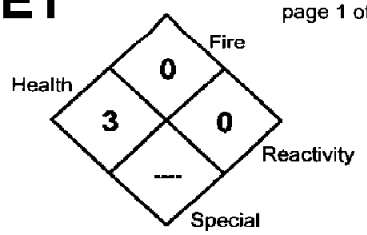
MATERIAL SAFETY DATA SHEET

BRENNTAG

Brenntag MSDS #:	BPI-00302
MSDS Revision/Issue Date:	11/06/08
Supercedes Revision Date:	New

NFPA 704 DESIGNATION
HAZARD RATING

4=Extreme
3=High
2=Moderate
1=Slight
0=Insignificant



1. CHEMICAL PRODUCT IDENTIFICATION & COMPANY IDENTIFICATION

PRODUCT IDENTIFIER: Hydrochloric Acid 20% Solution

GENERAL USE: Used in the production of chlorides; pickling and cleaning of metal products; as a catalyst and solvent in organic syntheses; and removing scale from boilers and heat exchange equipment.

PRODUCT DESCRIPTION: An inorganic acid solution. Synonyms include Chlorohydric acid, Hydrochloride, Hydrogen Chloride, Hydrochloric Acid and spirits of salt.

INFORMATION PROVIDED BY:
Brenntag Pacific, Inc.
5700 N.W. Front Avenue
Portland, OR 97210

For MSDS call: PHONE: 503-242-0200

EMERGENCY PHONE NUMBERS

CHEMTREC: 800-424-9300
CANUTEC: 613-996-6666

2. COMPOSITION & INFORMATION ON INGREDIENTS

COMPONENT	CAS #	OSHA HAZARD	WT %	ACGIH TLV(TWA)	ACGIH STEL	OSHA PEL(TWA)	OSHA STEL
Hydrochloric Acid	7647-01-0	Corrosive: Lung toxin	20 ± 1	None Ceiling: 2 ppm	None	None Ceiling: 5 ppm	None

NDA = No Data Available N/A = Not Applicable

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: A clear, colorless liquid having a sharp, acidic odor. The vapors, mists and liquid may cause severe irritation or burns to the eyes, skin and respiratory tract. Inhalation of high vapor or mist concentrations can cause permanent lung damage. **The NIOSH I.D.L.H. for Hydrogen Chloride is: 50 ppm.**

POTENTIAL HEALTH EFFECTS

INHALATION: Inhalation of the vapors or mists may cause severe irritation or burns to the nose, mouth, throat, mucous membranes and lungs. Symptoms of exposure may include sneezing, coughing, choking, chest pain, shortness of breath and impairment of lung function. Inhalation of high vapor or mist concentrations can cause permanent lung damage.

EYE CONTACT: Exposure to the vapors, mists or liquid may cause severe eye irritation or burns. Symptoms of exposure may include tearing, redness, swelling, pain and possible mucous discharge. Direct contact with the liquid can be corrosive to the eye and can cause corneal damage with impairment of vision, unless promptly treated.

SKIN CONTACT: Exposure to the mists or liquid may cause severe skin irritation or burns. Symptoms of exposure may include redness, swelling, discomfort or pain and possible scab formation. Prolonged skin exposure may cause destruction of the dermis with impairment of the skin, at site of contact, to regenerate. No published data indicates this product is absorbed through the skin.

INGESTION: Ingestion can cause severe irritation and/or burns to the entire gastrointestinal tract, including the stomach and intestines, characterized by nausea, vomiting, diarrhea, abdominal pain, bleeding and/or tissue ulceration.

CHRONIC: Repeated inhalation exposure above the ACGIH-TLV or OSHA-PEL may cause chronic bronchitis, impairment of lung function and possible permanent lung damage. Otherwise, the chronic exposure effects are expected to be the same as for acute exposure.

4. FIRST AID MEASURES

INHALATION: If inhaled, immediately move to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; use the Holger Nielsen method (back pressure-arm lift) or proper respiratory device. If breathing is difficult, give oxygen. Call a physician.

EYE CONTACT: In case of contact, immediately flush eyes with plenty of clean running water for at least 15 minutes, lifting the upper and lower lids occasionally. Remove contact lenses, if worn. Get medical attention immediately.

SKIN CONTACT: In case of contact, immediately flush skin with plenty of clean running water for at least 15 minutes, while removing contaminated clothing and shoes. If burn or irritation occurs, call a physician.

INGESTION: If swallowed, DO NOT induce vomiting. Get medical attention immediately. If victim is fully conscious, give plenty of water to drink. Never give anything by mouth to an unconscious person.

NOTE TO PHYSICIANS: The hazard associated with this material is its corrosivity to the eyes, skin and mucous membranes. Inhalation exposure above the ACGIH/OSHA Ceiling levels may damage the lungs and, at high concentrations, severe breathing difficulties may occur, which may be delayed in onset and may be due to pulmonary edema (fluid in the lung), laryngeal edema or spasm.

If ingested, consideration should be given to careful endoscopy as stomach or esophageal burns, perforations or strictures may occur. Careful gastric lavage with an endotracheal tube in place should be considered.

Treat exposure symptomatically.

5. FIRE FIGHTING MEASURES

Flashpoint and Method: This product does not flash.

Flammable Limits (in air, % by volume) **Lower:** Not applicable **Upper:** Not applicable

Autoignition Temperature: Not applicable

GENERAL HAZARD: This product is not combustible but will generate flammable / explosive Hydrogen gas on contact with many metals. The Uniform Fire Code health hazard classification for this product is: **Corrosive (Acidic).** Dilute solutions of this product may also be corrosive. This product may produce hazardous vapors and hazardous decomposition products.

FIRE FIGHTING INSTRUCTIONS: **EXTINGUISHING MEDIA:** Water, foam, CO_2 or dry chemicals.

Use a water spray or fog to cool the containers exposed to the heat of a fire.

FIRE FIGHTING EQUIPMENT: Fire fighters should wear full protective equipment, including self-contained breathing apparatus.

HAZARDOUS COMBUSTION PRODUCTS: When heated to dryness and decomposition, it emits very toxic Hydrochloric Acid vapors and chloride fumes.

6. ACCIDENTAL RELEASE MEASURES

LAND SPILL: Wearing recommended protective equipment and clothing, dike the spill and pick up the bulk of liquid using pumps or a vacuum truck, or absorb the liquid in sand or a commercial absorbent. Place in approved containers for recovery, disposal, or satellite accumulation. Neutralize the acidity, of the remaining liquid, using soda ash, lime, or other agent appropriate for neutralizing acidic liquids. Flush the spill area with water; collect the rinsates for disposal or sewer, as appropriate.

Inhalation Hazard: when an inhalation hazard is indicated, use cleaning methods that do not generate dust, aerosols, fumes, vapors or mists. Respiratory equipment is required during the clean-up of the spill.

WATER SPILL: Wear recommended protective equipment and clothing if contact with hazardous material can occur. Stop or divert water flow. Dike contaminated water and remove for disposal and/or treatment. As appropriate, notify all downstream users of possible contamination.

7. HANDLING AND STORAGE

STORAGE TEMPERATURE: Below 38° C. (100° F.) **STORAGE PRESSURE:** Ambient

GENERAL: Store in a cool, dry, well-ventilated area away from incompatible materials and products. Do not store in direct sunlight. Do not get this product in eyes, on skin or on clothing. Wear recommended personnel protective equipment when handling this product. Do not breathe vapors, mists or aerosols. Use only with adequate ventilation. Keep the containers tightly closed when not in use. Wash thoroughly after handling this product.

Do not mix this product with concentrated alkali. Never allow this product, or its solutions, to contact Aluminum, Magnesium, Zinc or galvanized surfaces as this will result in corrosion of the metal and it will generate flammable / explosive Hydrogen gas.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL MEASURES: Use a local or general, mechanical exhaust ventilation system capable of maintaining emissions, in the work area, below the OSHA or ACGIH Ceiling level.

RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

RESPIRATOR: For exposure above the OSHA or ACGIH Ceiling level, wear a NIOSH approved full facepiece or half mask air-purifying cartridge respirator equipped with an acid gas cartridge, or supplied air. For exposure to Hydrogen Chloride above 50 ppm, a full facepiece supplied air respirator or self-contained breathing apparatus operated in the pressure demand and positive pressure mode is recommended by NIOSH.

EYES: Wear chemical goggles (recommended by ANSI Z87.1-1979), unless a full facepiece respirator is worn.

GLOVES: Wear Neoprene, Butyl Rubber, Viton, Viton / Butyl Rubber or Responder gloves.

CLOTHING & EQUIPMENT: Wear a Neoprene or Butyl Rubber apron or full protective clothing when handling this product. An eye wash station and safety shower should be available in the work area.

FOOTWEAR: Wear Neoprene or Butyl Rubber boots.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, colorless	**Bulk Density (pounds/ft^3):**	Not applicable
Physical State:	Liquid	**Vapor Pressure:**	13 mm Hg @ 20° C. (HCl gas)
Odor:	Strong, sharp, acidic	**Vapor Density (air=1):**	1.3 (HCl gas)
Odor Threshold:	1 ppm (HCl in air)	**Evaporation Rate (n-Butyl Acetate=1):**	Approximately 1
Molecular Formula:	HCl (in water)	**VOC Content:**	Not applicable
Molecular Weight:	36.46 (in water)	**% Volatile:**	100
Boiling Point:	Less than 100° C. (212° F.)	**Solubility in H_2O:**	Complete
Freezing/Melting Point:	Less than -17.8° C. (0° F.)	**Octanol/Water Partition Coefficient:**	No data available
Specific Gravity:	Approximately 1.10 @ 20° C.	**pH (as is):**	Less than 1.0
Density (pounds/gallon):	Approximately 9.18	**pH (1% solution):**	Less than 1.5

10. STABILITY AND REACTIVITY

GENERAL: This product is stable and hazardous polymerization will not occur.

CONDITIONS TO AVOID: Hot storage.

INCOMPATIBLE MATERIAL: Most metals (especially Aluminum, Magnesium, Zinc and their alloys), alkali and caustics, organic amines, sulfides, sulfites, cyanides, chlorine releasers and strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: When heated to dryness and decomposition, it emits very toxic Hydrochloric Acid vapors and chloride fumes.

SENSITIVITY TO MECHANICAL IMPACT: This material is not sensitive to mechanical impact.

SENSITIVITY TO STATIC DISCHARGE: This material is not sensitive to static discharge.

11. TOXICOLOGICAL INFORMATION

Components:	Hydrochloric Acid
Eye Contact:	Rabbit: 5 mg/30 seconds, rinsed; Mild
Skin Contact:	No data available
Oral Rat LD_{50}:	No data available
Dermal Rabbit LD_{50}:	No data available
Inhalation Rat LC_{50}:	3,124 ppm/1 hour
Human Data:	Inhalation Human LC_{Lo}: 3,000 ppm/5 minutes
Other Toxicological Data:	Oral Rabbit LD_{50}: 900 mg/kg
Carcinogenicity:	No data available
Teratogenicity:	Inhalation Rat TC_{Lo}: 450 mg/m^3/1 hour (female 1 Day prior to mating) Effects on Embryo or Fetus – Fetotoxicity; Specific Developmental Abnormalities - Homeostasis
Mutagenicity:	Hamster Cytogenetic Analysis; lung: 30 mmol/Liter
Synergistic Products:	None reported
Target Organs:	Eyes, Skin, Mucous membranes, Lungs, Gastrointestinal tract & Teeth
Medical Conditions Aggravated By Exposure:	Skin, Respiratory or Gastrointestinal disorders

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE:

This product is completely soluble in water and will significantly affect the pH of the water. No specific environmental fate data is available on this product.

ENVIRONMENTAL CONSIDERATIONS:

The aquatic toxicity for Hydrogen Chloride is: 96 hour TLm Gambusia affinis (mosquito fish) = 282 ppm (fresh water). Cockle 48 hour LC_{50} = 330 to 1,000 mg/Liter. Trout 24 hour LC_{100} = 10 mg/Liter.

13. DISPOSAL CONSIDERATIONS

RCRA 40 CFR 261 CLASSIFICATON: Corrosive Waste

U.S. EPA WASTE NUMBER/DESCRIPTION: D002

If this material is disposed of as shipped, it meets the criteria of a hazardous waste as defined under 40 CFR 261 due to its corrosivity. If this material becomes a waste, it will be a hazardous waste which is subject to the Land Disposal Restrictions under 40 CFR 268 and must be managed accordingly. As a hazardous liquid waste, it must be disposed of in accordance with local, state, and federal regulations in a permitted hazardous waste treatment, storage, and disposal facility.

14. TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: **Hydrochloric acid, solution**

Hazard Class: 8 **UN Number:** UN1789 **Packing Group:** II

Primary Label: Corrosive **Subsidiary Label(s):** None Required

Primary/Subsidiary Placards: Corrosive

DOT Reportable Quantity (RQ): 5,000 pounds (HCl) **RQ for Product:** 25,000 pounds (2,723 gallons)

Marine Pollutant: No

2004 North American Emergency Response Guidebook No.: 157

TDG PROPER SHIPPING NAME: **HYDROCHLORIC ACID, SOLUTION**

Hazard Class: 8 **UN Number:** UN1789 **Packing Group:** II

Primary Label: Corrosive **Subsidiary Label(s):** None Required

Primary/Subsidiary Placards: Corrosive

TDG Reportable Quantity (RQ): # At least 5 kg or 5 liters.

TDG Schedule XII: Yes (Greater than 20% concentration) for quantities exceeding 3,000 kg or 3,000 liters net/tank.

Regulated Limit (RL): ## 230 kg (HCl) **RL for Product:** 1,150 kg (1,045 liters)

Other Shipping Information: None

Canadian Transportation of Dangerous Goods Regulations (TDGR), Part IX, Table I, Quantities or levels for Immediate Reporting: releases of reportable quantities, RQ, that meet the definition of a "dangerous occurrence" (a threat to life, health, property, or the environment) must be reported to the appropriate authorities as outlined in TDGR 9.13(1) and 9.14(1).

Reporting to Environment Canada is required for any releases exceeding the regulated limits, RL, of 9.2 materials (primary or secondary). The regulated limits are found in Schedule XIII of the TDGR.

15. REGULATORY INFORMATION

COMPONENTS:	**Hydrochloric Acid**
OSHA Target Organs:	Eyes, Skin, Mucous membranes, Lungs, Gastrointestinal tract & Teeth

Carcinogenic Potential:

Regulated by OSHA:	No
Listed on NTP Report:	No
Listed by IARC:	Yes
IARC Group:	Group 3
ACGIH Appendix A:	(A4)
A1 Confirmed Human:	Not applicable
A2 Suspected Human:	Not applicable

U.S. EPA Requirements

Release Reporting

CERCLA (40 CFR 302)

Listed Substance:	Yes
Reportable Quantity:	5,000 pounds
Category:	D
RCRA Waste No.:	None listed
Unlisted Substance:	Not applicable
Reportable Quantity:	Not applicable
Characteristic:	Not applicable
RCRA Waste No.:	Not applicable

SARA TITLE III

Section 302 & 303 (40 CFR 355):

Listed Substance:	Not listed
Reportable Quantity:	Not applicable
Planning Threshold:	Not applicable

Section 311 & 312 (40 CFR 370):

Hazard Categories (**product**): **Fire: N** **Sudden Release of Pressure: N** **Reactive: N** **Acute Health: Y** **Chronic Health: N**

Planning threshold: 10,000 pounds

Section 313 (40 CFR 372):

Listed Toxic Chemical:	Yes (Acid aerosols, mists & vapors)
Reporting Threshold:	25,000 pounds

U.S. TSCA Status

Listed (40 CFR 710): Yes

State Regulations

State of California: Safe Drinking Water and Toxins Enforcement Act, 1986 (Proposition 65):

Carcinogen:	No
Reproductive Toxin:	No

Other Regulations

State Right To Know Laws: MA, NJ, PA

Canadian Regulations

Product Information:

Controlled Product:	**Yes**
WHMIS Hazard Symbols:	**Materials Causing Immediate and Serious Toxic Effect; Corrosive Material**
WHMIS Class & Division:	**D.1B; E**

Ingredient Information:

IDL Substance:	Yes
DSL or NDSL Lists:	DSL

16. OTHER INFORMATION

EPA Registration number: Not applicable
Approved Product Uses: Not applicable

Special Notes:
This product does not contain any material, which the State of California has found to cause cancer and/or birth defects or other reproductive harm.

SARA 302 Additional Information:
Hydrogen Chloride gas is an extremely hazardous substance – RQ = 5,000 pounds; TPQ = 500 pounds.

The **DEA** regulates Hydrochloric Acid as an essential chemical only when it is exported to the following countries: Argentina, Bolivia, Brazil, Chile, Columbia, Ecuador, French Guyana, Panama, Paraguay, Peru, Suriname, Uruguay and Venezuela.

Special Instructions:
Store Hydrochloric Acid, 20% Solution in a cool, dry, well-ventilated area away from incompatible materials and products.

Do not add this product to hypochlorite bleaches, chlorine sanitizers or chlorinated cleaners as this generates toxic, corrosive Chlorine gas. Do not add this product to strong oxidizers as this may also generate toxic, corrosive Chlorine gas.

MSDS Revision Information: Information Revised This Issue Date: **New product MSDS.**
Form Revision made 2/03/06

MSDS Distributed by: Brenntag Pacific, Inc.
NW Environmental Department
Phone: 503-242-0200 FAX: 503-412-3390

Prepared By:	Edward Doheny	Date Prepared:	November 6, 2008