MATERIAL SAFETY DATA SHEET

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: MURIATIC ACID
PRODUCT NUMBER (S) HYDROCHLORIC ACID
PRODUCT DESCRIPTION: 5/4/99
DATE PREPARED:

MANUFACTURER NAME: ALLIED UNIVERSAL CORPORATION
MANUFACTURER ADDRESS: 8350 N.W. 93rd STREET
MIAMI, FL 33166-2098

MANUFACTURER PHONE: 305 888-2623
SUPPLIER NAME AND ADDRESS: ALLIED UNIVERSAL CORPORATION
8350 N.W. 93rd STREET
MIAMI, FL 33166-2098
SUPPLIER PHONE: (305) 888-2623
EMERGENCY PHONE - 24 HOURS: CALL CHEM-TEL, INC. (800) 255-3924

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT WT. % OSHA PEL ACGIH TLV CAS REGISTRY #
Hydrogen Chloride 31.45-37.0 5.0 ppm 5.0 ppm 7647-01-0

SECTION 3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

POTENTIAL HEALTH EFFECTS:

INHALATION: SEVERE IRRITATION OF THE UPPER RESPIRATORY TRACT, RESULTING IN COUGHING, BURNING OF THE THROAT AND A CHOKEING SENSATION

EYE CONTACT: CAUSES SEVERE IRRITATION AND PAINFUL BURNS OF THE EYES AND EYELIDS. MAY CAUSE PROLONGED OR PERMANENT VISUAL IMPAIRMENT TO TOTAL LOSS OF SIGHT.

SKIN CONTACT: CAN CAUSE SEVERE BURNS, MAY LEAD TO DERMATITIS.

INGESTION: CAUSES SEVERE BURNS OF THE MUCOUS MEMBRANES OF THE MOUTH, ESOPHAGUS AND STOMACH, DIFFICULTY IN SWALLOWING, INTENSE THIRST, NAUSEA AND VOMITING.

CHRONIC: CORROSIVE, CAN CAUSE SEVERE AND PAINFUL BURNS ON CONTACT WITH ANY PART OF THE BODY.

HMIS HAZARD CODE: HEALTH: 3 FLAMMABILITY: 0 REACTIVITY: 0

SECTION 4 FIRST AID MEASURES

INHALATION: REMOVE FROM CONTAMINATED AREA. IF BREATHING HAS STOPPED, CLEAR AIRWAY AND BEGIN MOUTH-TO-MOUTH ARTIFICIAL RESPIRATION, WHICH
MAY BE SUPPLEMENTED BY THE USE OF A BAG-MASK RESPIRATOR OR MANUALLY-
TRIGGERED OXYGEN SUPPLY. CONTACT PHYSICIAN IMMEDIATELY.

EYE CONTACT: IMMEDIATELY FLUSH THE EYES WITH LARGE QUANTITIES OF
RUNNING WATER FOR A MINIMUM OF 15 MINUTES. HOLD EYELIDS APART TO
ENSURE RINISING THE ENTIRE SURFACE OF THE EYES AND LIDS. OBTAIN
MEDICAL ATTENTION AS SOON AS POSSIBLE.

SKIN CONTACT: IMMEDIATELY REMOVE CONTAMINATED CLOTHING UNDER A SAFETY
SHOWER. FLUSH ALL AFFECTED AREAS WITH LARGE AMOUNTS OF WATER FOR AT
LEAST 15 MINUTES. DO NOT ATTEMPT TO NEUTRALIZE WITH CHEMICAL AGENTS.
OBTAIN MEDICAL ADVISE IMMEDIATELY.

INGESTION: DO NOT INDUCE VOMITING. IMMEDIATELY GIVE LARGE QUANTITIES
OF WATER OR MILK. IF VOMITING DOES OCCUR, GIVE FLUIDS AGAIN. NEVER
GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. CALL PHYSICIAN OR
NEAREST POISON CONTROL CENTER IMMEDIATELY.

SECTION 5 FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: NON COMBUSTIBLE

GENERAL HAZARD: MAY IGNITE OTHER COMBUSTIBLE MATERIAL; VIOLENT
REACTION WITH WATER. FLAMMABLE, POISONOUS GASES MAY ACCUMULATE IN
TANKS AND HOPPER CARS.

FIRE FIGHTING INSTRUCTIONS: USE DRY CHEMICAL OR CARBON DIOXIDE.
DO NOT APPLY WATER.

FIRE FIGHTING EQUIPMENT: FIRE FIGHTERS SHOULD WEAR FULL PROTECTIVE
CLOTHING AND SELF-CONTAINED BREATHING APPARATUS (POSITIVE PRESSURE
IF AVAILABLE).

HAZARDOUS COMBUSTION PRODUCTS: NONE

SECTION 6 ACCIDENTAL RELEASE MEASURES

SPILLS SHOULD BE HANDLED IMMEDIATELY BY NEUTRALIZATION AND DILUTION
OF THE SPILLED PRODUCT BY THE USE OF SODA ASH (SODIUM CARBONATE) LIME
(CALCIUM HYDROXIDE) OR LIMESTONE (CALCIUM CARBONATE) WITH LARGE
AMOUNTS OF WATER. IF INSIDE A CLOSED SPACE, PROVIDE AMPLE VENTILATION
AS SODA ASH, LIME AND LIMESTONE WILL EvOLVE CARBON DIOXIDE.

SECTION 7 HANDLING AND STORAGE

HYDROGEN GAS MAY FORM DURING STORAGE AND PRODUCE EXPLOSIVE CONDITIONS.
STORE IN CORROSION PROOF VESSEL AND/OR TANK. RUNOFF TO SEWERS MAY
CREATE FIRE OR EXPLOSION HAZARD.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

ENGINEERING CONTROLS
VENTILATION: ADEQUATE TO KEEP SULPHURIC ACID CONCENTRATIONS BELOW
APPLICABLE STANDARDS.

PERSONAL PROTECTION
RESPIRATOR: 50 mg/m³ - FULL FACE GAS MASK WITH ACID/GAS CARTRIDGE,
80 mg/m³ - TYPE C FULL-FACE SUPPLIED AIR RESPIRATOR, OVER 80 mg/m³
- SELF-CONTAINED BREATHING APPARATUS.

PROTECTIVE CLOTHING: ACID-PROOF CLOTHING, GLOVES, SHOES, HAND GEAR,
CHEMICAL SPLASH GOGGLES, FULL-FACE SHIELD, EYE WASH AND SAFETY SHOWER

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

VAPOR PRESSURE: 50-60mm Hg @ 20 DEG C
SPECIFIC GRAVITY: 1.1600-1.1884
SOLUBILITY IN WATER: VERY SOLUBLE
PH: N/A
FREEZING POINT: -53 DEG C
ODOR: SHARP, PUNGENT, IRRITANT

VAPOR DENSITY: N/A
PHYSICAL STATE: LIQUID
EVAPORATION RATE: N/A
BOILING POINT: 110 DEG C
VISCOSITY: N/A
APPEARANCE: LIQUID

SECTION 10 STABILITY AND REACTIVITY

GENERAL: STABLE

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID: CONTACT WITH METAL,
COMBUSTIBLE MATERIALS, WATER, ORGANIC MATERIALS, NITRATES, CARBINES,
CHLORATES, CYANIDES, METALLIC SULFIDES, BASES, OTHER ACIDS AND METALS.

HAZARDOUS DECOMPOSITION: SULPHUR OXIDES AND HYDROGEN IN THE PRESENCE
OF METALS.

SECTION 11 TOXICOLOGICAL INFORMATION

NONE

SECTION 12 ECOLOGICAL INFORMATION

NONE

SECTION 13 DISPOSAL CONSIDERATIONS

DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

SECTION 14 TRANSPORT INFORMATION

DOT (Department Of Transportation)
PROPER SHIPPING NAME: HYDROCHLORIC ACID
UN/NA NUMBER: UN1789
HAZARD CLASS: 8
PACKING GROUP: II

EMERGENCY PHONE - 24 HOURS: CALL CHEM-TEL, INC. (800) 255-3924

SECTION 15 REGULATORY INFORMATION

Muriatic Acid [Allied Universal Corporation]
NONE

SECTION 16 OTHER INFORMATION

NONE