SAFETY DATA SHEET
RNA Spike In Kit - Single Color, Part Number 5188-5282

Section 1. Identification

Product identifier : RNA Spike In Kit - Single Color, Part Number 5188-5282
Part no. (chemical kit) : 5188-5282
Part no. :
- One Color Spike-Mix 5972-3563
- Dilution Buffer 5972-3562

Material uses :
- Analytical reagent.
- For Research Use Only. Not for use in diagnostic procedures.
- One Color Spike-Mix 0.01 ml
- Dilution Buffer 1.2 ml

Supplier/Manufacturer :
- Agilent Technologies, Inc.
  5301 Stevens Creek Blvd
  Santa Clara, CA 95051, USA
  800-227-9770

Emergency telephone number (with hours of operation) :
CHEMTREC®: 1-800-424-9300

Section 2. Hazard identification

Classification of the substance or mixture
Not classified.

GHS label elements
- Signal word :
  - One Color Spike-Mix No signal word.
  - Dilution Buffer No signal word.
- Hazard statements :
  - One Color Spike-Mix No known significant effects or critical hazards.
  - Dilution Buffer No known significant effects or critical hazards.

Precautionary statements
- Prevention :
  - One Color Spike-Mix Not applicable.
  - Dilution Buffer Not applicable.
- Response :
  - One Color Spike-Mix Not applicable.
  - Dilution Buffer Not applicable.
- Storage :
  - One Color Spike-Mix Not applicable.
  - Dilution Buffer Not applicable.
- Disposal :
  - One Color Spike-Mix Not applicable.
  - Dilution Buffer Not applicable.

Supplemental label elements :
- One Color Spike-Mix None known.
- Dilution Buffer None known.

Other hazards which do not result in classification :
- One Color Spike-Mix None known.
- Dilution Buffer None known.

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Section 3. Composition/information on ingredients

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 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**

<table>
<thead>
<tr>
<th>Type</th>
<th>Substance/mixture</th>
<th>Description of necessary first aid measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eye contact</strong></td>
<td>One Color Spike-Mix</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Dilution Buffer</td>
<td>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.</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>One Color Spike-Mix</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></td>
<td>Dilution Buffer</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>One Color Spike-Mix</td>
<td>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td></td>
<td>Dilution Buffer</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>One Color Spike-Mix</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></td>
<td>Dilution Buffer</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>
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</table>

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

**Potential acute health effects**

<table>
<thead>
<tr>
<th>Type</th>
<th>Substance/mixture</th>
<th>Most important symptoms/effects, acute and delayed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eye contact</strong></td>
<td>One Color Spike-Mix</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>Dilution Buffer</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>One Color Spike-Mix</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>Dilution Buffer</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td><strong>Skin contact</strong></td>
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<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>Dilution Buffer</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>One Color Spike-Mix</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>Dilution Buffer</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

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Section 4. First-aid measures

Over-exposure signs/symptoms

Eye contact: One Color Spike-Mix, No specific data.
            Dilution Buffer, No specific data.

Inhalation: One Color Spike-Mix, No specific data.
            Dilution Buffer, No specific data.

Skin contact: One Color Spike-Mix, No specific data.
            Dilution Buffer, No specific data.

Ingestion: One Color Spike-Mix, No specific data.
            Dilution Buffer, No specific data.

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

Notes to physician: One Color Spike-Mix, Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
            Dilution Buffer, Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments: One Color Spike-Mix, No specific treatment.
            Dilution Buffer, No specific treatment.

Protection of first-aiders: One Color Spike-Mix, No action shall be taken involving any personal risk or without suitable training.
            Dilution Buffer, No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media: One Color Spike-Mix, Use an extinguishing agent suitable for the surrounding fire.
            Dilution Buffer, Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media: One Color Spike-Mix, None known.
            Dilution Buffer, None known.

Specific hazards arising from the chemical:

Specific hazards arising from the chemical: One Color Spike-Mix, In a fire or if heated, a pressure increase will occur and the container may burst.
            Dilution Buffer, In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products: One Color Spike-Mix, Decomposition products may include the following materials:
            Dilution Buffer, carbon dioxide
            metal oxide/oxides

Special protective actions for fire-fighters: One Color Spike-Mix, 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.
            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
Section 5. Fire-fighting measures

Special protective equipment for fire-fighters: One Color Spike-Mix

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

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.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel: One Color Spike-Mix

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

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 spilled material. Put on appropriate personal protective equipment.

For emergency responders: One Color Spike-Mix

- 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".

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

Environmental precautions: One Color Spike-Mix

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).

Dilution 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).

Methods and materials for containment and cleaning up:

Methods for cleaning up: One Color Spike-Mix

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.

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.
Section 6. Accidental release measures

disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures:
- One Color Spike-Mix: Put on appropriate personal protective equipment (see Section 8).
- Dilution Buffer: Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene:
- One Color Spike-Mix: 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.
- 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.

Conditions for safe storage, including any incompatibilities:
- One Color Spike-Mix: 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.
- 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits
None.

Appropriate engineering controls:
Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
Section 8. Exposure controls/personal protection

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: 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.

Section 9. Physical and chemical properties

Appearance


Color: One Color Spike-Mix Not available. Dilution Buffer Not available.

Odor: One Color Spike-Mix Not available. Dilution Buffer Not available.

Odor threshold: Not available.

pH: One Color Spike-Mix 6.4 Dilution Buffer 7

Melting point: Not available.

Boiling point: One Color Spike-Mix 0°C (32°F) Dilution Buffer 100°C (212°F)

Flash point: Not available.

Evaporation rate: Not available.

Flammability (solid, gas): Not applicable.
Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>One Color Spike-Mix</th>
<th>Dilution Buffer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower and upper explosive (flammable) limits</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor 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>
<tr>
<td>Solubility</td>
<td>Soluble in the following materials: cold water and hot water. Not available.</td>
<td>Soluble in the following materials: cold water and hot water. Not available.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Section 10. Stability and reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>One Color Spike-Mix</th>
<th>Dilution Buffer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Chemical stability</td>
<td>The product is stable. The product is stable.</td>
<td></td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.</td>
<td></td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>No specific data. No specific data.</td>
<td></td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials.</td>
<td></td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>
Section 11. Toxicological information

Information on toxicological effects

Acute toxicity
Not available.

Irritation/Corrosion
Not available.

Sensitization
Not available.

Mutagenicity
Conclusion/Summary: Not available.

Carcinogenicity
Conclusion/Summary: Not available.

Reproductive toxicity
Conclusion/Summary: Not available.

Teratogenicity
Conclusion/Summary: Not available.

Specific target organ toxicity (single exposure)
Not available.

Specific target organ toxicity (repeated exposure)
Not available.

Aspiration hazard
Not available.

Information on the likely routes of exposure

<table>
<thead>
<tr>
<th>Routes of Exposure</th>
<th>One Color Spike-Mix</th>
<th>Dilution Buffer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
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<tr>
<td>Skin contact</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>No known significant effects or critical hazards.</td>
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Potential acute health effects

<table>
<thead>
<tr>
<th>Route of Exposure</th>
<th>One Color Spike-Mix</th>
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<tr>
<td>Eye contact</td>
<td>No specific data.</td>
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<tr>
<td>Inhalation</td>
<td>No specific data.</td>
<td>No specific data.</td>
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<tr>
<td>Skin contact</td>
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<tr>
<td>Ingestion</td>
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</table>

Symptoms related to the physical, chemical and toxicological characteristics

<table>
<thead>
<tr>
<th>Route of Exposure</th>
<th>One Color Spike-Mix</th>
<th>Dilution Buffer</th>
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<tr>
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</tbody>
</table>

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

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### Section 11. Toxicological information

**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**:
  - One Color Spike-Mix: No known significant effects or critical hazards.
  - Dilution Buffer: No known significant effects or critical hazards.
- **Carcinogenicity**:
  - One Color Spike-Mix: No known significant effects or critical hazards.
  - Dilution Buffer: No known significant effects or critical hazards.
- **Mutagenicity**:
  - One Color Spike-Mix: No known significant effects or critical hazards.
  - Dilution Buffer: No known significant effects or critical hazards.
- **Teratogenicity**:
  - One Color Spike-Mix: No known significant effects or critical hazards.
  - Dilution Buffer: No known significant effects or critical hazards.
- **Developmental effects**:
  - One Color Spike-Mix: No known significant effects or critical hazards.
  - Dilution Buffer: No known significant effects or critical hazards.
- **Fertility effects**:
  - One Color Spike-Mix: No known significant effects or critical hazards.
  - Dilution Buffer: No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**
- N/A

### Section 12. Ecological information

**Toxicity**
Not available.

**Persistence and degradability**
Not available.

**Bioaccumulative potential**
Not available.

**Mobility in soil**
- **Soil/water partition coefficient (K<sub>oc</sub>)**: Not available.

**Other adverse effects**
- No known significant effects or critical hazards.
Section 13. Disposal considerations

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

Section 14. Transport information

TDG / 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

Canadian lists
Canadian NPRI: None of the components are listed.
CEPA Toxic substances: None of the components are listed.

International regulations
Montreal Protocol: Not listed.
UNECE Aarhus Protocol on POPs and Heavy Metals: Not listed.

Inventory list
Australia: All components are listed or exempted.
Canada: All components are listed or exempted.
China: All components are listed or exempted.
Europe: All components are listed or exempted.
Japan: Japan inventory (ENCS): All components are listed or exempted. Japan inventory (ISHL): All components are listed or exempted.
New Zealand: All components are listed or exempted.
Philippines: All components are listed or exempted.
Section 15. Regulatory information

<table>
<thead>
<tr>
<th>Country</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Republic of Korea</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Taiwan</td>
<td>All components are listed or exempted.</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>All components are listed or exempted.</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>Not determined.</td>
</tr>
</tbody>
</table>

Section 16. Other information

History

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Key to abbreviations

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- HPR = Hazardous Products Regulations
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- N/A = Not available
- UN = United Nations

Procedure used to derive the classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not classified.</td>
<td></td>
</tr>
</tbody>
</table>

References

- Not available.

* Indicates information that has changed from previously issued version.

Notice to reader

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