

## Safety Data Sheet

Material Name Hydrochloric Acid

### Section 1 - Identification

**Chemical Name:** Hydrochloric Acid 5% - 38%

#### Manufacturer Information

Detrex Corporation  
1100 North State Road  
Ashtabula, OH 44004

Phone: 216-749-2605  
Fax: 216-749-7462  
Emergency (CHEMTREC) # US/CAN: (800) 424-9300  
Elsewhere: +1 703-527-3887

#### Material Name:

Hydrochloric Acid

#### Synonyms

No additional information available.

#### Recommended Use and Limitations

No additional information available.

### Section 2 - Hazards Identification

#### GHS Classification EU Risk Phrases GHS Label Elements Symbol(s)

Skin Corrosion: Category 1B. Serious eye damage: Category 1. STOT - SE: Category 3



#### Signal Word Hazard Statements Prevention

Danger

#### Hazard Statements

H314: Causes severe skin burns and eye damage. H335: May cause respiratory irritation.

#### Precautionary Statements

P260: Do not breathe dust/fume/gas/mist/vapors/spray. P264: Wash skin thoroughly after handling.

#### Prevention

P270: Do not eat, drink or smoke when using this product. P280: Wear protective gloves/protective clothing/eye protection/face protection.

#### Response

P301+P330+P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P303+P361+P353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P309+P311: IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician. P363: Wash contaminated clothing before re-use.

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## Storage

P405: Store locked up.

## Disposal

P501: Dispose of contents/container to an approved waste disposal facility.

## Emergency Overview

Primary routes of entry are by way of eye, skin and inhalation

## Potential Health Effects: Eyes

Severe irritation of the eyes and eyelids. If the acid is not quickly removed by thorough irrigation with water, there may be prolonged or permanent visual impairment or total loss of sight. Hydrogen chloride gas escaping from the aqueous solution is immediately irritating to the eyes.

## Potential Health Effects: Skin

Irritating and corrosive to skin and can cause severe burns if not properly washed off. Repeated contact of the skin may lead to the development of dermatitis. The chronic local effect may consist of multiple areas of superficial destruction of the skin or of primary irritant dermatitis.

## Potential Health Effects: Ingestion

This product causes severe burns of mucus membranes of the mouth, esophagus, and stomach if swallowed.

## Potential Health Effects: Inhalation

Inhalation of gas, mist, fog, or spray will cause severe irritation of the upper respiratory tract, resulting in coughing, burning of the throat, and a choking sensation. Excessive or long-term exposure may result in varying degrees of irritation or damage to the respiratory tract tissues and increased susceptibility to respiratory illness, including pulmonary edema. Prolonged or repeated exposure to concentration in excess of the TLV may cause discoloration and/or erosion of the teeth.

## Section 3 - Composition / Information on Ingredients

CAS #	Component	Percent	DSD Classification	CLP Classification
7732-18-5	Water	62-95	NA	NA
7647-01-0	Hydrogen Chloride	5-38	R34: Causes burns R37: Irritant to respiratory system	Skin Corrosion: Category 1B. Serious eye damage: Category 1. STOT - SE: Category 3

## Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Hydrochloric acid ...%, Hydrochloric acid (UN1789).

## Component Information/Information on Non-Hazardous Components

## Section 4 - First Aid Measures

### First Aid: Eyes

Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention at once.

Washing eyes within seconds is essential to achieve maximum effectiveness.

### First Aid: Skin

Immediately wash contaminated areas with plenty of soap and water for at least 15 minutes. A soothing ointment may be applied to irritated skin after thorough cleansing. Remove contaminated clothing and footwear and wash

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clothing before reuse. Discard footwear, which cannot be decontaminated. SEEK MEDICAL ATTENTION IMMEDIATELY.

### First Aid: Ingestion

Do not induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions. If the material is swallowed, get immediate medical attention or advice -- Give several glasses of water or milk. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration.

### First Aid: Inhalation

If inhaled, immediately remove the affected person to fresh air. Call a physician if symptoms develop or persist. If the affected person is not breathing, apply artificial respiration.

### Important Symptoms and Effects

No additional information available.

## Section 5 - Fire Fighting Measures

### General Fire Hazards

See Section 9 for Flammability Properties.  
Product is not considered combustible.

### Hazardous Combustion Products

Hydrogen and Chlorine

### Extinguishing Media

Carbon dioxide, dry chemical and foam may all be used in areas where hydrogen chloride is stored.

### Unsuitable Extinguishing Media

Do not use water.

### Fire Fighting Equipment/Instructions

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

## Section 6 - Accidental Release Measures

### Recovery and Neutralization

Contain the discharged material.

### Materials and Methods for Clean-Up

Neutralize the spilled material before disposal. Wear appropriate protective equipment and clothing during cleanup. Absorb spill with inert material. Shovel material into appropriate container for disposal.

### Emergency Measures

Evacuate the area promptly and keep upwind of the spilled material. Isolate the spill area to prevent people from entering.

### Personal Precautions and Protective Equipment

Only personnel equipped with proper respiratory and skin/eye protection should be permitted in the area.

### Environmental Precautions

Section 311 of the Clean Water Act lists Hydrochloric Acid as a hazardous substance which, if discharged into or upon water, may require immediate response to mitigate danger to public health.

Spills or releases should be reported, if required, to the appropriate local, state and federal agencies.

### Prevention of Secondary Hazards

No additional information available.

## Section 7 - Handling and Storage

### Handling Procedures

Avoid contact with skin and eyes.

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Wear PPE when handling this material. Wash exposed body areas with soap and water prior to using lavatory facilities, consuming food or beverages, or applying cosmetics.

Do not ingest.

Open container carefully to avoid spurting.

Do not eat, drink or smoke in work areas.

Do not add water directly to product, and do not mix with alkalis such as sodium hydroxide (caustic soda) or alkali metals to avoid possible violent reaction.

Contents of leaking containers should be transferred to a suitable container and disposed of in a safe manner. Do not store in unlined containers.

### Safe Packaging Materials:

## Storage Procedures

Store in the original, properly sealed and labeled container.

Store in a cool, ventilated area away from flammable substances and oxidizing materials. Dike storage tanks and vent storage tanks to a fume scrubber.

## Incompatibilities

Bases, Amines, Alkali metals, Metals, Permanganates, Fluorine, Metal acetylides, Hexalithium disilicide, Sodium hypochlorite, Ammonia

## Section 8 - Exposure Controls / Personal Protection

### Component Exposure Limits

#### Hydrogen chloride (7647-01-0)

ACGIH:	2 ppm Ceiling
Taiwan:	5 ppm Ceiling; 7.5 mg/m <sup>3</sup> Ceiling
Korea OEL:	2 ppm STEL; 3 mg/m <sup>3</sup> STEL 1 ppm TWA; 1.5 mg/m <sup>3</sup> TWA
Indonesia:	5 ppm Ceiling; 7.5 mg/m <sup>3</sup> Ceiling
Philippines:	5 ppm Ceiling; 7 mg/m <sup>3</sup> Ceiling
China:	7.5 mg/m <sup>3</sup> Ceiling [MAC]
Singapore:	49 mg/m <sup>3</sup> 49 mg/m <sup>3</sup> 7 mg/m <sup>3</sup> 5 ppm STEL; 7.5 mg/m <sup>3</sup> STEL
Vietnam:	7.5 mg/m <sup>3</sup> STEL 5 mg/m <sup>3</sup> TWA
Hong Kong:	5 ppm Ceiling; 7.5 mg/m <sup>3</sup> Ceiling
Malaysia:	5 ppm Ceiling; 7.5 mg/m <sup>3</sup> Ceiling
Japan:	5 ppm Ceiling; 7.5 mg/m <sup>3</sup> Ceiling

## Engineering Measures

Ventilation should be designed in accordance with good engineering practices.

Local exhaust is recommended where vapors, gases, or mists may be generated due to work activities.

## PERSONAL PROTECTIVE EQUIPMENT

### Personal Protective Equipment: Eyes

Wear chemical goggles and / or face shield. Eye wash fountain and emergency showers are recommended.

### Personal Protective Equipment: Skin and Body

Wear chemical goggles and / or face shield. Eye wash fountain and emergency showers are recommended.

Protect all exposed skin from liquid contact. Use chemically resistant equipment. Use gloves to prevent dermal contact. Aprons should be used when there is a chance for splashing. Use chemical boots as appropriate.

Launder clothing prior to reuse and properly discard contaminated leather products.

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## Personal Protective Equipment: Hands

Use appropriate hand protection.

## Personal Protective Equipment: Respiratory

To limit employees' exposure, OSHA requires that the use of administrative or engineering controls must first be developed and implemented whenever feasible (29 CFR 1910.1000 (e)). When controls are not feasible, and exposure exceeds established limits, then protective equipment such as respirators, are recommended. Use only OSHA/NIOSH approved respirators according to manufacturer's directions and OSHA requirements. Positive pressure, self-contained units (i.e. SCBAs) are required whenever: there is insufficient oxygen, IDLH conditions exist and when determined necessary by surrounding environmental conditions.

## Hygiene Measures

Eyewash fountains and emergency showers are required.

## Section 9 - Physical and Chemical Properties

<b>Appearance:</b>	Water white to slightly yellow	<b>Odor:</b>	sharp and irritating
<b>Physical State:</b>	Liquid	<b>pH:</b>	Approximately 2.0 in 0.2% solution
<b>Vapor Pressure:</b>	NA	<b>Vapor Density:</b>	1.3 @ 20° C
<b>Boiling Point:</b>	NA	<b>Melting Point:</b>	NA
<b>Solubility (H2O):</b>	Infinite	<b>Solubility :</b>	NA
<b>Specific Gravity:</b>	NA	<b>Freezing Point:</b>	NA
<b>Particle Size:</b>	NA	<b>Softening Point:</b>	NA
<b>Evaporation Rate:</b>	NA	<b>Viscosity:</b>	NA
<b>Bulk Density:</b>	NA	<b>Percent Volatile:</b>	NA
<b>Molecular Weight:</b>	NA	<b>VOC:</b>	NA
<b>Octanol/H2O Coeff.:</b>	NA	<b>Heat Value:</b>	NA
<b>Sat. Vapor Conc.:</b>	NA	<b>Upper Flammability Limit (UFL):</b>	NA
<b>Lower Flammability Limit (LFL):</b>	NA	<b>Flash Point Method:</b>	NA
<b>Flash Point:</b>	NA	<b>Auto Ignition:</b>	NA
<b>Flammability Class:</b>	NA	<b>Burning Rate:</b>	NA
<b>Decomposition Temperature:</b>	NA		

## Section 10 - Stability and Reactivity

### Chemical Stability

This is a stable material.

### Hazardous Reaction Potential

Do not add water or mix with alkalis or alkali metals to avoid possible violent reaction

### Conditions to Avoid

Avoid exposure to heat or open flames. Releases hydrogen chloride gas when heated.

### Incompatible Products

Avoid contacting this product with alkaline materials.

Avoid contacting active metals and certain of their compounds as evolution of hydrogen gas may occur.

Do not add water directly to the product. The product may be added to water with mixing and dilution. Avoid contacting this product with strong oxidizers as chlorine will be produced.

### Hazardous Decomposition Products

May produce Hydrogen and Chlorine due to exposure to heat, flames or incompatible materials.

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## Section 11 - Toxicological Information

### Acute Toxicity

#### A: General Product Information

No additional information available.

#### B: Component Analysis - LD50/LC50 Water (7732-18-5)

Oral LD50 Rat >90 mL/kg

#### Hydrogen chloride (7647-01-0)

Inhalation LC50 Rat 3124 ppm 1 h; Oral LD50 Rat 700 mg/kg; Dermal LD50 Rabbit >5010 mg/kg

### Potential Health Effects:

No additional information available.

#### A: General Product Information B: Component Carcinogenicity

No additional information available.

#### Hydrogen chloride (7647-01-0)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Monograph 54 [1992] (Group 3 (not classifiable))

#### Reproductive Toxicity Specified Target Organ General Toxicity: Single Exposure Specified Target Organ General Toxicity: Repeated Exposure

No additional information available.

## Section 12 - Ecological Information

### Ecotoxicity

#### A: General Product Information B: Component Analysis - Ecotoxicity - Aquatic Toxicity Hydrogen chloride (7647-01-0)

No information available for the product.

#### Test & Species

96 Hr LC50 *Gambusia affinis*

#### Conditions

282 mg/L [static]

### Persistence/Degradability Bioaccumulation Mobility in Soil

No additional information available.

When released into the soil, Hydrochloric Acid is not expected to biodegrade and may leach into groundwater.

## Section 13 - Disposal Considerations

### Waste Disposal Instructions

The materials resulting from clean-up operations may be hazardous wastes and, therefore, subject to specific regulations. Package, store, transport and dispose off all clean-up materials and any contaminated equipment in accordance with all applicable federal, state and local health and environmental regulations.

Shipments of waste materials may be subject to manifesting requirements.

Appropriate disposal will depend on the nature of each waste material and should be performed by competent and properly permitted contractors.

Ensure that all federal, state and local agencies receive proper notification of spill and disposal methods.

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

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## Section 14 - Transport Information

### IATA Information

**Shipping Name:** Hydrochloric Acid  
**UN #:** 1789 **Hazard Class:** 8 **Packing Group:** II

### IMDG Information

**Shipping Name:** Hydrochloric Acid  
**UN #:** 1789 **Hazard Class:** 8 **Packing Group:** II Required  
**Label(s):** Corrosive  
**Additional Info.:** EMS-No: F-A, S-B

### US DOT Information

**Shipping Name:** Hydrochloric Acid  
**UN/NA #:** UN1789 **Hazard Class:** 8 **Packing Group:** PGII  
**Required Label(s):** Corrosive

## Section 15 - Regulatory Information

### Regulatory Information

#### Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC	METI	PHIL	KOREA	CHINA
Water	7732-18-5	Yes	DSL	EINECS	No	Yes	Yes	Yes
Hydrogen chloride	7647-01-0	Yes	DSL	EINECS	Yes	Yes	Yes	Yes

**HMIS Ratings: Health:** 3 **Fire:** 0 **Physical Hazard:** 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe \* = Chronic hazard

**NFPA Ratings: Health:** 3 **Fire:** 0 **Reactivity:** 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

## Section 16 - Other Information

### Key/Legend

N/A = Not Applicable  
N/D = Not Determined  
N/E = Not Established  
S = Suspected  
ST = Short Term Exposure Limit

**Contact Phone:** 216-749-2605 ext 231

### Literature References

No additional information available.

### Other Information

The information herein is presented in good faith and believed to be accurate as of the effective date given. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

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End of Sheet HCL