



G.K. Chemical Specialties Co. Inc.  
90 Barbados Blvd.  
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# Material SAFETY DATA SHEET

**PRODUCT NAME: Muriatic Acid**

<b>HEALTH HAZARD RATING:</b>	SERIOUS HAZARD – major injury likely unless prompt action is taken and medical treatment is given
<b>FLAMMABILITY HAZARD RATING:</b>	MINIMAL HAZARD – materials which are normally stable and will not burn unless heated
<b>REACTIVITY HAZARD RATING:</b>	MINIMAL HAZARD – materials which are normally stable, even under fire conditions, and which will not react with water
<b>PERSONAL PROTECTION:</b>	Splash goggles + Gloves + Synthetic apron + Vapour respirator
<b>HAZARD ALERT SIGN:</b>	HEALTH HAZARD – Extreme danger FIRE HAZARD – Will not burn REACTIVITY – Stable SPECIFIC HAZARD – Corrosive

## SECTION I – MATERIAL IDENTIFICATION AND USE / IDENTIFICATION DE LA MATIÈRE ET USAGE

### MATERIAL NAME / IDENTIFIÉ – NOM / IDENTIFICATION DE LA MATIÈRE

#### Muriatic Acid

MANUFACTURER'S NAME AND ADDRESS/ NOM DU FABRICANT – ADRESSE EMERGENCY PHONE NO. / N° DE TÉLÉPHONE D'URGENCE	G.K. Chemical Specialties Co. Inc. 90 Barbados Blvd. Scarborough, Ontario M1J 1K9 (416) 261-7182 / 905 427-7605
SUPPLIER'S NAME AND ADDRESS/ NOM DU FOURNISSEUR - ADRESSE EMERGENCY PHONE NO. / N° DE TELEPHONE DURGENCE	
CHEMICAL NAME / DÉNOMINATION CHIMIQUE	Hydrogen chloride solution
CHEMICAL FAMILY / FAMILLE CHIMIQUE	Acid
CHEMICAL FORMULA / FORMULE CHIMIQUE	HCl
TRADE NAME AND SYNONYMS / APPELLATION COMMERCIALE ET SYNONYMES	Not Applicable
MOLECULAR WEIGHT / POIDS MOLÉCULAIRE	36.46
MATERIAL USE / UTILISATION DE LA MATIÈRE	Various Uses

G.K. Chemical Specialties Co. Inc. has compiled the information and recommendations contained in this Material Safety Data Sheet from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the MSDS was prepared. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation.

G.K. Chemical Specialties Co. Inc. extends no warranty and assumes no responsibility as to the accuracy of the content or sufficiency of the information and expressly disclaims all liability for reliance thereon. This MSDS provides guidelines for the safe handling of this product. It does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required. Individuals exposed to this product should read and understand this information and be provided pertinent training prior to working with this product.

G.K. Chemical Specialties Co. Inc. assumes no responsibility for personal injury or property damage to vendors, users or third parties caused by the material. Such vendors or users assume all risks associated with the use of the material.

**INGREDIENTS.** This MSDS, under section of Ingredients, contains all ingredients listed under INGREDIENT DISCLOSURE LIST P.C. 1987-2719, 20/1/88 CANADA GAZETTE PART II VOL. 122, No 2 of HAZARDOUS PRODUCT ACT.

Percentage range of concentration of ingredients is expressed as percentage by weight of the total weight of the product. Ingredient List does not necessarily list all ingredients in the formulation and does not necessarily list all ingredient range of concentration, other than ingredients under the Disclosure List.

**T.L.V.** (units) or Threshold Limit Values refer to the limiting concentrations recommended by the Ministry of Labour. These values were adopted by the American Conference of Governmental Industrial Hygienists (A.C.G.I.H.). The figures refer to time-weighted average concentrations as P.P.M. (V/V) or mg/m<sup>3</sup> for a normal working day or at any time for some materials.

**“C.A.S REG. No.”** means the identification number assigned to a chemical substance by the Chemical Abstracts Service Division of the American Chemical Society.

**“LC 50”** means the concentration of a substance in air that when administered by means of inhalation over a specified length of time in an animal assay, is expected to cause the death of 50 per cent of a defined animal population.

**“LD 50”** means the single dose of a substance that, when administered by a defined route in an animal assay, is expected to cause death of 50 per cent of a defined animal population.

**FLASH POINT.** The minimum temperature at which a substance gives off flammable vapors which in contact with spark or flame will ignite.

**SECTION II – HAZARDOUS INGREDIENTS OF MATERIAL / INGRÉDIENTS DANGEREUX DE LA MATIÈRE**

HAZARDOUS INGREDIENTS / INGRÉDIENTS DANGEREUX	APPROXIMATE CONCENTRATION% CONCENTRATION APROXIMATIVE %	C.A.S., N.A. OR U.N. NUMBERS / NUMERO CAS NA OU CNU	LD50 {SPECIFY SPECIES & ROUTE} DL50 {PRÉCISER L'ESPECE ET LA VOIE D'ADMINISTRATION}	LC 50 {SPECIFY SPECIES & ROUTE} CL50 {PRÉCISER L'ESPECE ET LA VOIE D'ADMINISTRATION}
Hydrogen chloride	31.5	7647-01-0		
Water	Balance			
			Short term inhalation Limits: 5 PPM for 5 min. Threshold limit value: 5 PPM	

**SECTION III – PHYSICAL DATA FOR MATERIAL / CARACTÉRISTIQUES PHYSIQUES DE LA MATIÈRE**

PHYSICAL STATE / ÉTAT PHYSIQUE	Liquid
ODOUR AND APPEARANCE / ODEUR ET APPARENCE	Colourless to light yellow Odour: pungent, sharp, irritating
ODOUR THRESHOLD (P.P.M.) / SEUIL DE L'ODEUR (PPM)	5 PPM
SPECIFIC GRAVITY / DENSITE RELATIVE	1.16 gm/cm <sup>3</sup>
VAPOUR PRESSURE [MM] / TENSION DE VAPEUR [MM]	25 at 20 °C
VAPOUR DENSITY [AIRE = 1] / DENSITE DE VAPEUR [AIR =1]	Not Available
EVAPORATION RATE / TAUX D'ÉVAPORATION	Not Available
BOILING POINT [°C] / POINT D'ÉBULLITION [°C]	81.5 °C
FREEZING POINT [°C] / POINT DE CONGELATION [°C]	Not Pertinent
SOLUBILITY IN WATER [20°C] / SOLUBILITÉ DANS L'EAU [20°C]	Infinite
% VOLATILE [BY VOLUME] / % VOLATILITÉ [PAR VOLUME]	68.5
PH	0.41
COEFFICIENT OF WATER / OIL DISTRIBUTION / COEFFICIENT DE RÉPARTITION EAU / HUILE	Not Applicable

**SECTION IV – FIRE AND EXPLOSION HAZARD OF MATERIAL/RISQUES D'INCENDIE ET D'EXPLOSION DU MATÉRIEL**

FLAMMABILITY / INFLAMMABILITÉ <input type="checkbox"/> YES / OUI <input checked="" type="checkbox"/> NO/NON IF YES, UNDER WHICH CONDITIONS? / SI OUI, DANS QUELLES CONDISIONS?	
MEANS OF EXTINCTION / MOYENS D'EXTINCTION	Not Applicable
SPECIAL PROCEDURES / MARCHE A SUIVRE SPÉCIALE	Product by itself is non-flammable. There is, however, a latent fire of explosion hazard when in contact with metals due to generation of hydrogen gas. Fire-fighting equipment and pressure demand self-contained respiratory equipment.
FLASHPOINT [°C] AND METHOD / POINT D'ÉCLAIR [°C] ET MÉTHODE DE DÉTERMINATION	Not Applicable
UPPER EXPLOSION LIMIT [% BY VOLUME]/ SEUIL MAXIMAL D'INFLAMMABILITÉ [% PAR VOLUME]	Not Applicable

LOWER EXPLOSION LIMIT [% BY VOLUME]/ SEUIL MINIMAL D'INFLAMMABILITÉ [% PAR VOLUME]	Not Applicable
AUTOIGNITION TEMPERATURE [°C] / TEMPÉRATURE D'AUTO-INFLAMMATION [°C]	Not Applicable
HAZARDOUS COMBUSTION PRODUCTS / PRODUITS DE COMBUSTION DANGEREUX	Toxic and irritating vapours are generated when heated

### EXPLOSION DATA / DONNÉES SUR L'EXPLOSIBILITÉ

SENSITIVITY TO MECHANICAL IMPACT / SENSIBILITÉ AUX CHOCS	Not Applicable
SENSITIVITY TO STATIC DISCHARGE / SENSIBILITÉ AUX DÉCHARGES ÉLECTROSTATIQUES	Not Applicable

### SECTION V – REACTIVITY DATA / DONNÉES SUR LA RÉACTIVITÉ

CHEMICAL STABILITY / STABILITÉ CHIMIQUE <input checked="" type="checkbox"/> YES / OUI <input type="checkbox"/> NO/NON IF NO, UNDER WHICH CONDITIONS? / SI NON-, DANS QUELLES CONDISIONS?	Contact with metals may cause generation of explosive or flammable gas (hydrogen)
INCOMPATIBILITY TO OTHER SUBSTANCES / INCOMPATIBILITÉ AVEC D'AUTRES SUBSTANCES <input checked="" type="checkbox"/> YES / OUI <input type="checkbox"/> NO/NON IF SO, WHICH ONES? / SI OUI, AVEC LESQUELLES?	Avoid base; avoid contact with most metals. Avoid oxidizing materials, can oxidize to chlorine.
REACTIVITY AND UNDER WHAT CONDITIONS / RÉACTIVITÉ – DANS QUELLES CONDITIONS?	Corrosive to most metals with evolution of hydrogen gas, which may form explosive mixtures with air.
HAZARDOUS DECOMPOSITION PRODUCTS / PRODUITS DE DÉCOMPOSITION DANGEREUX	Not Pertinent

### SECTION VI – TOXICOLOGICAL PROPERTIES OF MATERIAL / PROPRIÉTÉS TOXICOLOGIQUES DE LA MATIÈRE

#### ROUTE OF ENTRY / VOIE D'ADMINISTRATION

SKIN CONTACT / CONTACT AVEC LA PEAU  SKIN ABSORPTION / ABSORPTION PAR LA PEAU  
 EYE CONTACT / CONTACT OCULAIRE  INHALATION ACUTE / INHALATION AIGUE  
 INHALATION CHRONIC / INHALATION CHRONIQUE  INGESTION

EFFECTS OF ACUTE EXPOSURE TO MATERIAL / EFFETS DE L'EXPOSITION AIGUE A LA MATIERE	INHALATION: Severely irritating SKIN CONTACT: Rapidly causes severe burns SKIN ABSORPTION: Not likely to be absorbed in toxic amounts EYE CONTACT: Rapidly causes severe burns, possibly with permanent impairment of vision. INGESTION: The greatest hazard is the corrosive action systemic and other effects: irritation, pain, and severe burns.
EFFECTS OF CHRONIC EXPOSURE TO MATERIAL / EFFETS DE L'EXPOSITION CHRONIQUE A LA MATIERE	Late Toxicity: None

**MATERIAL NAME / IDENTIFIÉRIER - NOM / IDENTIFICATION DE LA MATIÉRE↓****Muriatic Acid**

LD 50 OF MATERIAL [SPECIFY SPECIES & ROUTE] / LD50 DE LA MATIÉRE [PRÉCISER L'ESPECE ET LA VOIE D'ADMINISTRATION]	Not Available
LC50 OF MATERIAL [SPECIFY SPECIES & ROUTE] LC50 DE LA MATIÉRE / [PRÉCISER L'ESPECE ET LA VOIE D'ADMINISTRATION]	Not Available
EXPOSURE [LIMITS] / LIMITS D'EXPOSITION	Short Term Inhalation Limits: 5 PPM for 5 min. IDLH value: 100 PPM
IRRITANCY OF MATERIAL/PROPRIÉTÉ IRRITANTE DE LA MATIÉRE	Eyes, Skin, Respiratory system
SENSITIZATION OF MATERIAL / SENSIBILISATION A LA MATIÉRE	Eyes, Skin
SYNERGISTIC MATERIALS / MATÉRES SYNERGIQUES	None known
CARCINOGENICITY, REPRODUCTIVE EFFECTS, TERATOGENICITY, MUTAGENICITY / CANCÉROGÉNÉCITÉ, EFFETS NOCIFES SUR LA REPRODUCTION, TÉRATOGÉNÉCITÉ, MUTAGÉNÉCITÉ	Not regulated as carcinogen

**SECTION VII – PREVENTIVES MEASURES / MESURES PRÉVENTIVES****PERSONAL PROTECTIVE EQUIPMENT / MATÉRIEL PERSONNEL DE PROTECTION**

GLOVES (SPECIFY) GANTS [PRÉCISER]	Impervious
EYE [SPECIFY] / YEUX [PRÉCISER]	Glasses, Goggles
RESPIRATORY (SPECIFY) / APPAREIL RESPIRATOIRE (PRÉCISÉR)	NIOSH approved respiratory protection required in absence of proper environmental control. For emergencies, a self-contained breathing apparatus or a full-face respirator as approved by NIOSH is recommended.
OTHER (SPECIFY) / AUTRES (PRCISER)	Full protective suit is recommended where there is a chance product could come in contact with clothing
ENGINEERING CONTROLS [E.G. VENTILATION, ENCLOSED PROCESS, SPECIFY] / MÉCANISMES TECHNIQUES [EX. VENTILATION, OPÉRATION EN MILIEU FERMÉ, PRÉCISER]	Control vapor to 5 PPM or less at all times
LEAK AND SPILL PROCEDURE / MESURES EN CAS DE FUITE OU DE DÉVERSEMENT	Small quantities may be flushed with copious quantities of water; in case of larger amounts, contain liquid. Use limestone, lime or soda ash, to cautiously neutralize.
WASTE DISPOSAL / ÉLIMINATION DES RÉSIDUS	Large amounts neutralize first prior to discharging material to the sewer system.
HANDLING PROCEDURES AND EQUIPMENTS / MÉTHODES ET ÉQUIPEMENT POUR LA MANUTENTION	Prevent all contact with eyes and skin. Avoid breathing irritating vapors.
STORAGE REQUIREMENTS / EXIGENCES D'ENTREPOSAGE	Store in closed containers, away from children
SPECIAL SHIPPING INFORMATION / RENSEIGNEMENTS SPÉCIAUX POUR L'EXPÉDITION	Hydrochloric acid solution, Class 8, PIN #1789

## **SECTION VIII – FIRST AID MEASURES / PREMIERS SOINS**

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**EYES:** Immediate and continuous irrigation with flowing water at least 30 minutes is imperative. Prompt medical consultation is essential

**SKIN:** Skin burn likely. Immediate, continuous, and thorough washing with mild soap and water for 15 minutes is required. Remove contaminated clothing immediately.

**INHALATION:** Remove to fresh air if effects occur. Call a physician and/or transport to medical facilities.

**INGESTION:** Corrosive. Do not induce vomiting. Give large amounts of water or milk and transport to medical facility.

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**ADDITIONAL INFORMATION /  
RENSEIGNEMENTS SUPPLÉMENTAIRES**

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## **SECTION IX – PREPARATION DATE OF M.S.D.S. / FICHE SIGNALÉTIQUE**

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**PREPARED BY:** Gus Kaklamanos - CHEMIST

**TELEPHONE NO.:** (416) 2617182

**DATE:** January 18, 2015

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### **ADDITIONAL NOTES OR REFERENCES / NOTES ADDITIONNELLES OU RÉFÉRENCES:**

**NOTE TO PHYSICIAN:** **EYES:** May cause severe corneal injury or burn. May cause impairment of vision. Stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation.

**FIRST AID:**

**EYE:** Frequently consult ophthalmologist.

**SKIN:** May cause severe burn. If burn is present, treat as any thermal burn.

**RESPIRATORY:** Vapors may cause severe irritation and necrosis of respiratory tract tissues. May cause pulmonary damage. Administer oxygen if available.

**ORAL:** If lavage is performed, suggest end tracheal and/or esophogoscopic control.

**WHMIS Classification:** Class E  
Class D, 2A, 2B