

# MATERIAL SAFETY DATA SHEET

Revision #: 01

## Section 1 - Product Identification & Use

Product Name: Muriatic Acid  
WHMIS Classification: Class E, Corrosive Liquids  
TDG Classification: Hydrochloric Acid Solutions UN 1789, Class 8, packing group II  
Supplier: Advance Chemicals Ltd.  
2023 Kingsway Avenue  
Port Coquitlam, B.C. V3C 1S9  
phone (604) 945-9666, fax (604) 945-9617  
Emergency phone: CANUTEC 24 hrs (613) 996-6666

## Section 2 - Hazardous Ingredients

| Hazardous Components | %(w/w) | C.A.S. No. | LD <sub>50</sub> & LC <sub>50</sub> |
|----------------------|--------|------------|-------------------------------------|
| Hydrochloric Acid    | 30-33  | 7647-01-0  | oral, rabbit 900mg/kg               |

## Section 3 - Physical Data

Physical state: liquid  
Liquid density: 1.16g/mL  
pH: 3% solution 0.2@ 20°C  
Vapour pressure: 25mmHg @ 20°C  
Odour & Appearance: Clear, colourless liquid solution. There is an obvious sharp acidic odour above the open liquid.

Boiling point: 80-82°C  
Freezing point: no data  
Solubility in water: 100%  
Evaporation rate: no data

## Section 4 - Fire or Explosion Hazard

**Flammability:** The product is not considered to be flammable.  
**Extinguishing media:** Use an extinguishing media for surrounding the fire, or all purpose foam by manufacturer's recommended techniques for large fires. Use water to cool fire exposed containers to prevent vapour build-up and rupture. Water may also be used to flush spills away from dangerous exposures.  
**Hazardous Combustion Products:** Wear self-contained breathing apparatus. Product reacts with most metals to produce hydrogen gas, which may accumulate to produce explosive and/or flammable mixtures with air.

## Section 5 - Reactivity Data

**Stability:** Stable.  
**Incompatible substances:** Metals, caustics, sulphides, cyanides, fluorides, carbides, silicates and strong oxidizing agents.  
**Polymerization:** Will not occur.  
**Conditions to Avoid:** Contact with metals produces hydrogen gas, which can form flammable or explosive mixtures in air. Will generate heat when mixed with alkalis. Reaction with sulphides, phosphides, cyanides, acetylides, fluorides, silicides, and carbides, releases flammable and/or poisonous gasses. May spatter upon contact with water.  
**Hazardous Combustion Products:** Wear self-contained breathing apparatus. This product is not considered flammable, but heat may cause decomposition resulting in the production of hydrogen gas, which can form flammable or explosive mixtures.

## Section 6 - Toxicological Properties

**Acute Toxicity:** No data found.  
**Skin contact:** Burning, inflammation, blisters.  
**Eye contact:** Burning, watering.  
**Inhalation:** Irritation of mucous membranes, watering of eyes, difficulty breathing, salivation, nausea.  
**Ingestion:** Pain in swallowing, intense thirst, abdominal pain, nausea, may be fatal if swallowed.

## Section 7 - Preventative Measures

**Personal Protective Equipment:** Avoid contact with skin and eyes. Wear chemical protective gloves, goggles and face shield, rubber apron and boots. Eye wash fountains and safety shower facilities should be provided nearby for emergency use.  
**Respiratory protection:** For acid vapours and mist, use an NIOSH/MSHA approved air purifying, dust, mist and particulate respirator.  
**Ventilation Requirements:** This product should be used in a well-ventilated area at all times. If the hydrochloric acid solution is to be heated or a mist will be generated during product application, then local exhaust ventilation will be necessary.  
**Action to take for spills & leaks:** Wear chemical protective clothing, rubber gloves and suitable respiratory protection. Small spills should be wiped up with absorbent material and disposed of in government approved waste containers. The spilled product can be neutralized with soda ash or baking soda and wet down with a little water to form a slurry. The spill area may then be flushed with large quantities of water. Larger spills should be contained by diking with sand, soil or

other absorbent, non-combustible material, then transferred into approved waste containers for proper disposal. Keep product out of sewers, storm drains, surface run-off water and soil. Restrict access to non-protected personnel. Comply with all government regulations on spill reporting, handling and disposal of waste.

**Disposal methods:** Dispose of contaminated product and materials used in cleaning up spills or leaks in a manner approved for this material. Consult appropriate federal, provincial and local regulatory agencies to ascertain proper disposal procedures.

**Note:** Empty containers can have residues, gasses and mists, and are subject to proper waste disposal as mentioned above.

**Storage & Handling Precautions:** Warning, harmful or fatal if swallowed. Causes eye, skin and respiratory irritation. Avoid contact with eyes and repeated contact with skin and clothing. Do not ingest. Keep away from sources of heat and open flame. Keep container tightly closed when not in use. Store upright in a cool, dry, well-ventilated place away from incompatible materials. Do not use pressure to empty container. Wash thoroughly after handling. Use with adequate ventilation. Tanks must be grounded and ventilated. Ensure proper electrical grounding procedures are in place during product transfer.

**Repair and Maintenance Precautions:** Do not cut, grind, weld or drill in, on or near this container.

## Section 8 - First Aid Measures

**If inhaled:** Remove victim to fresh air. Give artificial respiration if not breathing. Get immediate emergency medical attention.

**In case of eye contact:** Immediately flush eyes with clean water for at least twenty (20) minutes, lifting the upper and lower eyelids occasionally. Get immediate emergency medical attention. Do not transport victim until the recommended flushing period has been completed, unless eye flushing can be continued during transport to the nearest emergency medical treatment facility.

**In case of skin contact:** Immediately flush skin with plenty of clean running water for at least fifteen (15) minutes. Remove contaminated clothing and shoes. If irritation persists after washing, get immediate medical attention. Wash clothes before re-use.

**In case of ingestion or swallowing:** If victim is conscious and not convulsing, give one or two glasses of water to dilute material. Immediately contact the local poison control centre. Vomiting should only be induced under the direction of a physician or poison control centre. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in the vomitus. Rinse mouth and administer more water. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS VICTIM. GET IMMEDIATE EMERGENCY MEDICAL ATTENTION.

## Section 9 - Preparation Information

Advance Chemicals Limited expressly disclaims all expressed or implied warranties of merchantability and fitness for a particular purpose with respect to the product provided. The information contained herein is offered only as a guide to the handling of this specific product, and has been prepared in good faith by technically knowledgeable personnel. This M.S.D.S. is not intended to be all-inclusive, and the manner and conditions of use may involve other and additional considerations.

Revised: 7 July 2004, June 5, 2006; 23 November 2006