



MATERIAL SAFETY DATA SHEET

IDENTIFICATION

SUBSTANCE: **HYDROCHLORIC ACID SOLUTION**

CAS#: 7647-01-0

MANUFACTURER: Gulbrandsen Technologies, Inc.
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Clinton, NJ 08809

PRODUCT INFORMATION: (908) 735-5458

TRANSPORTATION EMERGENCY (CHEMTREC): (800) 424-9300

REVISION DATE: 12/01/2002
SUPERSEDES: 07/31/2002

INGREDIENTS

<u>INGREDIENT</u>	<u>CAS #</u>	<u>PERCENTAGE</u>
Water	7732-18-5	60 - 70
Hydrogen chloride	7647-01-0	30 - 40

ALL INGREDIENTS ARE LISTED ON THE TSCA CHEMICAL SUBSTANCE INVENTORY

Section 313 Supplier Notification

The hydrochloric acid mentioned above is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). This information must be included in all MSDS's that are copied and distributed for this material.

PHYSICAL DATA

BOILING POINT: approx. 80°C	pH: < 1
MELTING POINT: approx. -45°C	SOLUBILITY IN WATER: Complete
SPECIFIC GRAVITY: approx. 1.16	VAPOR PRESSURE: 25 - 85mm Hg @ 35°C
% VOLATILE: 100	VAPOR DENSITY: Air=1, N/F ¹
ODOR: Sharp, pungent, irritating	APPEARANCE: Colorless to yellow liquid

FIRE AND EXPLOSION HAZARDS

FLASH POINT: N/A²

FLAMMABLE LIMITS IN AIR: UFL: N/A LFL: N/A (% BY VOLUME)

EXTINGUISHING MEDIA: Will not burn; use materials appropriate for surrounding fire.

SPECIAL FIRE FIGHTING INSTRUCTIONS: Cool exposed tanks with water.

SPECIAL FIRE AND EXPLOSION HAZARDS: When hydrochloric acid comes in contact with common metals hydrogen gas may be generated, which is explosive in sufficient concentrations; appropriate precautions should

be taken. Hydrochloric acid is corrosive and extremely irritating to the respiratory tract; self-contained breathing apparatus should be worn.

REACTIVITY

STABILITY: Stable
DECOMPOSITION: Will not occur
POLYMERIZATION: Will not occur
INCOMPATIBILITY: Generates flammable, potentially explosive hydrogen gas upon contact with many metals. Contact with strong oxidizers may produce chlorine gas.

HEALTH HAZARDS

EXPOSURE LIMITS: The ACGIH TLV and OSHA PEL for hydrochloric acid are both 5 ppm.

CARCINOGENICITY: None of the components of this material are listed as a carcinogen by IARC, NTP, OSHA, or ACGIH.

TOXICOLOGY

INGESTION: When ingested, hydrochloric acid is corrosive to the tissues with which it comes in contact.
EYE CONTACT: Eye contact results in severe irritation and painful burns of the eyes and eyelids. If material is not removed by copious irrigation with water at room temperature visual impairment or total loss of vision could result.
SKIN CONTACT: Skin contact causes severe burns unless the hydrochloric acid is washed off immediately. Skin may dry or crack due to astringent nature of material. Repeated skin contact may lead to development of dermatitis.
INHALATION: Corrosive and irritating to respiratory tract; inhalation results in coughing, choking, and/or inflammation of the respiratory tract.
CHRONIC: Prolonged exposure to low-level concentrations of hydrochloric acid vapor may cause discoloration and erosion of teeth, bleeding of nose and gums, and ulcers of the nasal mucosa. Asthma, bronchitis, emphysema, bronchial hyperactivity, skin allergies, and eczema may all be aggravated by exposure to hydrochloric acid vapor.

The discomfort caused by hydrochloric acid vapor is usually sufficient to induce a person to leave areas of excessive concentrations; vapor can be fatal to those sprayed with acid or trapped in enclosed areas.

FIRST AID

EYE: Immediately flush eyes for 15 minutes with plenty of water. Eyelids should be held apart to ensure thorough rinsing; delay can result in permanent injury. Call a physician.
SKIN: Flush skin with water, avoiding hot water or hard scrubbing. Remove contaminated clothing; wash before reuse. Cover burns with sterile gauze, call a physician.
INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
INGESTION: DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious individual. Call a physician.

PERSONAL PROTECTION

Adequate general ventilation should be provided to keep vapor and mists below exposure limits. Wear safety glasses with side shields. Wear a face shield if possibility of material splashing or spraying exists. Where there is possibility of skin contact, use the following as appropriate: gloves impervious to material (appropriate gloves include those made from neoprene or nitrile), apron, boots, hood, pants, and jacket. Wear a NIOSH/OSHA approved respirator with a dust/mist cartridge if there is potential of exposure to mists in excess of applicable limits. Full acid suits and self-contained breathing apparatus should be available to handle large spills.

SPILL/LEAK PROCEDURE

Review safety precautions before proceeding with cleanup. Use appropriate personal protection equipment. Evacuate area and stay upwind. Attempts to stop or reduce leak should be made only by trained personnel, when there is at most a minimal risk of injury. Large spills should be contained with dikes and pumped into tanks suitable for acid storage. Full acid-resistant suits and self-contained breathing apparatus should be worn. Use a water fog or spray to control vapors. Neutralize spill with lime (calcium hydroxide), limestone (calcium carbonate), or soda ash (sodium carbonate). CAUTION: limestone and soda ash will evolve CO₂; ventilation should be provided in enclosed areas. Dike area around spill to prevent spreading, and use absorbent material to pick up spill.

DISPOSAL: Under the Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user to determine whether a substance should be classified as a hazardous waste at the time of disposal. This is due to the fact that product use, transformation, synthesis, mixtures, etc. may change the nature of the product. Dispose of waste in accordance with applicable federal, state, and local laws. Due to its corrosivity, material would be a hazardous waste if disposed of as shipped.

SHIPPING INFORMATION

DOT

PROPER SHIPPING NAME: Hydrochloric acid
HAZARD CLASS: Class 8
UN/NA #: UN 1789
DOT LABELS: Corrosive
DOT PLACARDS: Corrosive
PACKING GROUP: II
REPORTABLE QUANTITY: 5000 lb.

IMO

PROPER SHIPPING NAME: Hydrochloric acid
HAZARD CLASS: Corrosive material, 8
UN #: 1789
IMO LABEL: Corrosive
PACKING GROUP: II
SHIPPING CONTAINERS: Rubber-lined steel tank cars/trucks; polyethylene drums, bottles
STORAGE CONDITIONS: Keep containers closed

TITLE III HAZARD CLASSIFICATIONS

ACUTE: Yes
CHRONIC: Yes
FIRE: No
REACTIVITY: No
PRESSURE: No

EXTREMELY HAZARDOUS SUBSTANCE: No
TOXIC CHEMICAL: No

NFPA/HMIS RATINGS: HEALTH: 3
FLAMMABILITY: 0
REACTIVITY: 0

Personal protection rating to be supplied by user depending on use conditions.

ADDITIONAL INFORMATION AND REFERENCES

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¹N/F = None found

²N/A = Not applicable