MATERIAL SAFETY DATA SHEET

Flammability	Reactivity
Health	Personal Protection

SECTION – MATERIAL IDENTIFICATION AND USE

Material Name Muriatic Acid

Manufacturer Crown Chemical Products Inc

Supplier's Name

Street Address 6125 Netherhart Rd
Mississauga Ontario
L5T 1G5

Suppliers Address

Emergency Tel# (905) 5640904

Chemical Name

Chemical Family Hydrochloric Acid

Molecular Weight

Material Use

SECTION II – HARZODOUS INGREDIENTS OF MATERIAL

Hazardous Ingredients	Approximate Concentration %	C.A.S. N.A. or U.N. Numbers	Exposure Limits	LD_{50}/ LC_{50} Specify Species and Route
Hydrochloric Acid	31.5	007647-01-0		LD_{50} not determined LC_{50} inhalation, rat) = 3124 ppm for 1 hour.
Water	Balance	007732-18-5		

SECTION III – PHYSICAL DATA FOR MATERIAL

Physical Liquid **Odour and Appearance** Colourless to slightly yellow fuming liquid. Sharp pungent irritating odour.

Specific Gravity 1.16 **Evaporation Rate** No data **Boiling Point** 81.5^{0}C

Freezing Point(^{0}C) -40 **Vapour pressure** 24 mmHG @ 20^{0}c **Odour Threshold** N/AV

ph Strong acid less than 1 **Vapour Density (g/ml)** 11.0 **Coefficient of Water/Oil Distribution** N/AV

SECTION IV – FIRE AND EXPLOSION HAZARD OF MATERIAL

Flammability (if yes, under which conditions:) Non-flammable

Means of Extinction Non Flammable.

Flashpoint (^{0}C) and Method Non flammable **UEL (% By Vol.)** N/AP **LEL (% By Vol.)** N/AP

Auto Ignition Temp. (^{0}C) Non flammable **TDG Flammability Classification** N/AV

Fire or Explosion Hazards Hydrochloric acid itself is non-flammable. There is however, a latent fire or explosion hazard due to hydrogen gas generated when acid is in contact with metals.

Fire Fighting Equipment. Full protective equipment including a self contained breathing apparatus should be worn for protection against corrosive liquid and vapour.

Explosion Data – Sensitivity to Chemical Impact **N/AV** **Rate of Burning** N/AV

Explosive Power N/AV **Sensitivity to Static Discharge** N/AV

Material Name Muriatic Acid

SECTION V – REACTIVITY DATA

Chemical Stability Under Normal Conditions Stable

Incompatibility to Other Substances Avoid base and corrosive materials. Avoid contact with most metals. Avoid oxidizing material, can oxidize to chlorine.

Under Fire Conditions Toxic and corrosive HCl gas may be released.

Hazardous Decomposition Products None

SECTION VI – TOXICOLOGICAL PROPERTIES OF PRODUCT

Route Of Entry X Skin Absorption X Eye Contact Inhalation Acute X Inhalation Chronic X Ingestion X Skin Contact

Effects Of Acute Exposure To Product:

Eyes – may cause pain, lachrymation (tears), and severe irritation with corneal injury which may result in permanent impairment of vision, even blindness.

Skin Contact – Short single exposure may cause severe skin burns.

Skin Absorption – A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. The dermal LD50 has not been determined.

Ingestion – Ingestion may cause gastrointestinal irritation or ulceration and severe burns of the mouth and throat.

Inhalation – Excessive vapour concentrations are readily attainable and may cause serious adverse effects, even death. Excessive exposure may cause severe irritation and injury to upper respiratory tract and lungs.

Effects Of Chronic Exposure To Product

Irritancy Of Product: N/AV **Exposure Limits Of Product:** ACGIH TLV – Ceiling : 5ppm

Sensitization To Product: N/AV **Synergistic Materials:** **N/AV**

☐ **Carcinogenicity** ☐ **Reproductive Effects** ☐ **Teratogenicity** ☐ **Mutagenicity**

Carcinogenicity Data - The ingredients of this product are not listed as carcinogens by NTP (National Toxicology Program), not regulated as carcinogens by OSHA (Occupational Safety and Health Administration) and have not been evaluated by IARC (International Agency for Research on Cancer) or ACGIH (American Conference of Governmental Industrial Hygienists).

SECTION VII – PREVENTIVE MEASURES

Gloves Neoprene, natural rubber or PVC.

Respiratory When airborne exposure guidelines and / or comfort levels may be exceeded, use and approved air-purifying respirator. For emergency and other conditions where the exposure guideline may be greatly exceeded, use an approved positive-pressure self-contained breathing apparatus.

Eye Use chemical goggles. If vapour exposure causes eye irritation, use a full-face respirator. Wear a face-shield which allows use of chemical goggles, or a full-face respirator, to protect face and eyes when there is any likelihood of splashes. Eye wash fountain and safety shower must be located in immediate work area.

Ventilation Control airborne concentration below the exposure guideline. Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

Clothing Use protective clothing impervious to this material. Selection of specific items such as gloves, boots, aprons, or full-body suits will depend on operation. Safety shower should be located in immediate work area. Wash contaminated clothing before reuse. Dispose of contaminated shoes.

Footwear Use protective boots and dispose of them after use.

Leak And Spill Procedure If spill is significant notify appropriate government environmental authorities. Ventilate and evacuate area. Stop and contain leak or spill. Cover with dry sand , ashes or gravel. Neutralize and dispose of in polyethylene containers. Do not allow to enter waterways.

Waste Disposal Disposal of Hydrochloric Acid must meet all federal, provincial and local regulations.

SECTION VII – PREVENTIVE MEASURES (CONTINUED)

Handling Procedures And Equipment Suitable materials for equipment and containers include; rubber lined steel, polyethylene, polyester FRP, PVC polypropylene, Teflon or Kynar.

Storage Requirements Store in cool, dry well ventilated area in closed containers away from heat sources, metals and oxidizers.

SECTION VIII – FIRST AID MEASURES

Skin Immediate continued and thorough washing in flowing water for 30 minutes is imperative while removing contaminated clothing. Prompt medical consultation is essential.

Eye Immediate and continuous irrigation with flowing water at least 30 minutes is imperative. Prompt medical consultations essential.

Ingestion Do not induce vomiting. Give large amounts of water or milk if available and transport to medical facility.

Inhalation Remove to fresh air. If not breathing, give mouth-to-mouth resuscitation (CPR). If breathing is difficult, give oxygen. Call a physician.

Note To Physician Corrosive. May cause stricture. If lavage is performed, suggest endotracheal and / or esophagoscopic control. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgement of the physician in response to reactions of the patient.

SECTION IX – PREPARATION DATE OF M.S.D.S.

Additional Information/Comments The information herein is given in good faith but no warranty, expressed or implied, is made.

Sources Used

Prepared By: Crown Chemical Products Inc. **Phone Number** (905) 564 0904 **Date** September 27, 2011