

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

Product Name: Muriatic Acid CAS number: 7647-01-0
Chemical Name & Synonyms: Hydrochloric acid
Appearance: Light brown liquid with no characteristic odor.
Use: General purpose soft soldering flux.
Manufacturer: Force Industries Division Tel. 610-647-3575
EMERGENCY PHONE No. CALL CHEMTREC (800) 424-9300 * Available 24 Hours

II. CHEMICAL COMPOSITION

<u>Material</u>	<u>SARA III</u>	<u>CAS Number</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Hydrochloric Acid	31.5%	7647-01-0	7 mg/m ³	7.5 mg/m ³

Others, if any, are non-hazardous and are claimed as trade secret.

Hazard Rating: HMIS: (H =3 F=0 R=1 PE=C) NFPA: (H=3 F=0 R=1)

III. POTENTIAL HEALTH EFFECTS AND HEALTH HAZARD DATA

Target organ statement: DANGER! Causes severe burns to skin, eyes. Harmful if inhaled, swallowed or absorbed through the skin.

Effects of Chronic Exposure: Contact burns, irritation to skin (scarring), eyes and respiratory system. Possible liver and kidney effects.

Effects of Acute Overexposure

Swallowing: May be fatal. Can cause damage to digestive system. Corrosive to mucous membranes.

Skin Absorption: None currently known.

Inhalation: Irritation to respiratory system. Coughing and sneezing. Existing lung disorders will be aggravated.

Skin Contact: Dermatitis, possible chemical burns, corrosive to skin. Existing disorders will be aggravated.

Eye Contact: Irritation to eyes, tearing, burn of eye surfaces, corrosive to eyes, may cause blindness.

IV. EMERGENCY AND FIRST AID PROCEDURES

Swallowing: Call a physician at once or your poison control center. May be fatal! Corrosive to mucous membranes.

Skin: Promptly flush with water to remove all residue. If rash or burn develops, consult a physician. Material is corrosive.

Inhalation: Remove to fresh air. If fumes are inhaled, call a physician.

Eyes: Flush with water for at least 15 minutes to remove all residue. Get medical help NOW! Blindness can result!

V. FIRE AND EXPLOSION DATA

Flashpoint (°F): N/A

Flammable limits in air: LOWER: N/A UPPER: N/A (% by volume)

Extinguishing media: Use appropriate media for surrounding fire.

Special firefighting procedures: Full protective equipment required. May release HCl fumes. Toxic metal halide fumes produced.

Unusual fire and explosion hazards: Dense smoke may be generated.

VI. REACTIVITY INFORMATION

Stability considerations / Conditions to avoid: Stable / None

Hazardous polymerization / Conditions to avoid: Will not occur / None

Incompatibility / Materials to avoid: None

Hazardous combustion or Decomposition products: Hydrogen chloride

VII. SPILL AND LEAK RESPONSE

Steps to be taken if material is released or spilled: Contain spill, absorb, sweep-up and dispose. Flush area to chemical sewer.

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Waste disposal method:

Dispose of in accordance with all local, state, and federal regulations.

VIII. SPECIAL PROTECTION EQUIPMENT

Respiratory protection: If the work station is not properly ventilated to exhaust all fumes and vapors, use a NIOSH approved mask.

Ventilation: Maintain air flow away from user to remove all fumes and vapors, so that the PEL is never exceeded. Adhere to environmental regulations for exhausts.

Protective gloves: Chemical and acid impervious.

Eye protection: Chemical tight safety goggles. Do NOT wear contact lenses.

Other protective equipment: Full protective equipment normally used in a soldering operation so as to prevent any contact.

IX. STORAGE, HANDLING AND SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Store flux at ambient conditions. Wash thoroughly after handling to remove all residue.

Other precautions: Do NOT breathe fumes. Professionally wash contaminated clothing before re-use. Existing lung disorders will have increased toxic susceptibility.

X. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (°F @ 760 mmHg):	183	Specific gravity (H ₂ O = 1 @ 72°F):	1.16
Vapor density (air = 1):	1.3	Vapor pressure:	24
Percent volatiles by volume:	N/A	Solubility in water:	Complete
Evaporation rate (butyl acetate = 1):	>1		

XI. OPTIONAL INFORMATION

Department of Transportation: Domestic Ground

Proper shipping name: Corrosive Liquid, N.O.S.(Hydrochloric Acid)

Hazard Class: Class 8

ID & Packing Group No.: UN 1789 PG II

ERG Guide Number: 157

Toxic Substance Control Act: All components of this compound are listed within the TSCA inventory.

Hazard Communication Program: Hazardous warnings and training requirements as mandated for corrosive material. (29 CFR 1910.1200)

SARA Title III Program: This product contains the following toxic chemicals subject to the reporting requirements of EPCRA of 1986 and 40 CFR 372. This information must be included in all MSDS that are copied and distributed for this material

Chemical Name	CAS No.	Concentration
Hydrochloric Acid	7647-01-0	< 100%

State Right-to-Know Programs:

Pennsylvania: This product contains the following chemicals listed in PA Code Title 34, Hazardous Substance List: Hydrochloric acid.

California: This product contains the following compounds subject to the reporting and labeling requirements of Proposition 65: None

Miscellaneous: This product contains the following marine pollutants listed under 49 CFR 172.101 Appendix B: None

NOTES: NA=Not Applicable NE=Not Established
H=Health F=Fire R=Reactivity PE=Personal Equipment

While we believe all information presented herein is accurate and reliable, the data are not to be taken as a guarantee or representation of any kind for which Force Industries assumes legal responsibility. They are offered solely for your consideration, investigation, and verification.