

Material Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 10:1 Dilute Hydrochloric Acid
OTHER/GENERIC NAMES: Muriatic Acid; 10:1 Dilute Hydrochloric Acid
PRODUCT USE: Industrial; Metal cleaner

MANUFACTURER: Honeywell/GEM3
101 Columbia Road
Morristown, New Jersey 07962-1053

FOR MORE INFORMATION CALL:
(Monday-Friday, 8:00am-5:00pm)
1-800-279-9998

IN CASE OF EMERGENCY CALL:
(24 Hours/Day, 7 Days/Week)
1-800-707-4555 or Chemtrec 1-800-424-9300
International: 1-703-527-3887

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT NAME</u>	<u>CAS NUMBER</u>	<u>WEIGHT %</u>
Hydrochloric Acid	7647-01-0	< 6%
Water	7732-18-5	Balance to 100%

Trace impurities and additional material names not listed above may also appear in Section 15 toward the end of the MSDS. These materials may be listed for local "Right-To-Know" compliance and for other reasons.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

Corrosive! May cause burns. May be fatal if inhaled or swallowed. Vapor is irritating. May cause damage to respiratory passages and lungs.

Symptoms of Exposure: May cause burns on contact with any body tissue. Vapor may cause irritation of respiratory passages, dermatitis, up to severe and rapid eye damage, chest pain, choking cough,. May cause pulmonary edema, circulatory collapse, up to death.

POTENTIAL HEALTH HAZARDS

SKIN: Corrosive. Can cause redness, pain, and severe skin burns. Concentrated solutions cause deep ulcers and discolor skin.

EYES: Vapors are irritating and may cause damage to the eyes. Contact may cause severe burns and permanent eye damage.

MATERIAL SAFETY DATA SHEET

INHALATION: Corrosive. Inhalation of vapors can cause coughing, choking, inflammation of the nose, throat, and upper respiratory tract, and in severe cases, pulmonary edema, circulatory failure, and death.

INGESTION: Corrosive. Swallowing hydrochloric acid can cause immediate pain and burns of the mouth, throat, esophagus and gastrointestinal tract. May cause nausea, vomiting, and diarrhea, and in severe cases, death.

DELAYED EFFECTS: Respiratory conditions.

Ingredients found on one of the OSHA designated carcinogen lists are listed below.

<u>INGREDIENT NAME</u>	<u>NTP STATUS</u>	<u>IARC STATUS</u>	<u>OSHA LIST</u>
None			

4. FIRST AID MEASURES

SKIN: Immediately flush thoroughly with large amounts of water. Remove contaminated clothing and wash before reuse.

EYES: Immediately flush thoroughly with water for at least 15 minutes.

INHALATION: Remove person to fresh air; give artificial respiration if breathing has stopped.

INGESTION: Rinse mouth with water. DO NOT induce vomiting unless directed to do so by medical personnel. Give water or milk if conscious, get immediate medical assistance.

ADVICE TO PHYSICIAN: Treat symptomatically.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT:	Noncombustible
FLASH POINT METHOD:	N/A
AUTOIGNITION TEMPERATURE:	N/A
UPPER FLAME LIMIT (volume % in air):	N/A
LOWER FLAME LIMIT (volume % in air):	N/A
FLAME PROPAGATION RATE (solids):	N/A
OSHA FLAMMABILITY CLASS:	N/A

EXTINGUISHING MEDIA: Water or water spray

UNUSUAL FIRE AND EXPLOSION HAZARDS: May emit flammable hydrogen gas on contact with metals.

SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS: Wear self-contained breathing apparatus and protective clothing.

MATERIAL SAFETY DATA SHEET

6. ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILL OR OTHER RELEASE: Evacuate the area of all unnecessary personnel. Wear suitable protective equipment listed under Exposure/Personal Protection. Eliminate any ignition sources until the area is determined to be free from explosion or fire hazards. Contain the release and eliminate its source, if this can be done without risk. Take up and containerize for proper disposal as described under Disposal. Comply with Federal, State, and local regulations on reporting releases. Refer to Regulatory Information for reportable quantity and other regulatory data.

Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements.

7. HANDLING AND STORAGE

NORMAL HANDLING: (Always wear recommended personal protective equipment.)

Keep container closed and protected against physical damage. Store in a cool, well-ventilated area separated from incompatible materials. Do not breathe vapor. Do not get in eyes, on skin, or on clothing. Retained residue may make empty containers hazardous; use caution!

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

If workplace exposure limit(s) of product or any component is exceeded (see TLV/PEL), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (see your safety equipment supplier). Engineering and/or administrative controls should be implemented to reduce exposure.

Material should be handled or transferred in an approved fume hood or with adequate ventilation.

PERSONAL PROTECTIVE EQUIPMENT

SKIN PROTECTION: Protective gloves must be adequate to prevent skin contact (Neoprene or equivalent). Impervious protective clothing should be worn to prevent skin contact.

EYE PROTECTION: Safety glasses with side shields or chemical goggles must be worn at all times.

EXPOSURE GUIDELINES

<u>INGREDIENT NAME</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER LIMIT</u>
Hydrochloric Acid	5ppm	5ppm	

- * = Limit established by Honeywell International, Inc.
- ** = Workplace Environmental Exposure Level (AIHA).
- *** = Biological Exposure Index (ACGIH).

MATERIAL SAFETY DATA SHEET

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Clear liquid
PHYSICAL STATE:	Liquid
MOLECULAR WEIGHT:	N/A
CHEMICAL FORMULA:	HCL + H2O
ODOR:	Slight pungent odor.
SPECIFIC GRAVITY (water = 1.0):	1.018
SOLUBILITY IN WATER (weight %):	Miscible
pH:	~1.0
BOILING POINT:	100 ° C
MELTING POINT:	0 ° C
VAPOR PRESSURE:	Unknown
VAPOR DENSITY (air = 1.0):	Unknown
EVAPORATION RATE:	Unknown
% VOLATILES:	100%
FLASH POINT:	N/A

(Flash point method and additional flammability data are found in Section 5.)

10. STABILITY AND REACTIVITY

NORMALLY STABLE? (CONDITIONS TO AVOID): Stable. Avoid heat, direct sunlight, and metals

INCOMPATIBILITIES: Highly reactive with strong bases, metals, metal oxides, hydroxides, amines, carbonates, and other alkaline materials. Incompatible with materials such as cyanides, sulfides, sulfites, and formaldehyde.

HAZARDOUS DECOMPOSITION PRODUCTS: When heated to decomposition emits toxic hydrogen chloride fumes and will react with water or steam to produce heat and toxic and corrosive fumes. Thermal oxidative decomposition produces toxic chlorine fumes and explosive hydrogen gas.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

IMMEDIATE (ACUTE) EFFECTS:

ihl-hmn LCLo: 1300 ppm/30M (as concentrated HCl)

DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS: Data not available.

OTHER DATA: Tests on laboratory animals indicate material in concentrate form may produce adverse mutagenic and reproductive effects. Cited in Registry of Toxic Effects of Substances (RTECS).

12. ECOLOGICAL INFORMATION: Unknown

MATERIAL SAFETY DATA SHEET

13. DISPOSAL CONSIDERATIONS

RCRA

Is the unused product a RCRA hazardous waste if discarded? Yes
If yes, the RCRA ID number is: D002

OTHER DISPOSAL CONSIDERATIONS: Observe all Federal, State, and Local Environmental regulations.

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

14. TRANSPORT INFORMATION

US DOT PROPER SHIPPING NAME: Hydrochloric Acid
US DOT HAZARD CLASS: 8
US DOT ID NUMBER: UN1789

For additional information on shipping regulations affecting this material, contact the information number found in Section 1.

15. REGULATORY INFORMATION

TOXIC SUBSTANCES CONTROL ACT (TSCA)

TSCA INVENTORY STATUS: Yes
OTHER TSCA ISSUES: None

SARA TITLE III/CERCLA

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

<u>INGREDIENT NAME</u>	<u>SARA/CERCLA RQ (lb)</u>	<u>SARA EHS TPQ (lb)</u>
Hydrochloric Acid	83,330lb as 10:1 Dil HCL	

Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee.

SECTION 311 HAZARD CLASS:

SARA 313 TOXIC CHEMICALS:

The following ingredients are SARA 313 "Toxic Chemicals". CAS numbers and weight percents are found in Section 2.

<u>INGREDIENT NAME</u>	<u>COMMENT</u>
Hydrochloric Acid	

MATERIAL SAFETY DATA SHEET

STATE RIGHT-TO-KNOW

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

<u>INGREDIENT NAME</u>	<u>WEIGHT %</u>	<u>COMMENT</u>
------------------------	-----------------	----------------

No ingredients listed in this section.

16. OTHER INFORMATION

CURRENT ISSUE DATE: September 17 2003

PREVIOUS ISSUE DATE: April 23 2003

CHANGES TO MSDS FROM PREVIOUS ISSUE DATE ARE DUE TO THE FOLLOWING:

Converted to ANSI 16-section format.

OTHER INFORMATION: Honeywell MAKES NO WARRANTY, EXPRESSED OR IMPLIED, CONCERNING THIS MATERIAL OR THE USE OF THIS PRODUCT OTHER THAN INDICATED ON THE LABEL. BUYER ASSUMES ALL RISK OF USE AND/OR HANDLING OF THIS MATERIAL WHEN SUCH USE AND/OR HANDLING IS CONTRARY TO LABEL INSTRUCTIONS

NFPA Hazard Ratings:

Health:	1
Flammability:	0
Reactivity:	0
Special Hazards:	