicity
Not available.

Reproductive toxicity
Not available.

Teratogenicity
Not available.

Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X aCGH Blocking Agent</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
<tr>
<td>Trometamol</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
<tr>
<td>2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Lithium dodecyl sulphate</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organ toxicity (repeated exposure)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>irritation Respiratory tract irritation</td>
</tr>
</tbody>
</table>

Specific target organ toxicity (repeated exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Hybridization Buffer</td>
<td>Category 2</td>
<td>Oral</td>
<td>central nervous system (CNS)</td>
</tr>
</tbody>
</table>

Information on the likely routes of exposure:
- 10X aCGH Blocking Agent
- 2X Hybridization Buffer

Potential acute health effects

Eye contact:
- 10X aCGH Blocking Agent
- 2X Hybridization Buffer

Inhalation:
- 10X aCGH Blocking Agent
- 2X Hybridization Buffer

Skin contact:
- 10X aCGH Blocking Agent
- 2X Hybridization Buffer

Ingestion:
- 10X aCGH Blocking Agent
- 2X Hybridization Buffer

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact:
- 10X aCGH Blocking Agent
- 2X Hybridization Buffer

Inhalation:
- 10X aCGH Blocking Agent
- 2X Hybridization Buffer

Skin contact:
- 10X aCGH Blocking Agent
- 2X Hybridization Buffer

Ingestion:
- 10X aCGH Blocking Agent
- 2X Hybridization Buffer

Aspiration hazard
- Not available.

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

Short term exposure
- Potential immediate effects
  - Not available.

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Potential delayed effects: Not available.

Potential immediate effects: Not available.

Potential chronic health effects:

General:
- 10X aCGH Blocking Agent
- 2X Hybridization Buffer

Carcinogenicity:
- 10X aCGH Blocking Agent
- 2X Hybridization Buffer

Mutagenicity:
- 10X aCGH Blocking Agent
- 2X Hybridization Buffer

Teratogenicity:
- 10X aCGH Blocking Agent
- 2X Hybridization Buffer

Developmental effects:
- 10X aCGH Blocking Agent
- 2X Hybridization Buffer

Fertility effects:
- 10X aCGH Blocking Agent
- 2X Hybridization Buffer

Numerical measures of toxicity

Acute toxicity estimates

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X aCGH Blocking Agent Oral</td>
<td>18363.4 mg/kg</td>
</tr>
<tr>
<td>2X Hybridization Buffer Oral</td>
<td>5731.7 mg/kg</td>
</tr>
<tr>
<td></td>
<td>19884.9 mg/kg</td>
</tr>
<tr>
<td></td>
<td>25.5 mg/l</td>
</tr>
</tbody>
</table>

Section 12. Ecological information

12.1 Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X aCGH Blocking Agent Trometamol</td>
<td>Acute EC50 &gt;980 mg/l Fresh water</td>
<td>Daphnia</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute NOEC 520 mg/l Fresh water</td>
<td>Daphnia</td>
<td>48 hours</td>
</tr>
<tr>
<td>2X Hybridization Buffer Lithium chloride</td>
<td>Acute LC50 17000 µg/l Fresh water</td>
<td>Fish - Ptychocheilus lucius - Swim-up</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 5.85 mg/l Fresh water</td>
<td>Crustaceans - Ceriodaphnia rigaudi - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 11.2 mg/l Fresh water</td>
<td>Daphnia - Daphnia magna - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 4500 µg/l Fresh water</td>
<td>Fish - Pimephales promelas</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>EC50 28.2 mg/l</td>
<td>Algae</td>
<td>72 hours</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Hybridization Buffer</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
<tr>
<td>Lithium chloride</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
<tr>
<td>Polyoxyethylene octyl phenyl ether</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X aCGH Blocking Agent</td>
<td>-1.56</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Trometamol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2X Hybridization Buffer</td>
<td>4.86</td>
<td>-</td>
<td>high</td>
</tr>
<tr>
<td>Polyoxyethylene octyl phenyl ether</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>2X Hybridization Buffer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lithium chloride</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polyoxyethylene octyl phenyl ether</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

<table>
<thead>
<tr>
<th>Soil/water partition coefficient (K&lt;sub&gt;OC&lt;/sub&gt;)</th>
<th>Not available.</th>
</tr>
</thead>
</table>

12.5 Other adverse effects

No known significant effects or critical hazards.

Section 13. Disposal considerations

13.1 Waste treatment methods

<table>
<thead>
<tr>
<th>Disposal methods</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>

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.

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

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

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

U.S. Federal regulations : TSCA 8(a) PAIR: Polyoxylethylene octyl phenyl ether
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
Clean Water Act (CWA) 311: Edetic acid

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 aCGH Blocking Agent
          2X Hybridization Buffer

Composition/information on ingredients

COMBUSTIBLE DUSTS
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS)) - Category 2

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### Name | % | Classification |
---|---|---|
10X aCGH Blocking Agent | ≥10 - ≤25 | COMBUSTIBLE DUSTS  
Trometamol | | SKIN IRRITATION - Category 2  
| | EYE IRRITATION - Category 2A  
| | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride | ≥10 - ≤25 | SKIN IRRITATION - Category 2  
| | EYE IRRITATION - Category 2A  
| | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
2X Hybridization Buffer | ≤8.7 | COMBUSTIBLE DUSTS  
4-Morpholineethanesulfonic acid, hydrate (1:1) | | SKIN IRRITATION - Category 2  
| | EYE IRRITATION - Category 2  
| | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
Lithium chloride | ≤7.1 | ACUTE TOXICITY (oral) - Category 4  
| | ACUTE TOXICITY (dermal) - Category 4  
| | ACUTE TOXICITY (inhalation) - 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 | ≤3.6 | SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS)) (oral) - Category 2  
Polyoxyethylene octyl phenyl ether | ≤2.4 | FLAMMABLE SOLIDS - Category 1  
Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-(trimethylsilyl)oxy]-1-disiloxanyl]propyl ether | ≤3 | ACUTE TOXICITY (oral) - Category 4  
| | ACUTE TOXICITY (dermal) - Category 4  
| | ACUTE TOXICITY (inhalation) - Category 4  
| | EYE IRRITATION - Category 2  

State regulations
- **Massachusetts**: None of the components are listed.
- **New York**: None of the components are listed.
- **New Jersey**: None of the components are listed.
- **Pennsylvania**: None of the components are listed.

International regulations
- **Chemical Weapon Convention List Schedules I, II & III Chemicals**: Not listed.
- **Stockholm Convention on Persistent Organic Pollutants**: Not listed.
- **UNECE Aarhus Protocol on POPs and Heavy Metals**: Not listed.

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Not listed.

Inventory list

<table>
<thead>
<tr>
<th>Country</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Canada</td>
<td>Not determined.</td>
</tr>
<tr>
<td>China</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Europe</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Japan</td>
<td>Japan inventory (ENCS): Not determined.</td>
</tr>
<tr>
<td></td>
<td>Japan inventory (ISHL): Not determined.</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Not determined.</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Philippines</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Thailand</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Turkey</td>
<td>Not determined.</td>
</tr>
<tr>
<td>United States</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>Not determined.</td>
</tr>
</tbody>
</table>

Section 16. Other information

History

<table>
<thead>
<tr>
<th>Information</th>
<th>Date of issue</th>
<th>Date of previous issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of issue</td>
<td>01/19/2018</td>
<td>10/15/2015</td>
</tr>
<tr>
<td>Version</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Notice to reader

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