Conforms to HPR 2015

# SAFETY DATA SHEET

Agilent Technologies

Agilent RNA 6000 Nano Kit, Part Number 5067-1511

## Section 1. Identification

**Product identifier** : Agilent RNA 6000 Nano Kit, Part Number 5067-1511

**Part no. (chemical kit)** : 5067-1511

**Part no.** :

| | |
|---|---|
| Reagents RNA Nano | G2938-80023 |
| RNA 6000 Nano Gel Matrix | Not available. |
| RNA Nano Dye Concentrate | Not available. |
| RNA 6000 Nano Marker | Not available. |
| RNA 6000 Nano ladder | G2938-80038 |
| RNA 6000 Nano Ladder | Not available. |

**Material uses** : Analytical chemistry.
Research and Development

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | 2 x 1.2 ml |
| RNA Nano Dye Concentrate | 1 x 0.035 ml |
| RNA 6000 Nano Marker | 2 x 1.2 ml |
| RNA 6000 Nano Ladder | 1 x 0.035 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

**RNA Nano Dye Concentrate**

H320 EYE IRRITATION - Category 2B

### GHS label elements

**Signal word** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | No signal word. |
| RNA Nano Dye Concentrate | Warning |
| RNA 6000 Nano Marker | No signal word. |
| RNA 6000 Nano Ladder | No signal word. |

**Hazard statements** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | No known significant effects or critical hazards. |
| RNA Nano Dye Concentrate | H320 - Causes eye irritation. |
| RNA 6000 Nano Marker | No known significant effects or critical hazards. |
| RNA 6000 Nano Ladder | No known significant effects or critical hazards. |

### Precautionary statements

**Prevention** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | Not applicable. |
| RNA Nano Dye Concentrate | Not applicable. |
| RNA 6000 Nano Marker | Not applicable. |
| RNA 6000 Nano Ladder | Not applicable. |

**Response** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | Not applicable. |
| RNA Nano Dye Concentrate | 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 advice or attention. |
| RNA 6000 Nano Marker | Not applicable. |

# Section 2. Hazard identification

| | | | |
|---|---|---|---|
| | | RNA 6000 Nano Ladder | Not applicable. |
| **Storage** | : | RNA 6000 Nano Gel Matrix | Not applicable. |
| | | RNA Nano Dye Concentrate | Not applicable. |
| | | RNA 6000 Nano Marker | Not applicable. |
| | | RNA 6000 Nano Ladder | Not applicable. |
| **Disposal** | : | RNA 6000 Nano Gel Matrix | Not applicable. |
| | | RNA Nano Dye Concentrate | Not applicable. |
| | | RNA 6000 Nano Marker | Not applicable. |
| | | RNA 6000 Nano Ladder | Not applicable. |
| **Supplemental label elements** | : | RNA 6000 Nano Gel Matrix | None known. |
| | | RNA Nano Dye Concentrate | None known. |
| | | RNA 6000 Nano Marker | None known. |
| | | RNA 6000 Nano Ladder | None known. |
| **Other hazards which do not result in classification** | : | RNA 6000 Nano Gel Matrix | None known. |
| | | RNA Nano Dye Concentrate | None known. |
| | | RNA 6000 Nano Marker | None known. |
| | | RNA 6000 Nano Ladder | None known. |

# Section 3. Composition/information on ingredients

| | | | |
|---|---|---|---|
| **Substance/mixture** | : | RNA 6000 Nano Gel Matrix | Mixture |
| | | RNA Nano Dye Concentrate | Mixture |
| | | RNA 6000 Nano Marker | Mixture |
| | | RNA 6000 Nano Ladder | Mixture |

| Ingredient name | % (w/w) | CAS number |
|---|---|---|
| **RNA Nano Dye Concentrate** | | |
| Dimethyl sulfoxide | 80 - 100 | 67-68-5 |

**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** | : | RNA 6000 Nano Gel Matrix | 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. |
| | | RNA Nano Dye Concentrate | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention. |
| | | RNA 6000 Nano Marker | 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. |
| | | RNA 6000 Nano Ladder | 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

| | | | |
|---|---|---|---|
| **Inhalation** | : | RNA 6000 Nano Gel Matrix | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. |
| | | RNA Nano Dye Concentrate | 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. |
| | | RNA 6000 Nano Marker | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. |
| | | RNA 6000 Nano Ladder | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. |
| **Skin contact** | : | RNA 6000 Nano Gel Matrix | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |
| | | RNA Nano Dye Concentrate | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| | | RNA 6000 Nano Marker | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |
| | | RNA 6000 Nano Ladder | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |
| **Ingestion** | : | RNA 6000 Nano Gel Matrix | Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. |
| | | RNA Nano Dye Concentrate | Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. 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. |
| | | RNA 6000 Nano Marker | Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. |
| | | RNA 6000 Nano Ladder | Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce |

# Section 4. First-aid measures

vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

## Most important symptoms/effects, acute and delayed

### Potential acute health effects

| | | | |
|---|---|---|---|
| **Eye contact** | : | RNA 6000 Nano Gel Matrix | No known significant effects or critical hazards. |
| | | RNA Nano Dye Concentrate | Causes eye irritation. |
| | | RNA 6000 Nano Marker | No known significant effects or critical hazards. |
| | | RNA 6000 Nano Ladder | No known significant effects or critical hazards. |
| **Inhalation** | : | RNA 6000 Nano Gel Matrix | No known significant effects or critical hazards. |
| | | RNA Nano Dye Concentrate | No known significant effects or critical hazards. |
| | | RNA 6000 Nano Marker | No known significant effects or critical hazards. |
| | | RNA 6000 Nano Ladder | No known significant effects or critical hazards. |
| **Skin contact** | : | RNA 6000 Nano Gel Matrix | No known significant effects or critical hazards. |
| | | RNA Nano Dye Concentrate | No known significant effects or critical hazards. |
| | | RNA 6000 Nano Marker | No known significant effects or critical hazards. |
| | | RNA 6000 Nano Ladder | No known significant effects or critical hazards. |
| **Ingestion** | : | RNA 6000 Nano Gel Matrix | No known significant effects or critical hazards. |
| | | RNA Nano Dye Concentrate | No known significant effects or critical hazards. |
| | | RNA 6000 Nano Marker | No known significant effects or critical hazards. |
| | | RNA 6000 Nano Ladder | No known significant effects or critical hazards. |

### Over-exposure signs/symptoms

| | | | |
|---|---|---|---|
| **Eye contact** | : | RNA 6000 Nano Gel Matrix | No specific data. |
| | | RNA Nano Dye Concentrate | Adverse symptoms may include the following:<br>irritation<br>watering<br>redness |
| | | RNA 6000 Nano Marker | No specific data. |
| | | RNA 6000 Nano Ladder | No specific data. |
| **Inhalation** | : | RNA 6000 Nano Gel Matrix | No specific data. |
| | | RNA Nano Dye Concentrate | No specific data. |
| | | RNA 6000 Nano Marker | No specific data. |
| | | RNA 6000 Nano Ladder | No specific data. |
| **Skin contact** | : | RNA 6000 Nano Gel Matrix | No specific data. |
| | | RNA Nano Dye Concentrate | No specific data. |
| | | RNA 6000 Nano Marker | No specific data. |
| | | RNA 6000 Nano Ladder | No specific data. |
| **Ingestion** | : | RNA 6000 Nano Gel Matrix | No specific data. |
| | | RNA Nano Dye Concentrate | No specific data. |
| | | RNA 6000 Nano Marker | No specific data. |
| | | RNA 6000 Nano Ladder | No specific data. |

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

| | | | |
|---|---|---|---|
| **Notes to physician** | : | RNA 6000 Nano Gel Matrix | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | | RNA Nano Dye Concentrate | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | | RNA 6000 Nano Marker | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | | RNA 6000 Nano Ladder | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |

# Section 4. First-aid measures

| | | | |
|---|---|---|---|
| **Specific treatments** | : | RNA 6000 Nano Gel Matrix | No specific treatment. |
| | | RNA Nano Dye Concentrate | No specific treatment. |
| | | RNA 6000 Nano Marker | No specific treatment. |
| | | RNA 6000 Nano Ladder | No specific treatment. |
| **Protection of first-aiders** | : | RNA 6000 Nano Gel Matrix | No action shall be taken involving any personal risk or without suitable training. |
| | | RNA Nano Dye Concentrate | 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. |
| | | RNA 6000 Nano Marker | No action shall be taken involving any personal risk or without suitable training. |
| | | RNA 6000 Nano Ladder | 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** | : | RNA 6000 Nano Gel Matrix | Use an extinguishing agent suitable for the surrounding fire. |
| | | RNA Nano Dye Concentrate | Use an extinguishing agent suitable for the surrounding fire. |
| | | RNA 6000 Nano Marker | Use an extinguishing agent suitable for the surrounding fire. |
| | | RNA 6000 Nano Ladder | Use an extinguishing agent suitable for the surrounding fire. |
| **Unsuitable extinguishing media** | : | RNA 6000 Nano Gel Matrix | None known. |
| | | RNA Nano Dye Concentrate | None known. |
| | | RNA 6000 Nano Marker | None known. |
| | | RNA 6000 Nano Ladder | None known. |
| **Specific hazards arising from the chemical** | : | RNA 6000 Nano Gel Matrix | In a fire or if heated, a pressure increase will occur and the container may burst. |
| | | RNA Nano Dye Concentrate | In a fire or if heated, a pressure increase will occur and the container may burst. |
| | | RNA 6000 Nano Marker | In a fire or if heated, a pressure increase will occur and the container may burst. |
| | | RNA 6000 Nano Ladder | In a fire or if heated, a pressure increase will occur and the container may burst. |
| **Hazardous thermal decomposition products** | : | RNA 6000 Nano Gel Matrix | No specific data. |
| | | RNA Nano Dye Concentrate | Decomposition products may include the following materials:<br>carbon dioxide<br>carbon monoxide<br>sulfur oxides |
| | | RNA 6000 Nano Marker | No specific data. |
| | | RNA 6000 Nano Ladder | No specific data. |
| **Special protective actions for fire-fighters** | : | RNA 6000 Nano Gel Matrix | 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. |
| | | RNA Nano Dye Concentrate | 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. Fire-fighting measures

| | | | |
|---|---|---|---|
| | | RNA 6000 Nano Marker | 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. |
| | | RNA 6000 Nano Ladder | 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** | : | RNA 6000 Nano Gel Matrix | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| | | RNA Nano Dye Concentrate | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| | | RNA 6000 Nano Marker | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| | | RNA 6000 Nano Ladder | 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** | : | RNA 6000 Nano Gel Matrix | 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. |
| | | RNA Nano Dye Concentrate | 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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
| | | RNA 6000 Nano Marker | 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. |
| | | RNA 6000 Nano Ladder | 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. |

# Section 6. Accidental release measures

| | | |
|---|---|---|
| **For emergency responders** : | RNA 6000 Nano Gel Matrix | 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". |
| | RNA Nano Dye Concentrate | 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". |
| | RNA 6000 Nano Marker | 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". |
| | RNA 6000 Nano Ladder | 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** : | RNA 6000 Nano Gel Matrix | 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). |
| | RNA Nano Dye Concentrate | 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). |
| | RNA 6000 Nano Marker | 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). |
| | RNA 6000 Nano Ladder | 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** : | RNA 6000 Nano Gel Matrix | 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. |
| | RNA Nano Dye Concentrate | 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. |
| | RNA 6000 Nano Marker | 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. |
| | RNA 6000 Nano Ladder | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. |

# Section 6. Accidental release measures

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** | : | RNA 6000 Nano Gel Matrix | Put on appropriate personal protective equipment (see Section 8). |
| | | RNA Nano Dye Concentrate | Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor 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. |
| | | RNA 6000 Nano Marker | Put on appropriate personal protective equipment (see Section 8). |
| | | RNA 6000 Nano Ladder | Put on appropriate personal protective equipment (see Section 8). |
| **Advice on general occupational hygiene** | : | RNA 6000 Nano Gel Matrix | 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. |
| | | RNA Nano Dye Concentrate | 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. |
| | | RNA 6000 Nano Marker | 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. |
| | | RNA 6000 Nano Ladder | 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** | : | RNA 6000 Nano Gel Matrix | 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 |

# Section 7. Handling and storage

| | |
|---|---|
| | containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. |
| RNA Nano Dye Concentrate | 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. |
| RNA 6000 Nano Marker | 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. |
| RNA 6000 Nano Ladder | 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

| Ingredient name | Exposure limits |
|---|---|
| **RNA Nano Dye Concentrate**<br>Dimethyl sulfoxide | **OARS WEEL (United States, 1/2021).**<br>TWA: 250 ppm 8 hours. |

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

**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

# 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: 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.

# Section 9. Physical and chemical properties and safety characteristics

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

**Appearance**

| | | |
|---|---|---|
| **Physical state** : | RNA 6000 Nano Gel Matrix | Liquid. |
| | RNA Nano Dye Concentrate | Liquid. |
| | RNA 6000 Nano Marker | Liquid. |
| | RNA 6000 Nano Ladder | Liquid. |
| **Color** : | RNA 6000 Nano Gel Matrix | Not available. |
| | RNA Nano Dye Concentrate | Blue. |
| | RNA 6000 Nano Marker | Not available. |
| | RNA 6000 Nano Ladder | Not available. |
| **Odor** : | RNA 6000 Nano Gel Matrix | Not available. |
| | RNA Nano Dye Concentrate | Not available. |
| | RNA 6000 Nano Marker | Not available. |
| | RNA 6000 Nano Ladder | Not available. |
| **Odor threshold** : | RNA 6000 Nano Gel Matrix | Not available. |
| | RNA Nano Dye Concentrate | Not available. |
| | RNA 6000 Nano Marker | Not available. |
| | RNA 6000 Nano Ladder | Not available. |
| **pH** : | RNA 6000 Nano Gel Matrix | Not available. |
| | RNA Nano Dye Concentrate | Not available. |
| | RNA 6000 Nano Marker | Not available. |
| | RNA 6000 Nano Ladder | Not available. |

# Section 9. Physical and chemical properties and safety characteristics

**Melting point/freezing point** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | 0°C (32°F) |
| RNA Nano Dye Concentrate | 18.4°C (65.1°F) |
| RNA 6000 Nano Marker | 0°C (32°F) |
| RNA 6000 Nano Ladder | 0°C (32°F) |

**Boiling point, initial boiling point, and boiling range** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | 100°C (212°F) |
| RNA Nano Dye Concentrate | 189°C (372.2°F) |
| RNA 6000 Nano Marker | 100°C (212°F) |
| RNA 6000 Nano Ladder | 100°C (212°F) |

**Flash point** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | Not available. |
| RNA Nano Dye Concentrate | Closed cup: 94°C (201.2°F) |
| RNA 6000 Nano Marker | Not available. |
| RNA 6000 Nano Ladder | Not available. |

| | Closed cup | | | Open cup | | |
|---|---|---|---|---|---|---|
| **Ingredient name** | **°C** | **°F** | **Method** | **°C** | **°F** | **Method** |
| **RNA 6000 Nano Gel Matrix** | | | | | | |
| Acetic acid, (ethylenedinitrilo)tetra-, disodium salt, dihydrate | >100 | >212 | | | | |
| **RNA 6000 Nano Ladder** | | | | | | |
| Acetic acid, (ethylenedinitrilo)tetra-, disodium salt, dihydrate | >100 | >212 | | | | |

**Evaporation rate** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | Not available. |
| RNA Nano Dye Concentrate | Not available. |
| RNA 6000 Nano Marker | Not available. |
| RNA 6000 Nano Ladder | Not available. |

**Flammability** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | Not applicable. |
| RNA Nano Dye Concentrate | Not applicable. |
| RNA 6000 Nano Marker | Not applicable. |
| RNA 6000 Nano Ladder | Not applicable. |

**Lower and upper explosion limit/flammability limit** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | Not available. |
| RNA Nano Dye Concentrate | Not available. |
| RNA 6000 Nano Marker | Not available. |
| RNA 6000 Nano Ladder | Not available. |

**Vapor pressure** :

| | Vapor Pressure at 20˚C | | | Vapor pressure at 50˚C | | |
|---|---|---|---|---|---|---|
| **Ingredient name** | **mm Hg** | **kPa** | **Method** | **mm Hg** | **kPa** | **Method** |
| **RNA 6000 Nano Gel Matrix** | | | | | | |
| Water | 23.8 | 3.2 | | 92.258 | 12.3 | |
| **RNA Nano Dye Concentrate** | | | | | | |
| Dimethyl sulfoxide | 0.42 | 0.056 | EU A.4 | | | |
| **RNA 6000 Nano Marker** | | | | | | |
| Water | 23.8 | 3.2 | | 92.258 | 12.3 | |
| **RNA 6000 Nano Ladder** | | | | | | |
| Water | 23.8 | 3.2 | | 92.258 | 12.3 | |

# Section 9. Physical and chemical properties and safety characteristics

**Relative vapor density** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | Not available. |
| RNA Nano Dye Concentrate | Not available. |
| RNA 6000 Nano Marker | Not available. |
| RNA 6000 Nano Ladder | Not available. |

**Relative density** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | Not available. |
| RNA Nano Dye Concentrate | Not available. |
| RNA 6000 Nano Marker | Not available. |
| RNA 6000 Nano Ladder | Not available. |

**Solubility** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | Easily soluble in the following materials: cold water and hot water. |
| RNA Nano Dye Concentrate | Soluble in the following materials: cold water and hot water. |
| RNA 6000 Nano Marker | Easily soluble in the following materials: cold water and hot water. |
| RNA 6000 Nano Ladder | Easily soluble in the following materials: cold water and hot water. |

**Partition coefficient: n-octanol/water** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | Not applicable. |
| RNA Nano Dye Concentrate | Not applicable. |
| RNA 6000 Nano Marker | Not applicable. |
| RNA 6000 Nano Ladder | Not applicable. |

**Auto-ignition temperature** :

| Ingredient name | °C | °F | Method |
|---|---|---|---|
| **RNA Nano Dye Concentrate** | | | |
| Dimethyl sulfoxide | 300 to 302 | 572 to 575.6 | |

**Decomposition temperature** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | Not available. |
| RNA Nano Dye Concentrate | Not available. |
| RNA 6000 Nano Marker | Not available. |
| RNA 6000 Nano Ladder | Not available. |

**Viscosity** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | Not available. |
| RNA Nano Dye Concentrate | Not available. |
| RNA 6000 Nano Marker | Not available. |
| RNA 6000 Nano Ladder | Not available. |

**Particle characteristics**

**Median particle size** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | Not applicable. |
| RNA Nano Dye Concentrate | Not applicable. |
| RNA 6000 Nano Marker | Not applicable. |
| RNA 6000 Nano Ladder | Not applicable. |

# Section 10. Stability and reactivity

**Reactivity** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | No specific test data related to reactivity available for this product or its ingredients. |
| RNA Nano Dye Concentrate | No specific test data related to reactivity available for this product or its ingredients. |
| RNA 6000 Nano Marker | No specific test data related to reactivity available for this product or its ingredients. |
| RNA 6000 Nano Ladder | No specific test data related to reactivity available for this product or its ingredients. |

**Chemical stability** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | The product is stable. |
| RNA Nano Dye Concentrate | The product is stable. |
| RNA 6000 Nano Marker | The product is stable. |
| RNA 6000 Nano Ladder | The product is stable. |

# Section 10. Stability and reactivity

**Possibility of hazardous reactions** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | Under normal conditions of storage and use, hazardous reactions will not occur. |
| RNA Nano Dye Concentrate | Under normal conditions of storage and use, hazardous reactions will not occur. |
| RNA 6000 Nano Marker | Under normal conditions of storage and use, hazardous reactions will not occur. |
| RNA 6000 Nano Ladder | Under normal conditions of storage and use, hazardous reactions will not occur. |

**Conditions to avoid** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | No specific data. |
| RNA Nano Dye Concentrate | No specific data. |
| RNA 6000 Nano Marker | No specific data. |
| RNA 6000 Nano Ladder | No specific data. |

**Incompatible materials** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | May react or be incompatible with oxidizing materials. |
| RNA Nano Dye Concentrate | May react or be incompatible with oxidizing materials. |
| RNA 6000 Nano Marker | May react or be incompatible with oxidizing materials. |
| RNA 6000 Nano Ladder | May react or be incompatible with oxidizing materials. |

**Hazardous decomposition products** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| RNA Nano Dye Concentrate | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| RNA 6000 Nano Marker | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| RNA 6000 Nano Ladder | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

# Section 11. Toxicological information

## Information on toxicological effects

### Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| **RNA Nano Dye Concentrate** | | | | |
| Dimethyl sulfoxide | LD50 Dermal | Rat | 40000 mg/kg | - |
| | LD50 Oral | Rat | 14500 mg/kg | - |

### Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| **RNA Nano Dye Concentrate** | | | | | |
| Dimethyl sulfoxide | Eyes - Mild irritant | Rabbit | - | 24 hours 500 mg | - |
| | Eyes - Mild irritant | Rabbit | - | 100 mg | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 mg | - |
| | Skin - Mild irritant | Rabbit | - | 100 mg | - |

### Sensitization

Not available.

### Mutagenicity

# Section 11. Toxicological information

**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** : | RNA 6000 Nano Gel Matrix | Not available. |
| | RNA Nano Dye Concentrate | Routes of entry anticipated: Oral, Dermal, Inhalation. |
| | RNA 6000 Nano Marker | Not available. |
| | RNA 6000 Nano Ladder | Not available. |

**Potential acute health effects**

| | | |
|---|---|---|
| **Eye contact** : | RNA 6000 Nano Gel Matrix | No known significant effects or critical hazards. |
| | RNA Nano Dye Concentrate | Causes eye irritation. |
| | RNA 6000 Nano Marker | No known significant effects or critical hazards. |
| | RNA 6000 Nano Ladder | No known significant effects or critical hazards. |
| **Inhalation** : | RNA 6000 Nano Gel Matrix | No known significant effects or critical hazards. |
| | RNA Nano Dye Concentrate | No known significant effects or critical hazards. |
| | RNA 6000 Nano Marker | No known significant effects or critical hazards. |
| | RNA 6000 Nano Ladder | No known significant effects or critical hazards. |
| **Skin contact** : | RNA 6000 Nano Gel Matrix | No known significant effects or critical hazards. |
| | RNA Nano Dye Concentrate | No known significant effects or critical hazards. |
| | RNA 6000 Nano Marker | No known significant effects or critical hazards. |
| | RNA 6000 Nano Ladder | No known significant effects or critical hazards. |
| **Ingestion** : | RNA 6000 Nano Gel Matrix | No known significant effects or critical hazards. |
| | RNA Nano Dye Concentrate | No known significant effects or critical hazards. |
| | RNA 6000 Nano Marker | No known significant effects or critical hazards. |
| | RNA 6000 Nano Ladder | No known significant effects or critical hazards. |

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

| | | |
|---|---|---|
| **Eye contact** : | RNA 6000 Nano Gel Matrix | No specific data. |
| | RNA Nano Dye Concentrate | Adverse symptoms may include the following:<br>irritation<br>watering<br>redness |
| | RNA 6000 Nano Marker | No specific data. |
| | RNA 6000 Nano Ladder | No specific data. |
| **Inhalation** : | RNA 6000 Nano Gel Matrix | No specific data. |
| | RNA Nano Dye Concentrate | No specific data. |
| | RNA 6000 Nano Marker | No specific data. |
| | RNA 6000 Nano Ladder | No specific data. |
| **Skin contact** : | RNA 6000 Nano Gel Matrix | No specific data. |
| | RNA Nano Dye Concentrate | No specific data. |
| | RNA 6000 Nano Marker | No specific data. |
| | RNA 6000 Nano Ladder | No specific data. |

# Section 11. Toxicological information

**Ingestion** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | No specific data. |
| RNA Nano Dye Concentrate | No specific data. |
| RNA 6000 Nano Marker | No specific data. |
| RNA 6000 Nano Ladder | No specific data. |

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

### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

**General** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | No known significant effects or critical hazards. |
| RNA Nano Dye Concentrate | No known significant effects or critical hazards. |
| RNA 6000 Nano Marker | No known significant effects or critical hazards. |
| RNA 6000 Nano Ladder | No known significant effects or critical hazards. |

**Carcinogenicity** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | No known significant effects or critical hazards. |
| RNA Nano Dye Concentrate | No known significant effects or critical hazards. |
| RNA 6000 Nano Marker | No known significant effects or critical hazards. |
| RNA 6000 Nano Ladder | No known significant effects or critical hazards. |

**Mutagenicity** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | No known significant effects or critical hazards. |
| RNA Nano Dye Concentrate | No known significant effects or critical hazards. |
| RNA 6000 Nano Marker | No known significant effects or critical hazards. |
| RNA 6000 Nano Ladder | No known significant effects or critical hazards. |

**Reproductive toxicity** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | No known significant effects or critical hazards. |
| RNA Nano Dye Concentrate | No known significant effects or critical hazards. |
| RNA 6000 Nano Marker | No known significant effects or critical hazards. |
| RNA 6000 Nano Ladder | No known significant effects or critical hazards. |

## Numerical measures of toxicity

### Acute toxicity estimates

| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapors) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|---|---|---|---|---|---|
| **RNA Nano Dye Concentrate**<br>Dimethyl sulfoxide | 14500 | 40000 | N/A | N/A | N/A |

**Other information** :

| | |
|---|---|
| RNA 6000 Nano Gel Matrix | Not available. |
| RNA Nano Dye Concentrate | Not available. |
| RNA 6000 Nano Marker | Not available. |
| RNA 6000 Nano Ladder | Not available. |

# Section 12. Ecological information

## Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| **RNA Nano Dye Concentrate** | | | |
| Dimethyl sulfoxide | Acute LC50 25000 ppm Fresh water | Daphnia - Daphnia magna - Neonate | 48 hours |
| | Acute LC50 34000000 µg/l Fresh water | Fish - Pimephales promelas | 96 hours |
| | Chronic NOEC 100 ul/L Marine water | Algae - Ulva lactuca | 72 hours |
| | Chronic NOEC 100 ul/L Fresh water | Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling) | 21 days |

## Persistence and degradability

| Product/ingredient name | Test | Result | Dose | Inoculum |
|---|---|---|---|---|
| **RNA Nano Dye Concentrate** | | | | |
| Dimethyl sulfoxide | OECD 301D Ready Biodegradability - Closed Bottle Test | 31 % - Not readily - 28 days | - | - |

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| **RNA Nano Dye Concentrate** | | | |
| Dimethyl sulfoxide | - | - | Not readily |

## Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| **RNA Nano Dye Concentrate** | | | |
| Dimethyl sulfoxide | -1.35 | 3.16 | low |

## 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

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

# 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 IMO instruments** : 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

### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

### Montreal Protocol

Not listed.

### Stockholm Convention on Persistent Organic Pollutants

Not listed.

### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

## Inventory list

**Australia** : All components are listed or exempted.

**Canada** : All components are listed or exempted.

**China** : Not determined.

**Europe** : Not determined.

**Japan** : **Japan inventory (CSCL)**: All components are listed or exempted.
**Japan inventory (ISHL)**: All components are listed or exempted.

**New Zealand** : All components are listed or exempted.

**Philippines** : Not determined.

**Republic of Korea** : Not determined.

**Taiwan** : All components are listed or exempted.

**Thailand** : Not determined.

**Turkey** : Not determined.

**United States** : Not determined.

**Viet Nam** : Not determined.

# Section 16. Other information

## History

**Date of issue/Date of revision** : 02/03/2022

**Date of previous issue** : 12/19/2019

**Version** : 10

**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
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
UN = United Nations

## Procedure used to derive the classification

| Classification | Justification |
|---|---|
| **RNA Nano Dye Concentrate**<br>EYE IRRITATION - Category 2B | Calculation method |

**References** : Not available.

**Indicates information that has changed from previously issued version.**

## Notice to reader

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