SECTION 1: Identification

Product identifier
- Product name: Hydrochloric Acid, 0.5N
- Product code: HA6115-Q

Recommended use of the product and restriction on use
- Relevant identified uses: Not determined or not applicable.
- Uses advised against: Not determined or not applicable.
- Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details
- Manufacturer: AquaPhoenix Scientific
  860 Gitts Run Road
  Hanover
  PA 17331
  (717) 632-1291
- Supplier: AquaPhoenix Scientific, Inc
  860 Gitts Run Road
  Hanover
  PA 17331
  (717) 632-1291

Emergency telephone number:
- United States
  Emergency Telephone No.: 800-255-3924

SECTION 2: Hazard(s) identification

GHS classification:
- Skin irritation, category 2
- Eye irritation, category 2A

Label elements
- Hazard pictograms:

Signal word: Warning

Hazard statements:
- H315 Causes skin irritation
- H319 Causes serious eye irritation

Precautionary statements:
- P264 Wash skin thoroughly after handling
- P280 Wear protective gloves/protective clothing/eye protection/face protection
- P321 Specific treatment (see supplemental first aid instructions on this label).
- P362 Take off contaminated clothing and wash before reuse
- P302+P352 If on skin: Wash with soap and water
- P332+P313 If skin irritation occurs: Get medical advice/attention
- P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
Hydrochloric Acid, 0.5N

Hazard not otherwise classified: None

### SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Identification</th>
<th>Name</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 7732-18-5</td>
<td>Water</td>
<td>&lt;100</td>
</tr>
<tr>
<td>CAS number: 7647-01-0</td>
<td>Hydrochloric acid</td>
<td>&lt;3</td>
</tr>
</tbody>
</table>

Additional Information: None

### SECTION 4: First aid measures

#### Description of first aid measures

**General notes:**
Not determined or not applicable.

**After inhalation:**
Move exposed individual to fresh air
Loosen clothing as necessary and position individual in a comfortable position
Maintain an unobstructed airway
Immediately call a POISON CONTROL CENTER or seek medical attention

**After skin contact:**
Immediately remove all contaminated clothing
Wash affected area with soap and water
Immediately call a POISON CONTROL CENTER or seek medical attention
Seek medical attention if symptoms develop or persist

**After eye contact:**
Rinse/flush exposed eye(s) gently using water for 15-20 minutes
Remove contact lens(es) if able to do so during rinsing
Immediately call a POISON CONTROL CENTER or seek medical attention
Seek medical attention if irritation persists or if concerned

**After swallowing:**
Immediately call a POISON CONTROL CENTER or seek medical attention
Do not induce vomiting
Rinse mouth and then drink plenty of water

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

**Acute symptoms and effects:**
Not determined or not applicable.

**Delayed symptoms and effects:**
Not determined or not applicable.

**Immediate medical attention and special treatment**

**Specific treatment:**
Not determined or not applicable.

**Notes for the doctor:**
Not determined or not applicable.
Hydrochloric Acid, 0.5N

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media:
Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

Unsuitable extinguishing media:
Not determined or not applicable.

Specific hazards during fire-fighting:
Thermal decomposition can lead to release of irritating gases and vapors

Special protective equipment for firefighters:
Wear protective eye wear, gloves and clothing
Refer to Section 8
Use typical firefighting equipment, self-contained breathing apparatus, special tightly sealed suit

Special precautions:
Heating causes a rise in pressure, risk of bursting and combustion
Shut off sources of ignition
Carbon monoxide and carbon dioxide may form upon combustion

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:
Ensure adequate ventilation
Ensure air handling systems are operational
Wear protective eye wear, gloves and clothing

Environmental precautions:
Should not be released into the environment
Prevent from reaching drains, sewer or waterway

Methods and material for containment and cleaning up:
Absorb with non-combustible liquid-binding material (sand, diatomaceous earth (clay), acid binders, universal binders)
Dispose of contents / container in accordance with local regulations

Reference to other sections:
Not determined or not applicable.

SECTION 7: Handling and storage

Precautions for safe handling:
Do not eat, drink, smoke or use personal products when handling chemical substances.
Avoid breathing mist or vapor.
Use only with adequate ventilation.

Conditions for safe storage, including any incompatibilities:
Store in a cool, well-ventilated area.
Store away from foodstuffs.

SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:
Hydrochloric Acid, 0.5N

<table>
<thead>
<tr>
<th>Country (Legal Basis)</th>
<th>Substance</th>
<th>Identifier</th>
<th>Permissible concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>Hydrochloric acid</td>
<td>7647-01-0</td>
<td>ACGIH TLV C 2.0 ppm</td>
</tr>
<tr>
<td>United States (OSHA)</td>
<td>Hydrochloric acid</td>
<td>7647-01-0</td>
<td>OSHA PEL C 5.0 ppm</td>
</tr>
<tr>
<td></td>
<td>Hydrochloric acid</td>
<td>7647-01-0</td>
<td>OSHA PEL C 7.0 mg/m³</td>
</tr>
<tr>
<td>NIOSH</td>
<td>Hydrochloric acid</td>
<td>7647-01-0</td>
<td>NIOSH REL C 5.0 ppm</td>
</tr>
<tr>
<td></td>
<td>Hydrochloric acid</td>
<td>7647-01-0</td>
<td>NIOSH REL C 7.0 mg/m³</td>
</tr>
</tbody>
</table>

Biological limit values:
No biological exposure limits noted for the ingredient(s).

Information on monitoring procedures:
Not determined or not applicable.

Appropriate engineering controls:
Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

Personal protection equipment
Eye and face protection:
Safety goggles or glasses, or appropriate eye protection.

Skin and body protection:
Select glove material impermeable and resistant to the substance.

Respiratory protection:
When necessary, use NIOSH-approved breathing equipment.

General hygienic measures:
Wash hands before breaks and at the end of work.
Avoid contact with skin, eyes and clothing.
Perform routine housekeeping.
Wash contaminated clothing before reusing.

SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Information on basic physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
</tr>
<tr>
<td>Odor</td>
</tr>
<tr>
<td>Odor threshold</td>
</tr>
<tr>
<td>pH</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
</tr>
<tr>
<td>Initial boiling point/range</td>
</tr>
<tr>
<td>Flash point (closed cup)</td>
</tr>
<tr>
<td>Evaporation rate</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
</tr>
<tr>
<td>Upper flammability/explosive limit</td>
</tr>
<tr>
<td>Lower flammability/explosive limit</td>
</tr>
<tr>
<td>Vapor pressure</td>
</tr>
<tr>
<td>Vapor density</td>
</tr>
</tbody>
</table>
Hydrochloric Acid, 0.5N

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>Not available</td>
</tr>
<tr>
<td>Relative density</td>
<td>Approx. 1</td>
</tr>
<tr>
<td>Solubilities</td>
<td>Soluble in water</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>Not available</td>
</tr>
<tr>
<td>Auto/Self-ignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>Not available</td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not determined or not available.</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>Not determined or not available.</td>
</tr>
</tbody>
</table>

SECTION 10: Stability and reactivity

**Reactivity:**
Does not react under normal conditions of use and storage.

**Chemical stability:**
Stable under normal conditions of use and storage.

**Possibility of hazardous reactions:**
None under normal conditions of use and storage.

**Conditions to avoid:**
None known.

**Incompatible materials:**
None known.

**Hazardous decomposition products:**
None known.

SECTION 11: Toxicological information

**Acute toxicity**

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>inhalation</td>
<td>LC50 - Mouse - 1,108 ppm / 1h</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**

**Assessment:** Causes skin irritation

**Product data:** No data available.

**Substance data:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
</tbody>
</table>

**Serious eye damage/irritation**

**Assessment:** Causes serious eye irritation

**Product data:** No data available.

**Substance data:** No data available.
Respiratory or skin sensitization
   Assessment: Based on available data, the classification criteria are not met.
   Product data: No data available.
   Substance data: No data available.

Carcinogenicity
   Assessment: Based on available data, the classification criteria are not met.
   Product data: No data available.
   Substance data: No data available.

International Agency for Research on Cancer (IARC):

<table>
<thead>
<tr>
<th>Name</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>Group 3 - Not classifiable as to its carcinogenicity to humans</td>
</tr>
</tbody>
</table>

National Toxicology Program (NTP): None of the ingredients are listed.

Germ cell mutagenicity
   Assessment: Based on available data, the classification criteria are not met.
   Product data: No data available.
   Substance data: No data available.

Reproductive toxicity
   Assessment: Based on available data, the classification criteria are not met.
   Product data: No data available.
   Substance data: No data available.

Specific target organ toxicity (single exposure)
   Assessment: Based on available data, the classification criteria are not met.
   Product data: No data available.
   Substance data: No data available.

Specific target organ toxicity (repeated exposure)
   Assessment: Based on available data, the classification criteria are not met.
   Product data: No data available.
   Substance data: No data available.

Aspiration toxicity
   Assessment: Based on available data, the classification criteria are not met.
   Product data: No data available.
   Substance data: No data available.

Information on likely routes of exposure: No data available.

Symptoms related to the physical, chemical and toxicological characteristics: No data available.

Other information: No data available.

SECTION 12: Ecological information

Acute (short-term) toxicity
   Assessment: Based on available data, the classification criteria are not met.
   Product data: No data available.
   Substance data: No data available.

Chronic (long-term) toxicity
   Product data: No data available.
   Substance data: No data available.

Persistence and degradability
### Hydrochloric Acid, 0.5N

| Product data: | No data available. |
| Substance data: | No data available. |

#### Bioaccumulative potential
- **Product data:** No data available.
- **Substance data:** No data available.

#### Mobility in soil
- **Product data:** No data available.
- **Substance data:** No data available.

#### Other adverse effects:
- **No data available.**

### SECTION 13: Disposal considerations

**Disposal methods:**
It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11)

### SECTION 14: Transport information

#### United States Transportation of dangerous goods (49 CFR DOT)

| UN number | Not regulated |
| UN proper shipping name | Not regulated |
| UN transport hazard class(es) | None |
| Packing group | None |
| Environmental hazards | None |
| Special precautions for user | None |

#### International Maritime Dangerous Goods (IMDG)

| UN number | Not regulated |
| UN proper shipping name | Not regulated |
| UN transport hazard class(es) | None |
| Packing group | None |
| Environmental hazards | None |
| Special precautions for user | None |

#### International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

| UN number | Not regulated |
| UN proper shipping name | Not regulated |
| UN transport hazard class(es) | None |
| Packing group | None |
| Environmental hazards | None |
| Special precautions for user | None |

#### Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

| Bulk Name | None |
| Ship type | None |
Hydrochloric Acid, 0.5N

Pollution category: None

SECTION 15: Regulatory information

United States regulations

Inventory listing (TSCA):

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Substance</th>
<th>Listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>7647-01-0</td>
<td>Hydrochloric acid</td>
<td>Listed</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>Listed</td>
</tr>
</tbody>
</table>

Significant New Use Rule (TSCA Section 5): Not determined.

Export notification under TSCA Section 12(b): Not determined.

SARA Section 311/312 hazards:

<table>
<thead>
<tr>
<th>Hazard Type</th>
<th>Acute</th>
<th>Chronic</th>
<th>Fire</th>
<th>Pressure</th>
<th>Reactive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Chronic</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Fire</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Pressure</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Reactive</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

SARA Section 302 extremely hazardous substances:

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Substance</th>
<th>Listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>7647-01-0</td>
<td>Hydrochloric acid</td>
<td>Listed</td>
</tr>
</tbody>
</table>

SARA Section 313 toxic chemicals:

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Substance</th>
<th>Listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>7647-01-0</td>
<td>Hydrochloric acid</td>
<td>Listed</td>
</tr>
</tbody>
</table>

CERCLA:

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Substance</th>
<th>Listed</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>7647-01-0</td>
<td>Hydrochloric acid</td>
<td>Listed</td>
<td>5000</td>
</tr>
</tbody>
</table>

RCRA: Not determined.

Section 112(r) of the Clean Air Act (CAA): Not determined.

Massachusetts Right to Know:

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Substance</th>
<th>Listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>Not Listed</td>
</tr>
<tr>
<td>7647-01-0</td>
<td>Hydrochloric acid</td>
<td>Listed</td>
</tr>
</tbody>
</table>

New Jersey Right to Know:

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Substance</th>
<th>Listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>Not Listed</td>
</tr>
<tr>
<td>7647-01-0</td>
<td>Hydrochloric acid</td>
<td>Listed</td>
</tr>
</tbody>
</table>

New York Right to Know:

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Substance</th>
<th>Listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>Not Listed</td>
</tr>
<tr>
<td>7647-01-0</td>
<td>Hydrochloric acid</td>
<td>Listed</td>
</tr>
</tbody>
</table>

Pennsylvania Right to Know:

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Substance</th>
<th>Listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>Not Listed</td>
</tr>
<tr>
<td>7647-01-0</td>
<td>Hydrochloric acid</td>
<td>Listed</td>
</tr>
</tbody>
</table>

California Proposition 65: Not determined.

SECTION 16: Other information

Abbreviations and Acronyms: None

Disclaimer:

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. The responsibility
to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

NFPA: 1-0-0
HMIS: 1-0-0

Initial preparation date: 04.18.2017
Revision date: 12.08.2017

End of Safety Data Sheet