Section 1. Identification

Product identifier : MiracleHyb Hybridization Solution, Part Number 201223
Part No. (Chemical Kit) : 201223
Part No. : MiracleHyb Probe Preparation Buffer 201223-24
MiracleHyb Hybridization Solution 201223-14

Relevant identified uses of the substance or mixture and uses advised against
Analytical reagent.
MiracleHyb Probe Preparation Buffer 2 x 1 mL
MiracleHyb Hybridization Solution 125 mL

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

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

Section 2. Hazard(s) identification

Classification of the substance or mixture
MiracleHyb Hybridization Solution
H319 - CAUSES SERIOUS EYE IRRITATION - Category 2A

GHS label elements
Hazard pictograms : 

Signal word : MiracleHyb Probe Preparation Buffer
MiracleHyb Hybridization Solution
No signal word.

Hazard statements : MiracleHyb Probe Preparation Buffer
MiracleHyb Hybridization Solution
No known significant effects or critical hazards.

H319 - Causes serious eye irritation.

Precautionary statements
Prevention : MiracleHyb Probe Preparation Buffer
MiracleHyb Hybridization Solution
Not applicable.

P280 - Wear eye or face protection.
P264 - Wash hands thoroughly after handling.
## Section 2. Hazard(s) identification

<table>
<thead>
<tr>
<th>Response</th>
<th>MiracleHyb Probe Preparation Buffer</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MiracleHyb Hybridization Solution</td>
<td>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.</td>
</tr>
<tr>
<td>Storage</td>
<td>MiracleHyb Probe Preparation Buffer</td>
<td>Not applicable.</td>
</tr>
<tr>
<td></td>
<td>MiracleHyb Hybridization Solution</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Disposal</td>
<td>MiracleHyb Probe Preparation Buffer</td>
<td>Not applicable.</td>
</tr>
<tr>
<td></td>
<td>MiracleHyb Hybridization Solution</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Supplemental label elements</td>
<td>MiracleHyb Probe Preparation Buffer</td>
<td>Not applicable.</td>
</tr>
<tr>
<td></td>
<td>MiracleHyb Hybridization Solution</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Other hazards which do not result in classification</td>
<td>MiracleHyb Probe Preparation Buffer</td>
<td>None known.</td>
</tr>
<tr>
<td></td>
<td>MiracleHyb Hybridization Solution</td>
<td>None known.</td>
</tr>
</tbody>
</table>

## Section 3. Composition and ingredient information

### Substance/mixture

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>MiracleHyb Probe Preparation Buffer</th>
<th>MiracleHyb Hybridization Solution</th>
<th>Mixture</th>
</tr>
</thead>
</table>

### CAS number/other identifiers

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>% (w/w)</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>MiracleHyb Hybridization Solution</td>
<td>&lt;3</td>
<td>151-21-3</td>
</tr>
<tr>
<td>Sodium dodecyl sulphate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

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

## Section 4. First aid measures

### Description of necessary first aid measures

#### Eye contact

| MiracleHyb Probe Preparation Buffer | MiracleHyb Hybridization Solution | 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

| MiracleHyb Probe Preparation Buffer | MiracleHyb Hybridization Solution | 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. |

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Date of issue/Date of revision: 19/10/2016  Date of previous issue: 10/09/2014  Version: 4 2/14
## Section 4. First aid measures

### Solution
- **Skin contact**: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- **Ingestion**: Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

### MiracleHyb Probe Preparation Buffer
- **Skin contact**: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- **Ingestion**: 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. 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.

### MiracleHyb Hybridization Solution
- **Skin contact**: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- **Ingestion**: Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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 adverse health effects persist or are severe. 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.

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

#### Potential acute health effects
- **Eye contact**: MiracleHyb Probe Preparation Buffer
  - MiracleHyb Hybridization Solution
  - No known significant effects or critical hazards.
  - Causes serious eye irritation.

- **Inhalation**: MiracleHyb Probe Preparation Buffer
  - MiracleHyb Hybridization Solution
  - No known significant effects or critical hazards.

- **Skin contact**: MiracleHyb Probe Preparation Buffer
  - MiracleHyb Hybridization Solution
  - No known significant effects or critical hazards.

- **Ingestion**: MiracleHyb Probe Preparation Buffer
  - MiracleHyb Hybridization Solution
  - No known significant effects or critical hazards.

### Over-exposure signs/symptoms

- No known significant effects or critical hazards.
Section 4. First aid measures

Eye contact: MiracleHyb Probe Preparation Buffer
MiracleHyb Hybridization Solution
No specific data.

Inhalation: MiracleHyb Probe Preparation Buffer
MiracleHyb Hybridization Solution
No specific data.

Skin contact: MiracleHyb Probe Preparation Buffer
MiracleHyb Hybridization Solution
No specific data.

Ingestion: MiracleHyb Probe Preparation Buffer
MiracleHyb Hybridization Solution
No specific data.

Protection of first-aiders:
No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

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

Notes to physician: MiracleHyb Probe Preparation Buffer
MiracleHyb Hybridization Solution
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.
Treatment symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments: MiracleHyb Probe Preparation Buffer
MiracleHyb Hybridization Solution
No specific treatment.

Protection of first-aiders:
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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media: MiracleHyb Probe Preparation Buffer
MiracleHyb Hybridization Solution
Use an extinguishing agent suitable for the surrounding fire.
Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media: MiracleHyb Probe Preparation Buffer
MiracleHyb Hybridization Solution
None known.

Specific hazards arising from the chemical:
In a fire or if heated, a pressure increase will occur and the container may burst.
In a fire or if heated, a pressure increase will occur and the container may burst.
Section 5. Firefighting measures

**Hazardous thermal decomposition products**

- **MiracleHyb Probe Preparation Buffer**
  - Decomposition products may include the following materials:
    - carbon dioxide
    - carbon monoxide
    - nitrogen oxides
    - phosphorus oxides

- **MiracleHyb Hybridization Solution**
  - Decomposition products may include the following materials:
    - carbon dioxide
    - carbon monoxide
    - sulfur oxides
    - halogenated compounds
    - metal oxide/oxides

**Special protective actions for fire-fighters**

- **MiracleHyb Probe Preparation 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.

- **MiracleHyb Hybridization Solution**
  - Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters**

- **MiracleHyb Probe Preparation Buffer**
  - Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

- **MiracleHyb Hybridization Solution**
  - Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel**

- **MiracleHyb Probe Preparation Buffer**
  - No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

- **MiracleHyb Hybridization Solution**
  - No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders**

- **MiracleHyb Probe Preparation Buffer**
  - If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- **MiracleHyb Hybridization Solution**
  - If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Section 6. Accidental release measures

Environmental precautions: MiracleHyb Probe Preparation Buffer
Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

MiracleHyb Hybridization Solution
Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Methods for cleaning up: MiracleHyb Probe Preparation 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.

MiracleHyb Hybridization Solution
Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures: MiracleHyb Probe Preparation Buffer
Put on appropriate personal protective equipment (see Section 8).

MiracleHyb Hybridization Solution
Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene: MiracleHyb Probe Preparation 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.

MiracleHyb Hybridization Solution
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.

Conditions for safe storage, including any incompatibilities: MiracleHyb Probe Preparation 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 unlabelled containers. Use appropriate containment to avoid
Section 7. Handling and storage

MiracleHyb Hybridization Solution

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

None.

Appropriate engineering controls

Environmental exposure controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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.

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.

Date of issue/Date of revision : 19/10/2016
Date of previous issue : 10/09/2014
Version : 4
### Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>MiracleHyb Probe Preparation Buffer</th>
<th>MiracleHyb Hybridization Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid.</td>
<td>Liquid.</td>
</tr>
<tr>
<td><strong>Colour</strong></td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odour</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Not available.</td>
<td>5.5</td>
</tr>
<tr>
<td><strong>Melting point</strong></td>
<td>0°C (32°F)</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Boiling point</strong></td>
<td>100°C (212°F)</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>Flammability (solid, gas)</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Lower and upper explosive (flammable) limits</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>
Section 9. Physical and chemical properties

Solubility : MiracleHyb Probe Preparation Buffer MiracleHyb Hybridization Solution Easily soluble in the following materials: cold water and hot water. Soluble in the following materials: cold water and hot water.

Partition coefficient: n-octanol/water : MiracleHyb Probe Preparation Buffer MiracleHyb Hybridization Solution Not available.

Auto-ignition temperature : MiracleHyb Probe Preparation Buffer MiracleHyb Hybridization Solution Not available.

Decomposition temperature : MiracleHyb Probe Preparation Buffer MiracleHyb Hybridization Solution Not available.

Viscosity : MiracleHyb Probe Preparation Buffer MiracleHyb Hybridization Solution Not available.

Section 10. Stability and reactivity

Reactivity : MiracleHyb Probe Preparation Buffer MiracleHyb Hybridization Solution 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.

Chemical stability : MiracleHyb Probe Preparation Buffer MiracleHyb Hybridization Solution The product is stable. The product is stable.

Possibility of hazardous reactions : MiracleHyb Probe Preparation Buffer MiracleHyb Hybridization Solution Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : MiracleHyb Probe Preparation Buffer MiracleHyb Hybridization Solution No specific data. No specific data.

Incompatible materials : MiracleHyb Probe Preparation Buffer MiracleHyb Hybridization Solution May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials.

Hazardous decomposition products : MiracleHyb Probe Preparation Buffer MiracleHyb Hybridization Solution Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.
### Section 11. Toxicological information

#### Information on toxicological effects

**Acute toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>MiracleHyb Hybridization Solution Sodium dodecyl sulphate</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>580 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1288 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Irritation/Corrosion**

<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>MiracleHyb Hybridization Solution Sodium dodecyl sulphate</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>250 Micrograms</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>10 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Guinea pig</td>
<td>-</td>
<td>24 hours 25 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Moderate irritant</td>
<td>Mouse</td>
<td>-</td>
<td>24 hours 25 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 50 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 25 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

**Sensitisation**

Not available.

**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>MiracleHyb Hybridization Solution Sodium dodecyl sulphate</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Not available.

**Information on likely routes of exposure**

- MiracleHyb Probe Preparation Buffer
- MiracleHyb Hybridization Solution

Not available.

**Potential acute health effects**

Routes of entry anticipated: Oral, Dermal, Inhalation.
## Section 11. Toxicological information

<table>
<thead>
<tr>
<th></th>
<th>MiracleHyb Probe Preparation Buffer</th>
<th>MiracleHyb Hybridization Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eye contact</strong></td>
<td>No known significant effects or critical hazards.</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td><strong>Skin contact</strong></td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>MiracleHyb Probe Preparation Buffer</th>
<th>MiracleHyb Hybridization Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eye contact</strong></td>
<td>No specific data.</td>
<td>Adverse symptoms may include the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pain or irritation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>watering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>redness</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
<tr>
<td><strong>Skin contact</strong></td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

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

#### Long term exposure

- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.
- **Potential chronic health effects**: Not available.

<table>
<thead>
<tr>
<th></th>
<th>MiracleHyb Probe Preparation Buffer</th>
<th>MiracleHyb Hybridization Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General</strong></td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td><strong>Carcinogenicity</strong></td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>
Section 11. Toxicological information

**Mutagenicity**: MiracleHyb Probe Preparation Buffer
No known significant effects or critical hazards.
MiracleHyb Hybridization Solution
No known significant effects or critical hazards.

**Teratogenicity**: MiracleHyb Probe Preparation Buffer
No known significant effects or critical hazards.
MiracleHyb Hybridization Solution
No known significant effects or critical hazards.

**Developmental effects**: MiracleHyb Probe Preparation Buffer
No known significant effects or critical hazards.
MiracleHyb Hybridization Solution
No known significant effects or critical hazards.

**Fertility effects**: MiracleHyb Probe Preparation Buffer
No known significant effects or critical hazards.
MiracleHyb Hybridization Solution
No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>11144.5 mg/kg</td>
</tr>
<tr>
<td>Dermal</td>
<td>20642.3 mg/kg</td>
</tr>
</tbody>
</table>

Section 12. Ecological information

**Toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>MiracleHyb Hybridization Solution</td>
<td>Acute EC50 1200 μg/l Marine water</td>
<td>Algae - Skeletonema costatum</td>
<td>96 hours</td>
</tr>
<tr>
<td>Sodium dodecyl sulphate</td>
<td>Acute LC50 900 μg/l Marine water</td>
<td>Crustaceans - Artemia salina - Adult</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1400 μg/l Fresh water</td>
<td>Daphnia - Daphnia pulex - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 590 μg/l Fresh water</td>
<td>Fish - Cirrhinus mrigala - Larvae</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 1.25 mg/l Marine water</td>
<td>Algae - Ulva fasciata - Zoea</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 1 mg/l Fresh water</td>
<td>Crustaceans - Pseudosida ramosa - Neonate</td>
<td>21 days</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 3.2 mg/l Fresh water</td>
<td>Daphnia - Daphnia magna - Neonate</td>
<td>21 days</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC &gt;1357 μg/l Fresh water</td>
<td>Fish - Pimephales promelas</td>
<td>42 days</td>
</tr>
</tbody>
</table>

**Persistence and degradability**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>MiracleHyb Hybridization Solution</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
<tr>
<td>Sodium dodecyl sulphate</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

**Bioaccumulative potential**
Section 12. Ecological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogPow</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>MiracleHyb Hybridization Solution</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium dodecyl sulphate</td>
<td>-2.03</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

**Mobility in soil**

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

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

Section 13. Disposal considerations

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

Section 14. Transport information

Regulatory information

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

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

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

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons

6

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

Australia inventory (AICS): All components are listed or exempted.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

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Version: 4

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Section 15. Regulatory information

Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**
Not listed.

**International lists**

**National inventory**

- **Canada**: All components are listed or exempted.
- **China**: Not determined.
- **Europe**: All components are listed or exempted.
- **Japan**:
  - Japan inventory (ENCS): Not determined.
  - Japan inventory (ISHL): Not determined.
- **Malaysia**: Not determined.
- **New Zealand**: All components are listed or exempted.
- **Philippines**: Not determined.
- **Republic of Korea**: Not determined.
- **Taiwan**: All components are listed or exempted.
- **Turkey**: Not determined.
- **United States**: Not determined.

Section 16. Any other relevant information

**History**

- **Date of issue/Date of revision**: 19/10/2016
- **Date of previous issue**: 10/09/2014
- **Version**: 4

**Key to abbreviations**

- ADG = Australian Dangerous Goods
- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- NOHSC = National Occupational Health and Safety Commission
- SUSMP = Standard Uniform Schedule of Medicine and Poisons
- UN = United Nations

**Procedure used to derive the classification**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>MiracleHyb Hybridization Solution</td>
<td></td>
</tr>
<tr>
<td>Eye Irrit. 2A, H319</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

**References**

- Not available.

**Notice to reader**

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