1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name: mRNA ribonucleic acid polymer in aqueous solution
Product Number: mRNA product (solution individual tubes)
Brand: OriGene Technologies, Inc.

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

Identified uses: Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company: OriGene Technologies, Inc.
9620 Medical Center Drive, Suite 200
Rockville, MD 20850 USA

Telephone: +1 301.340.3188
Fax: +1 301.340.8606

1.4 Emergency telephone number

Emergency Phone #: + 240.620.0267

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture.

2.2 GHS Label elements, including precautionary statements

Not a hazardous substance or mixture.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

No components need to be disclosed according to the applicable regulations.

4. FIRST AID MEASURES

4.1 Description of first aid measures If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

In case of skin contact
Wash off with soap and plenty of water.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in
4.3 Indication of any immediate medical attention and special treatment needed  
No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media  
Suitable extinguishing media  
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture  
Nature of decomposition products not known.

5.3 Advice for firefighters  
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information  
No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures  
Avoid breathing vapors, mist or gas. For personal protection see section 8.

6.2 Environmental precautions  
No special environmental precautions required.

6.3 Methods and materials for containment and cleaning up  
Keep in suitable, closed containers for disposal.

6.4 Reference to other sections  
For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling  
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities  
Keep container tightly closed in a dry and well-ventilated place. Storage class (TRGS 510):

7.3 Specific end use(s)  
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters  
Components with workplace control parameters  
Contains no substances with occupational exposure limit values.

8.2 Exposure controls  
Appropriate engineering controls  
General industrial hygiene practice.

Personal protective equipment  
Eye/face protection  
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection  
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection  
Impervious clothing, the type of protective equipment must be selected according to the
concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**
Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**
No special environmental precautions required.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Form: aqueous solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point &amp; range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid/gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper/lower Flammability limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Water solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient (octanol/water)</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>
9.2 Other safety information
No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
No data available

10.5 Incompatible materials
Strong oxidizing agents

10.6 Hazardous decomposition products
Other decomposition products - No data available In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
No data available

Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
IARC: No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
RTECS: Not available
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

12.1 Toxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment
Product
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

15. REGULATORY INFORMATION

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
No SARA Hazards

Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components
No components are subject to the Pennsylvania Right to Know Act.

**New Jersey Right To Know Components**
No components are subject to the New Jersey Right to Know Act.

**California Prop. 65 Components**
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

### 16. OTHER INFORMATION

**HMIS Rating**
- Health hazard: 0
- Chronic Health Hazard: 0
- Flammability: 0
- Physical Hazard 0

**NFPA Rating**
- Health hazard: 0
- Fire Hazard: 0
- Reactivity Hazard: 0

**Further information**
Copyright 2019 OriGene Technologies, Inc. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. OriGene Technologies and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.origene.com](http://www.origene.com) for additional terms and conditions of sale.

**Preparation Information**
OriGene Technologies, Inc
Safety Office
Version: 1.0 Revision Date: 2/28/2019