**PathoSEEK® qPCR Detection Assay**

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Date of Issue: 02/19/2020

Version: 1.0

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**SECTION 1: IDENTIFICATION**

1.1. **Product Identifier**

Product Form: Mixture

Product Name: PathoSEEK® qPCR Detection Assay

Product Code: Multiple

Synonyms: Primer/Probe Oligonucleotide Mixture

1.2. **Intended Use of the Product**

Use of the Substance/Mixture: Pathogen detection using real-time quantitative PCR (qPCR)

1.3. **Name, Address, and Telephone of the Responsible Party**

Company
Medicinal Genomics Corporation
100 Cummings Center, Suite 406L
Beverly, MA 01915
866-574-3582
medicinalgenomics.com

1.4. **Emergency Telephone Number**

Emergency Number: (866) 574 - 3582

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**SECTION 2: HAZARDS IDENTIFICATION**

2.1. **Classification of the Substance or Mixture**

Not classified

2.2. **Label Elements**

GHS-US Labeling

No labeling applicable according to 29 CFR 1910.1200.

2.3. **Other Hazards**

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4. **Unknown Acute Toxicity (GHS-US)**

No data available

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**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

3.1. **Substance**

Not applicable

3.2. **Mixture**

<table>
<thead>
<tr>
<th>Name</th>
<th>Synonyms</th>
<th>Product Identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>AQUA Synthetic DNA, Oligo</td>
<td>(CAS-No.) 7732-18-5 (CAS-No.) Not available</td>
<td>&lt;= 98</td>
<td>Not classified</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;= 3</td>
<td>Not classified</td>
</tr>
<tr>
<td>Hydrochloric acid</td>
<td>Hydrogen chloride / Muriatic acid / HYDROCHLORIC ACID / Hydrochloric acid, anhydrous</td>
<td>(CAS-No.) 7647-01-0</td>
<td>&lt;= 0.36</td>
<td>Met. Corr. 1, H290 Skin Corr. 1A, H314</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1, H318 STOT SE 3, H335</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aquatic Acute 2, H401</td>
</tr>
</tbody>
</table>
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SECTION 4: FIRST AID MEASURES

4.1 Description of First-aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 5 minutes. Obtain medical attention if irritation develops or persists.

First-aid Measures After Eye Contact: Rinse cautiously with water for at least 5 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2 Most Important Symptoms and Effects Both Acute and Delayed

Symptoms/Injuries: Not expected to present a significant hazard under anticipated conditions of normal use.

Symptoms/Injuries After Inhalation: Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact: Prolonged exposure may cause skin irritation.

Symptoms/Injuries After Eye Contact: May cause slight irritation to eyes.

Symptoms/Injuries After Ingestion: Ingestion may cause adverse effects.

Chronic Symptoms: None known.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.
SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media
Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.
Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture
Fire Hazard: Will not support combustion unless the water has evaporated.
Explosion Hazard: Product is not explosive.
Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters
Precautionary Measures Fire: Exercise caution when fighting any chemical fire.
Firefighting Instructions: Use water spray or fog for cooling exposed containers.
Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.
Hazardous Combustion Products: Carbon oxides (CO, CO$_2$), Nitrogen compounds, Phosphorus oxides.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures
General Measures: Avoid prolonged contact with eyes, skin and clothing. Avoid breathing (vapor, mist, spray).
6.1.1. For Non-Emergency Personnel
Protective Equipment: Use appropriate personal protective equipment (PPE).
6.1.2. For Emergency Personnel
Protective Equipment: Equip cleanup crew with proper protection.
Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.2. Environmental Precautions
Prevent entry to sewers and public waters.

6.3. Methods and Materials for Containment and Cleaning Up
For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections
See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling
Precautions for Safe Handling: Avoid prolonged contact with eyes, skin and clothing. Avoid breathing vapors, mist, spray. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities
Technical Measures: Comply with applicable regulations.
Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.
Incompatible Materials: Strong acids, strong bases, strong oxidizers.

7.3. Specific End Use(s)
Pathogen detection using real-time quantitative PCR (qPCR)

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters
For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

<table>
<thead>
<tr>
<th>Substance</th>
<th>ACGIH Ceiling (ppm)</th>
<th>ACGIH chemical category</th>
<th>NIOSH REL (ceiling) (mg/m³)</th>
<th>NIOSH REL (ceiling) (ppm)</th>
<th>US IDLH (ppm)</th>
<th>OSHA PEL (Ceiling) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid (7647-01-0)</td>
<td>2 ppm</td>
<td>Not Classifiable as a Human Carcinogen</td>
<td>7 mg/m³</td>
<td>5 ppm</td>
<td>50 ppm</td>
<td>7 mg/m³</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>USA OSHA</th>
<th>OSHA PEL (Ceiling) (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 ppm</td>
<td></td>
</tr>
</tbody>
</table>

8.2 Exposure Controls

**Appropriate Engineering Controls**: Suitable eye/body wash equipment should be available in the vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

**Personal Protective Equipment**: Gloves. Protective clothing. Protective goggles.

**Materials for Protective Clothing**: Chemically resistant materials and fabrics.

**Hand Protection**: Wear protective gloves.

**Eye and Face Protection**: Chemical safety goggles.

**Skin and Body Protection**: Wear suitable protective clothing.

**Respiratory Protection**: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

**Other Information**: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear, Yellow cap color</td>
</tr>
<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>Evaporation Rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash Point</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>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative Vapor Density at 20°C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition Coefficient: N-Octanol/Water</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2 Other Information No additional information available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity: Hazardous reactions will not occur under normal conditions.

10.2 Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

10.3 Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

10.4 Conditions to Avoid: Direct sunlight, extremely high or low temperatures, and incompatible materials.

10.5 Incompatible Materials: Strong acids, strong bases, strong oxidizers.

10.6 Hazardous Decomposition Products: Not expected to decompose under ambient conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects

**Acute Toxicity (Oral)**: Not classified

**Acute Toxicity (Dermal)**: Not classified

**Acute Toxicity (Inhalation)**: Not classified

1,3-Propanediol, 2-amino-2-(hydroxymethyl)-(77-86-1)

<table>
<thead>
<tr>
<th>Route</th>
<th>LD50 Value (mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral Rat</td>
<td>5900</td>
</tr>
<tr>
<td>Dermal Rat</td>
<td>&gt; 5000</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Substance</th>
<th>LD50 Dermal Rabbit</th>
<th>LD50 Oral Rat</th>
<th>ATE (Dust/Mist)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid (7647-01-0)</td>
<td>≥ 5010 mg/kg</td>
<td>2000 mg/kg</td>
<td>1.50 mg/l/4h</td>
</tr>
</tbody>
</table>

#### Skin Corrosion/Irritation:
- Not classified

#### Serious Eye Damage/Irritation:
- Not classified

#### Respiratory or Skin Sensitization:
- Not classified

#### Germ Cell Mutagenicity:
- Not classified

#### Carcinogenicity:
- Not classified

#### Reproductive Toxicity:
- Not classified

#### Specific Target Organ Toxicity (Single Exposure):
- Not classified

#### Aspiration Hazard:
- Not classified

#### Symptoms/Injuries After Inhalation:
- Prolonged exposure may cause irritation.

#### Symptoms/Injuries After Skin Contact:
- Prolonged exposure may cause skin irritation.

#### Symptoms/Injuries After Eye Contact:
- May cause slight irritation to eyes.

#### Symptoms/Injuries After Ingestion:
- Ingestion may cause adverse effects.

#### Chronic Symptoms:
- None known.

### SECTION 12: ECOLOGICAL INFORMATION

#### 12.1. Toxicity

- **Ecology - General**: Not classified.

#### 12.2. Persistence and Degradability

**PathoSEEK® qPCR Detection Assay**

- **Persistence and Degradability**: Not established.

#### 12.3. Bioaccumulative Potential

**PathoSEEK® qPCR Detection Assay**

- **Bioaccumulative Potential**: Not established.

#### 12.4. Mobility in Soil

- **No additional information available**

#### 12.5. Other Adverse Effects

- **Other Information**: Avoid release to the environment.

### SECTION 13: DISPOSAL CONSIDERATIONS

**Waste Treatment Methods**

- **Waste Disposal Recommendations**: Dispose of contents/container in accordance with local, regional, national, and international regulations.

#### Ecology - Waste Materials

- Avoid release to the environment.

### SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

#### 14.1. In Accordance with DOT
- Not regulated for transport

#### 14.2. In Accordance with IMDG
- Not regulated for transport

#### 14.3. In Accordance with IATA
- Not regulated for transport

### SECTION 15: REGULATORY INFORMATION

#### 15.1. US Federal Regulations

- **Water (7732-18-5)**
  - Listed on the United States TSCA (Toxic Substances Control Act) inventory

- **1,3-Propanediol, 2-amino-2-(hydroxymethyl)-(77-86-1)**
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<table>
<thead>
<tr>
<th>Listed on the United States TSCA (Toxic Substances Control Act) inventory</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid (7647-01-0)</td>
<td></td>
</tr>
<tr>
<td>Subject to reporting requirements of United States SARA Section 302</td>
<td></td>
</tr>
<tr>
<td>Listed on the United States SARA Section 313</td>
<td></td>
</tr>
<tr>
<td>Subject to reporting requirements of United States SARA Section 302</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CERCLA RQ</th>
<th>5000 lb</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARA Section 302 Threshold Planning Quantity (TPQ)</td>
<td>500 lb (gas only)</td>
</tr>
<tr>
<td>SARA Section 313 - Emission Reporting</td>
<td>1 % (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)</td>
</tr>
</tbody>
</table>

### 15.2. US State Regulations

**Hydrochloric acid (7647-01-0)**

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

### SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

<table>
<thead>
<tr>
<th>Date of Preparation or Latest Revision</th>
<th>02/19/2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Information</td>
<td>This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200</td>
</tr>
</tbody>
</table>

### GHS Full Text Phrases:

- **Acute Tox. 4 (Inhalation:dust,mist)**: Acute toxicity (inhalation:dust,mist) Category 4
- **Acute Tox. 4 (Oral)**: Acute toxicity (oral) Category 4
- **Aquatic Acute 2**: Hazardous to the aquatic environment - Acute Hazard Category 2
- **Aquatic Acute 3**: Hazardous to the aquatic environment - Acute Hazard Category 3
- **Aquatic Chronic 3**: Hazardous to the aquatic environment - Chronic Hazard Category 3
- **Comb. Dust**: Combustible Dust
- **Eye Dam. 1**: Serious eye damage/eye irritation Category 1
- **Eye Irrit. 2A**: Serious eye damage/eye irritation Category 2A
- **Met. Corr. 1**: Corrosive to metals Category 1
- **Skin Corr. 1A**: Skin corrosion/irritation Category 1A
- **Skin Irrit. 2**: Skin corrosion/irritation Category 2
- **STOT RE 2**: Specific target organ toxicity (repeated exposure) Category 2
- **STOT SE 3**: Specific target organ toxicity (single exposure) Category 3
- **H290**: May be corrosive to metals
- **H302**: Harmful if swallowed
- **H314**: Causes severe skin burns and eye damage
- **H315**: Causes skin irritation
- **H318**: Causes serious eye damage
- **H319**: Causes serious eye irritation
- **H332**: Harmful if inhaled
- **H335**: May cause respiratory irritation
- **H373**: May cause damage to organs through prolonged or repeated exposure
- **H401**: Toxic to aquatic life
- **H402**: Harmful to aquatic life
- **H412**: Harmful to aquatic life with long lasting effects

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

SDS US (GHS HazCom)