1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier
Product Name
Hydrochloric Acid

Other means of identification
Product Code(s) 0369
UN/ID no. 1789
Synonyms No information available

Recommended use of the chemical and restrictions on use
Recommended Use For Further Manufacturing Use Only.
Uses advised against Not for Human or Animal Drug Use

Details of the supplier of the safety data sheet
Company Address VWR International, LLC
VWR Corporate Center
100 Matsonford Road
Radnor, PA 19087-8660
Company Phone Number 1-800-448-4442
E-mail Address info@amresco-inc.com

Manufacturer Address VWR International, LLC
28600 Fountain Parkway
Solon, Ohio 44139

Emergency Telephone Number Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification
OSHA Regulatory Status This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity - Oral</td>
<td>Category 4</td>
</tr>
<tr>
<td>Acute toxicity - Inhalation (Dusts/Mists)</td>
<td>Category 4</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>Category 1 Sub-category</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Corrosive to metals</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

Label elements

Emergency Overview

Danger

Hazard statements
May cause respiratory irritation. May cause drowsiness or dizziness
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H319 - Causes serious eye irritation
H331 - Toxic if inhaled
H290 - May be corrosive to metals
Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection
Keep only in original container

Precautionary Statements - Response
Immediately call a POISON CENTER or doctor/physician
Specific treatment (see .? on this label)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Do NOT induce vomiting
Absorb spillage to prevent material damage

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Store in corrosive resistant/ .? container with a resistant inner liner

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not regulated
Other Information

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>EC No.</th>
<th>Weight %</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>7647-01-0</td>
<td>231-595-7</td>
<td>30-40</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

First Aid Measures
Eye Contact  
Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin Contact  
Wash off immediately with soap and plenty of water removing all contaminated clothes and
shoes.

Inhalation
Move to fresh air. If not breathing, give artificial respiration.

Ingestion
Never give anything by mouth to an unconscious person. Rinse mouth.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms/Effects
No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media
No information available.

Specific Hazards Arising from the Chemical
No information available.

Hazardous Combustion Products
Hydrogen Chloride gas.

Explosion Data
Sensitivity to Mechanical Impact
None.
Sensitivity to Static Discharge
None.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal protection
Ensure adequate ventilation, especially in confined areas.

Environmental Precautions

Environmental Precautions
See Section 12 for additional Ecological information.

Methods and material for containment and cleaning up

Methods for Containment
Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up
Cover with dry lime or soda ash. Use clean non-sparking tools to collect absorbed material. Pick up and transfer to properly labeled containers. Ventilate area and wash spill site after material pickup is complete.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Handling
Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place.
Incompatible Products

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>-</td>
<td>Ceiling: 5 ppm</td>
<td>IDLH: 50 ppm</td>
</tr>
<tr>
<td>7647-01-0</td>
<td></td>
<td>Ceiling: 7 mg/m³</td>
<td>Ceiling: 5 ppm</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering Measures
Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection
Tightly fitting safety goggles.

Skin and Body Protection
Wear protective gloves/clothing.

Respiratory Protection
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Colorless</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Pungent odor of hydrogen chloride</td>
<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>0.1 at 1.0N</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>-74 °C</td>
<td></td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>53 °C</td>
<td></td>
</tr>
<tr>
<td>Flash Point (High in °C)</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit:</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit:</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Infinite in water with slight evolution of heat.</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical Stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to Avoid
Exposure to water.

Incompatible Materials

Hazardous Decomposition Products
Hydrogen chloride gas.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation
Toxic by inhalation. May cause drowsiness and dizziness based on components. May cause irritation of respiratory tract.

Eye Contact
May cause irreversible damage to eyes.

Skin Contact
Causes burns.

Ingestion
There is no data available for this product.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>238 - 277 mg/kg (Rat)</td>
<td>&gt; 5010 mg/kg (Rabbit)</td>
<td>= 1.68 mg/L (Rat) 1 h</td>
</tr>
</tbody>
</table>

Information on toxicological effects

Symptoms
No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization
No information available.

Mutagenic Effects
No information available.

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>-</td>
<td>Group 3</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Reproductive Toxicity
No information available.

STOT - single exposure
No information available.

STOT - repeated exposure
No information available.

Aspiration hazard
No information available.
Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document.

### 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Toxicity to Fish</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>-</td>
<td>282: 96 h Gambusia affinis mg/L</td>
<td>-</td>
</tr>
<tr>
<td>7647-01-0</td>
<td></td>
<td>LCS0 static</td>
<td>0%</td>
</tr>
</tbody>
</table>

#### Persistence and Degradability

No information available.

#### Bioaccumulation/Accumulation

No information available.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid 7647-01-0</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Other Adverse Effects

No information available

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

**Waste Disposal Method**

Dispose of material in accordance with all federal, state, and local regulations.

**Contaminated Packaging**

Do not re-use empty containers.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid 7647-01-0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid 7647-01-0</td>
<td>Toxic; Corrosive; Reactive</td>
</tr>
</tbody>
</table>

### 14. TRANSPORT INFORMATION

**DOT**

- **UN/ID no.** 1789
- **Proper shipping name** Hydrochloric Acid
- **Hazard Class** 8
- **Packing Group** II

**IATA**

- **UN/ID no.** 1789
- **Proper shipping name** Hydrochloric Acid
- **Hazard Class** 8
- **Packing Group** II

### 15. REGULATORY INFORMATION

**International Inventories**
TSCA Complies
DSL/NDSL Complies
EINECS/ELINCS Complies
ENCS Does not Comply
IECSC Complies
KECL Complies
PICCS Complies
AICS Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

<table>
<thead>
<tr>
<th>Component</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid 7647-01-0 (30-40)</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories
Acute Health Hazard Yes
Chronic Health Hazard No
Fire Hazard No
Sudden Release of Pressure Hazard Yes
Reactive Hazard No

Clean Water Act
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid 7647-01-0</td>
<td>5000 lb</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid 7647-01-0</td>
<td>5000 lb</td>
<td>5000 lb</td>
<td>RQ 5000 lb final RQ RQ 2270 kg final RQ</td>
</tr>
</tbody>
</table>

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Prop. 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid 7647-01-0</td>
<td>-</td>
</tr>
</tbody>
</table>

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid 7647-01-0</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
U.S. EPA Label Information
EPA Pesticide Registration Number  Not regulated

16. OTHER INFORMATION

Issuing Date  03-Nov-2009
Revision Date  08-Jan-2016
Revision Note
No information available

Disclaimer
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. VWR International and its Affiliates shall not be held liable for any damage resulting from handling.

End of Safety Data Sheet