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

1.1 Product identifier

Product name: miRNA Spike-In Kit, Part Number 5190-1934
Part no. (chemical kit): 5190-1934
Part no.: Dilution Buffer 5190-2301
Labeling Spike-In 5190-2302
Hyb Spike-In 5190-2303

1.2 Relevant identified uses of the substance or mixture and uses advised against

Material uses: Analytical reagent.
Dilution Buffer 2 x 1.6 ml
Labeling Spike-In 0.01 ml
Hyb Spike-In 0.01 ml

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

e-mail address of person responsible for this SDS: pdl-msds_author@agilent.com

1.4 Emergency telephone number

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition:
Dilution Buffer Mixture
Labeling Spike-In Mixture
Hyb Spike-In Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
Not classified.

See Section 16 for the full text of the H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Signal word:
Dilution Buffer No signal word.
Labeling Spike-In No signal word.
Hyb Spike-In No signal word.

Hazard statements:
Dilution Buffer No known significant effects or critical hazards.
Labeling Spike-In No known significant effects or critical hazards.
Hyb Spike-In No known significant effects or critical hazards.

Precautionary statements:

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SECTION 2: Hazards identification

Prevention:
- Dilution Buffer: Not applicable.
- Labeling Spike-In: Not applicable.
- Hyb Spike-In: Not applicable.

Response:
- Dilution Buffer: Not applicable.
- Labeling Spike-In: Not applicable.
- Hyb Spike-In: Not applicable.

Storage:
- Dilution Buffer: Not applicable.
- Labeling Spike-In: Not applicable.
- Hyb Spike-In: Not applicable.

Disposal:
- Dilution Buffer: Not applicable.
- Labeling Spike-In: Not applicable.
- Hyb Spike-In: Not applicable.

Supplemental label elements:
- Dilution Buffer: Not applicable.
- Labeling Spike-In: Not applicable.
- Hyb Spike-In: Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market, and use of certain dangerous substances, mixtures and articles:
- Dilution Buffer: Not applicable.
- Labeling Spike-In: Not applicable.
- Hyb Spike-In: Not applicable.

Special packaging requirements:
- Tactile warning of danger:
  - Dilution Buffer: Not applicable.
  - Labeling Spike-In: Not applicable.
  - Hyb Spike-In: Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII:
- Dilution Buffer: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
- Labeling Spike-In: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
- Hyb Spike-In: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification:
- Dilution Buffer: None known.
- Labeling Spike-In: None known.
- Hyb Spike-In: None known.

SECTION 3: Composition/information on ingredients

3.1 Substances:
- Dilution Buffer: Mixture
- Labeling Spike-In: Mixture
- Hyb Spike-In: Mixture

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit 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 first aid measures

Eye contact:
- Dilution Buffer: 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.
- Labeling Spike-In: 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.
- Hyb Spike-In: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
**SECTION 4: First aid measures**

<table>
<thead>
<tr>
<th>Section</th>
<th>Dilution Buffer</th>
<th>Labeling Spike-In</th>
<th>Hyb Spike-In</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inhalation</strong></td>
<td>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</td>
<td>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</td>
<td>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td><strong>Skin contact</strong></td>
<td>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.</td>
<td>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.</td>
<td>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>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.</td>
<td>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.</td>
<td>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.</td>
</tr>
<tr>
<td><strong>Protection of first-aiders</strong></td>
<td>No action shall be taken involving any personal risk or without suitable training</td>
<td>No action shall be taken involving any personal risk or without suitable training</td>
<td>No action shall be taken involving any personal risk or without suitable training</td>
</tr>
</tbody>
</table>

4.2 Most important symptoms and effects, both acute and delayed

**Potential acute health effects**

<table>
<thead>
<tr>
<th>Section</th>
<th>Dilution Buffer</th>
<th>Labeling Spike-In</th>
<th>Hyb Spike-In</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eye contact</strong></td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</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>
<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>
<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>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

**Over-exposure signs/symptoms**

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SECTION 4: First aid measures

Eye contact
- Dilution Buffer: No specific data.
- Labeling Spike-In: No specific data.
- Hyb Spike-In: No specific data.

Inhalation
- Dilution Buffer: No specific data.
- Labeling Spike-In: No specific data.
- Hyb Spike-In: No specific data.

Skin contact
- Dilution Buffer: No specific data.
- Labeling Spike-In: No specific data.
- Hyb Spike-In: No specific data.

Ingestion
- Dilution Buffer: No specific data.
- Labeling Spike-In: No specific data.
- Hyb Spike-In: No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician
- Dilution Buffer: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Labeling Spike-In: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Hyb Spike-In: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments
- Dilution Buffer: No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
- Dilution Buffer: Use an extinguishing agent suitable for the surrounding fire.
- Labeling Spike-In: Use an extinguishing agent suitable for the surrounding fire.
- Hyb Spike-In: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media
- Dilution Buffer: None known.
- Labeling Spike-In: None known.
- Hyb Spike-In: None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture
- Dilution Buffer: In a fire or if heated, a pressure increase will occur and the container may burst.
- Labeling Spike-In: In a fire or if heated, a pressure increase will occur and the container may burst.
- Hyb Spike-In: In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products
- Dilution Buffer: No specific data.
- Labeling Spike-In: No specific data.
- Hyb Spike-In: No specific data.

5.3 Advice for firefighters

Special precautions for fire-fighters
- Dilution 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.
- Labeling Spike-In: 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.
- Hyb Spike-In: 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.
SECTION 5: Firefighting measures

| Special protective equipment for fire-fighters | Dilution Buffer | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. |
| Labeling Spike-In | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. |
| Hyb Spike-In | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. |

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel | Dilution 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. |
| Labeling Spike-In | 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. |
| Hyb Spike-In | 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. |

For emergency responders | Dilution 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". |
| Labeling Spike-In | 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". |
| Hyb Spike-In | If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |

6.2 Environmental precautions | Dilution 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). |
| Labeling Spike-In | 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). |
| Hyb Spike-In | 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). |
SECTION 6: Accidental release measures

6.3 Methods and material for containment and cleaning up

Methods for cleaning up:
- **Dilution 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.
- **Labeling Spike-In**: 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.
- **Hyb Spike-In**: 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.

6.4 Reference to other sections:
- See Section 1 for emergency contact information.
- See Section 8 for information on appropriate personal protective equipment.
- See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protection measures:
- **Dilution Buffer**: Put on appropriate personal protective equipment (see Section 8).
- **Labeling Spike-In**: Put on appropriate personal protective equipment (see Section 8).
- **Hyb Spike-In**: Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene:
- **Dilution 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.
- **Labeling Spike-In**: 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.
- **Hyb Spike-In**: 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

Storage:
- **Dilution 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 environmental contamination. See Section 10 for incompatible materials before handling or use.
SECTION 7: Handling and storage

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

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

7.3 Specific end use(s)

Recommendations

| Dilution Buffer | Industrial applications, Professional applications. |
| Labeling Spike-In | Industrial applications, Professional applications. |
| Hyb Spike-In | Industrial applications, Professional applications. |

Industrial sector specific solutions

| Dilution Buffer | Not applicable. |
| Labeling Spike-In | Not applicable. |
| Hyb Spike-In | Not applicable. |

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits
No exposure limit value known.

Recommended monitoring procedures
If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs
No DNELs/DMELs available.

PNECs
No PNECs available

8.2 Exposure controls

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

Individual protection measures

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**SECTION 8: Exposure controls/personal protection**

**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: safety glasses with side-shields.

**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.

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

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

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

**Environmental exposure controls**: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties**

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Dilution Buffer</th>
<th>Labeling Spike-In</th>
<th>Hyb Spike-In</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Physical state</strong></td>
<td>Liquid.</td>
<td>Liquid.</td>
<td>Liquid.</td>
</tr>
<tr>
<td><strong>Colour</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Odour threshold</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>7.5</td>
<td>7.5</td>
<td>7.5</td>
</tr>
<tr>
<td><strong>Melting point/freezing point</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Initial boiling point and boiling range</strong></td>
<td>100°C</td>
<td>100°C</td>
<td>100°C</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>
### SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Dilution Buffer</th>
<th>Labeling Spike-In</th>
<th>Hyb Spike-In</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Easily soluble in the following materials: cold water and hot water.</td>
<td>Easily soluble in the following materials: cold water and hot water.</td>
<td>Easily soluble in the following materials: cold water and hot water.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

#### 9.2 Other information
No additional information.

### SECTION 10: Stability and reactivity

#### 10.1 Reactivity
- **Dilution Buffer**: No specific test data related to reactivity available for this product or its ingredients.
- **Labeling Spike-In**: No specific test data related to reactivity available for this product or its ingredients.
- **Hyb Spike-In**: No specific test data related to reactivity available for this product or its ingredients.

#### 10.2 Chemical stability
- **Dilution Buffer**: The product is stable.
- **Labeling Spike-In**: The product is stable.
- **Hyb Spike-In**: The product is stable.
SECTION 10: Stability and reactivity

10.3 Possibility of hazardous reactions
- Dilution Buffer: Under normal conditions of storage and use, hazardous reactions will not occur.
- Labeling Spike-In: Under normal conditions of storage and use, hazardous reactions will not occur.
- Hyb Spike-In: Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid
- Dilution Buffer: No specific data.
- Labeling Spike-In: No specific data.
- Hyb Spike-In: No specific data.

10.5 Incompatible materials
- Dilution Buffer: May react or be incompatible with oxidising materials.
- Labeling Spike-In: May react or be incompatible with oxidising materials.
- Hyb Spike-In: May react or be incompatible with oxidising materials.

10.6 Hazardous decomposition products
- Dilution Buffer: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Labeling Spike-In: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Hyb Spike-In: 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
- Not available.

Acute toxicity estimates
- N/A

Irritation/Corrosion
- Conclusion/Summary: Not available.

Sensitiser
- Conclusion/Summary: Not available.

Mutagenicity
- Conclusion/Summary: Not available.

Carcinogenicity
- Conclusion/Summary: Not available.

Reproductive toxicity
- Conclusion/Summary: Not available.

Teratogenicity
- Conclusion/Summary: Not available.

Specific target organ toxicity (single exposure)
- Not available.

Specific target organ toxicity (repeated exposure)
- Not available.

Aspiration hazard
- Not available.

Information on likely routes of exposure
- Dilution Buffer: Not available.
- Labeling Spike-In: Not available.
- Hyb Spike-In: Not available.

Potential acute health effects

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10/14
SECTION 11: Toxicological information

### Inhalation
- Dilution Buffer: No known significant effects or critical hazards.
- Labeling Spike-In: No known significant effects or critical hazards.
- Hyb Spike-In: No known significant effects or critical hazards.

### Ingestion
- Dilution Buffer: No known significant effects or critical hazards.
- Labeling Spike-In: No known significant effects or critical hazards.
- Hyb Spike-In: No known significant effects or critical hazards.

### Skin contact
- Dilution Buffer: No known significant effects or critical hazards.
- Labeling Spike-In: No known significant effects or critical hazards.
- Hyb Spike-In: No known significant effects or critical hazards.

### Eye contact
- Dilution Buffer: No known significant effects or critical hazards.
- Labeling Spike-In: No known significant effects or critical hazards.
- Hyb Spike-In: No known significant effects or critical hazards.

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

#### Inhalation
- Dilution Buffer: No specific data.
- Labeling Spike-In: No specific data.
- Hyb Spike-In: No specific data.

#### Ingestion
- Dilution Buffer: No specific data.
- Labeling Spike-In: No specific data.
- Hyb Spike-In: No specific data.

#### Skin contact
- Dilution Buffer: No specific data.
- Labeling Spike-In: No specific data.
- Hyb Spike-In: No specific data.

#### Eye contact
- Dilution Buffer: No specific data.
- Labeling Spike-In: No specific data.
- Hyb Spike-In: No specific data.

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

#### Short term exposure
- Potential immediate effects: Not available.
- Potential delayed effects: Not available.

#### Long term exposure
- Potential immediate effects: Not available.
- Potential delayed effects: Not available.

### Potential chronic health effects

#### General
- Dilution Buffer: No known significant effects or critical hazards.
- Labeling Spike-In: No known significant effects or critical hazards.
- Hyb Spike-In: No known significant effects or critical hazards.

#### Carcinogenicity
- Dilution Buffer: No known significant effects or critical hazards.
- Labeling Spike-In: No known significant effects or critical hazards.
- Hyb Spike-In: No known significant effects or critical hazards.

#### Mutagenicity
- Dilution Buffer: No known significant effects or critical hazards.
- Labeling Spike-In: No known significant effects or critical hazards.
- Hyb Spike-In: No known significant effects or critical hazards.

#### Teratogenicity
- Dilution Buffer: No known significant effects or critical hazards.
- Labeling Spike-In: No known significant effects or critical hazards.
- Hyb Spike-In: No known significant effects or critical hazards.

#### Developmental effects
- Dilution Buffer: No known significant effects or critical hazards.
- Labeling Spike-In: No known significant effects or critical hazards.
- Hyb Spike-In: No known significant effects or critical hazards.

#### Fertility effects
- Dilution Buffer: No known significant effects or critical hazards.
- Labeling Spike-In: No known significant effects or critical hazards.
- Hyb Spike-In: No known significant effects or critical hazards.

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SECTION 12: Ecological information

12.1 Toxicity
   Conclusion/Summary : Not available.

12.2 Persistence and degradability
   Not available.

12.3 Bioaccumulative potential
   Not available.

12.4 Mobility in soil
   Soil/water partition coefficient (K_{OC}) : Not available.
   Mobility : Not available.

12.5 Results of PBT and vPvB assessment
   This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods
   Product
   Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.
   Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

   Packaging
   Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
   Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

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<th>14.1 UN number</th>
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<th>IATA</th>
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<table>
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<td>14.4 Packing group</td>
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SECTION 14: Transport information

14.5 Environmental hazards

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<tbody>
<tr>
<td>No.</td>
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Additional information

14.6 Special precautions for user

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

14.7 Transport in bulk according to 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

**EU Regulation (EC) No. 1907/2006 (REACH)**

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

**Annex XIV**
None of the components are listed.

**Substances of very high concern**
None of the components are listed.

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

: **Dilution Buffer** Not applicable.
: **Labeling Spike-In** Not applicable.
: **Hyb Spike-In** Not applicable.

**Other EU regulations**

**Ozone depleting substances (1005/2009/EU)**
Not listed.

**Prior Informed Consent (PIC) (649/2012/EU)**
Not listed.

**Seveso Directive**
This product is not controlled under the Seveso Directive.

**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)**
Not listed.

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

**Inventory list**

: **Australia**: Not determined.
: **Canada**: Not determined.
SECTION 15: Regulatory information

China: All components are listed or exempted.
Europe: All components are listed or exempted.
Japan: Japan inventory (ENCs): Not determined.
       Japan inventory (ISHL): All components are listed or exempted.
New Zealand: Not determined.
Philippines: Not determined.
Republic of Korea: Not determined.
Taiwan: All components are listed or exempted.
Thailand: Not determined.
Turkey: Not determined.
United States: All components are listed or exempted.
Viet Nam: Not determined.

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

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms:

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

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

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<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
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Full text of abbreviated H statements

Not applicable.

Full text of classifications [CLP/GHS]

Not applicable.

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Notice to reader

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