



## Safety Data Sheet

# HYDROCHLORIC ACID 10-35% SOLUTION

## SECTION 1. IDENTIFICATION

Product Identifier	Hydrochloric Acid 10-35% Solution Hydrochloric Acid 10% NSF® - 60 Hydrochloric Acid 12% NSF® - 60 Hydrochloric Acid 15% NSF® - 60 Hydrochloric Acid 20% NSF® - 60 Hydrochloric Acid 21% NSF® - 60 Hydrochloric Acid 27% NSF® - 60 Hydrochloric Acid 28% NSF® - 60 Hydrochloric Acid 29% NSF® - 60 Hydrochloric Acid 31.45% NSF® - 60 Hydrochloric Acid 35% NSF® - 60
Other Means of Identification	Code: HC**** DSL: Hydrogen Chloride CAS: 7647-01-0 Aqueous hydrogen chloride, muriatic acid, chlorohydric acid.
Product Use and Restrictions on Use	For commercial or industrial use. This product is certified to NSF / ANSI / CAN standard 60 for use in drinking water, see section 15 and the NSF website for further information.
Initial Supplier Identifier	ClearTech Industries Inc. 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7  Phone: 800.387.7503 Fax: 888.281.8109 <a href="http://www.cleartech.ca">www.cleartech.ca</a>
24-Hour Emergency Phone	306.664.2522

## SECTION 2. HAZARD IDENTIFICATION

Corrosive to metals	Category 1
Acute toxicity - inhalation	Category 4
Acute toxicity - oral	Category 4
Skin corrosion / irritation	Category 1B
Serious eye damage / eye irritation	Category 1
Specific target organ toxicity - single exposure	Category 3

### Pictograms



**Signal Word: Danger**



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### Hazard Statements

- H290 May be corrosive to metals.
- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.

### Precautionary Statements

#### Prevention

- P234 Keep only in original packaging.
- P260 Do not breathe vapours, fumes, or mists.
- P264 Wash affected body parts thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves, protective clothing, eye protection, face protection.

#### Response

- P301 P312 P330 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor if you feel unwell.  
P331
- P303 P361 P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse.  
P363
- P304 P340 P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor.
- P305 P351 P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.  
P310
- P390 Absorb spillage to prevent material damage.

#### Storage

- P403 Store in a well-ventilated place.
- P233 Keep container tightly closed.
- P405 Store locked up.

#### Disposal

- P501 Dispose of contents / container in accordance with all federal, provincial and / or local regulations including the Canadian Environmental Protection Act.

### Hazards Not Otherwise Classified

Not available

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## SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

### Hazardous Ingredients:

<i>Chemical name</i>	<i>Common name(s)</i>	<i>CAS number</i>	<i>Concentration (w/w%)</i>
Hydrogen Chloride	Hydrochloric Acid	7647-01-0	10-36%



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## SECTION 4. FIRST-AID MEASURES

### Description of necessary first-aid measures

Inhalation	Take precautions to ensure your own safety before attempting a rescue (wear appropriate protective equipment, use the buddy system). Remove source of exposure or move person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor. If breathing has stopped, trained personnel should begin rescue breathing or if the heart has stopped, immediately start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). Avoid mouth to mouth contact by using a barrier device. Call a POISON CENTER or doctor if you feel unwell.
Ingestion	Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor. If vomiting occurs naturally, lie on your side, in the recovery position.
Skin contact	Avoid direct contact. Wear chemical protective clothing, if necessary. Take off immediately contaminated clothing, shoes and leather goods. Rinse skin with lukewarm, gently flowing water / shower for 30 minutes. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before re-use or discard.
Eye contact	Avoid direct contact. Wear chemical protective gloves, if necessary. Remove source of exposure or move person to fresh air. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for 30 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a POISON CENTER or doctor.

### Most important symptoms and effects, both acute and delayed

Inhalation	Causes severe burns to the mouth and throat (mist). Harmful if inhaled. May cause respiratory irritation.
Ingestion	Causes burns to the mouth and throat. Harmful if swallowed.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Further information	For further information see Section 11 Toxicological Information.

## SECTION 5. FIRE FIGHTING MEASURES

Suitable extinguishing media	Extinguish fire using extinguishing agents suitable for the surrounding fire.
Unsuitable extinguishing media	Water jets are not recommended in fires involving chemicals.
Specific hazards arising from the chemical	Reacts with many metals to liberate hydrogen gas that can form explosive mixtures. Heat may liberate corrosive and toxic hydrogen chloride gas. Hydrogen chloride is denser than air and will accumulate in low lying areas.
Special protective equipment for fire-fighters	Wear NIOSH-approved self-contained breathing apparatus and chemical-protective clothing.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions / Protective Equipment / Emergency Procedures	Wear appropriate personal protective equipment (See Section 08 Exposure Controls and Personal Protection). Stay upwind, ventilate area. Do not breathe vapours, fumes, or mists. Do not use material handling equipment with exposed metal surfaces.
Environmental Precautions	Prevent material from entering waterways, sewers or confined spaces. Notify local health and wildlife officials. Notify operators of nearby water intakes.



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Methods and Materials for Containment and Cleaning Up

SMALL SPILLS: Stop or reduce leak if safe to do so. Clean up spill with non-reactive absorbent and place in suitable, covered, labeled containers. Flush area with water. Contaminated absorbent material may pose the same hazards as the spilled product.  
LARGE SPILLS: Contact fire and emergency services and supplier for advice.

## SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

An emergency shower and eyewash station should be available, tested, and be near to the product being handled in accordance with provincial regulations.  
Use sensible workplace hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure. Prevent the release of vapours, fumes, or mists into the workplace air.  
Inspect containers for damage or leaks before handling. If the original label is damaged or missing replace with a workplace label. Have suitable emergency equipment for fires, spills and leaks readily available.  
Never add water to a corrosive. Always add corrosives to water. When mixing with water, stir small amounts in slowly. Use cold water to prevent excessive heat generation. Never return contaminated material to its original container.

Conditions for Safe Storage

Store in a cool, dry, well-ventilated area, out of direct sunlight, away from heat sources and incompatible materials. Always store in original labeled container. Keep containers tightly closed when not in use and when empty. Empty containers may contain hazardous residues. Protect label and keep it visible. Do not transfer to metal containers.

Incompatibilities

Bases, such as potassium hydroxide, sodium hydroxide, calcium hydroxide (slaked lime), ammonia, carbonates.  
Metals, such as aluminum, steel, and brass.

## SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

### Exposure limits

Component	Regulation	Type of listing	Value
Hydrogen Chloride	ACGIH	TLV-Ceiling	2 ppm

### Engineering controls

Ventilation Requirements

Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions should be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.

### Protective equipment

The following are recommendations only. It is the responsibility of the employer / user to conduct a hazard assessment of the process in which this product being used and determine the proper engineering controls and PPE for their process. Additional regulatory and safety information should be sought from local authorities and, if needed, a professional industrial hygienist.

Eye and face protection

Where there is potential eye or face exposure, tightly fitting safety goggles and a face shield or a full-face respirator or similar protective equipment which protects the wearer's face and eyes are recommended. Contact lenses are not recommended; they may contribute to severe eye injury.



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Hand and body protection	Disposable latex or nitrile gloves are recommended to prevent incidental contact. Butyl rubber, neoprene, or PVC skin protection is recommended for extended contact. Leather gloves are not recommended for chemical protection. Refer to manufacturer's specifications for breakthrough times and permeability information; note that breakthrough times and permeability vary with temperature, application and age of material. Continued use of contaminated safety gear or clothing is not recommended, wash before reuse or discard.
Respiratory protection	Where concentrations are above recommended limits, approved respiratory protection should be worn, ensure cartridges provide protection against this product. Depending on conditions such as temperature and handling method negative pressure masks may not provide suitable protection, and positive pressure respirators or SCBAs may be required. Reevaluate any respiratory protection used regularly, as their protective effects tend to degrade over time. In emergency conditions SCBAs are recommended.

For NIOSH respirator recommendations for: Hydrogen Chloride see section 16

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Colour	Colourless to straw coloured
Odour	Pungent
Odour threshold	1-5 ppm
pH	<1.0
Melting point / freezing point	For product concentration range: -57 to -27 °C
Initial boiling point and boiling range	For product concentration range: 62-90 °C
Flash point	Not applicable
Evaporation rate	Not available
Flammability	Not applicable
Upper flammable limit	Not applicable
Lower flammable limit	Not applicable
Vapour pressure	For product concentration range: negligible to 200 mmHg @ 20 °C
Vapour density	1.268
Relative density	Not applicable
Solubility	Soluble in water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	Not available
Specific gravity	For product concentration range: 1.046-1.188 @ 20 °C
Particle characteristics	Not applicable



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### SECTION 10. STABILITY AND REACTIVITY

Reactivity	May be corrosive to metals. Reacts with many metals to liberate hydrogen gas that can form explosive mixtures. Reacts with water to generate heat. Reacts violently with bases.
Stability	This product is stable if stored according to the recommendations in Section 07.
Possibility of hazardous reactions	Hazardous polymerization is not known to occur.
Conditions to avoid	Avoid contact with incompatible materials.
Incompatible materials	Bases, such as potassium hydroxide, sodium hydroxide, calcium hydroxide (slaked lime), ammonia, carbonates. Metals, such as aluminum, steel, and brass.
Hazardous decomposition products	Not available

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Acute Toxicity (LD50 / LC50 values)

<i>Component</i>	<i>Route</i>	<i>Species</i>	<i>Value</i>	<i>Exposure time</i>
Hydrogen Chloride	Oral	Rat	238-277 mg/kg	
	Dermal	Mouse	1449 mg/kg	
	Inhalation (gas)	Mouse	1108 ppm	1 hour
	Inhalation (mist)	Guinea pig	2.0 mg/L	30 minutes

#### Toxic Health Effect Summary

Chemical characteristics	Hydrogen chloride rapidly dissociates and most of its toxic effects are thought to be the result of pH change.
Skin	Causes severe skin burns.
Ingestion	Causes burns to the mouth and throat. Harmful if swallowed.
Inhalation	Causes severe burns to the mouth and throat (mist). Harmful if inhaled. May cause respiratory irritation. Hydrogen chloride gas is severely irritating to all mucous membranes.
Eye contact	Causes serious eye damage.
Sensitization	This product and its components at their listed concentration have no known sensitizing effects.
Mutagenicity	This product and its components at their listed concentration have no known mutagenic effects.
Carcinogenicity	IARC has classified this product or one or more of its components as group 3, not classifiable as to its carcinogenicity to humans.
Reproductive toxicity	This product and its components at their listed concentration have no known reproductive effects.
Specific organ toxicity	Frequent contact may lead to dermatitis. Dental decay, with changes in tooth structure, yellowing, softening and breaking of teeth, and related digestive diseases are frequent after exposures to hydrochloric acid
Aspiration hazard	Not available
Synergistic materials	Not available



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#### SECTION 12. ECOLOGICAL INFORMATION

##### Ecotoxicity

<i>Component</i>	<i>Type</i>	<i>Species</i>	<i>Value</i>	<i>Exposure Time</i>
Hydrogen Chloride	LC50	Freshwater fish	20.5 mg/L	96 hours
	EC50	Freshwater invertebrates	0.45 mg/L	48 hours
	EC50	Freshwater algae	0.73 mg/L	72 hours

Biodegradability	The domestic substance list categorizes hydrochloric acid as persistent.
Bioaccumulation	The domestic substance list categorizes hydrochloric acid as non-bioaccumulative.
Mobility	This product is water soluble, is not predicted to adsorb to soil and may contaminate ground water. This product will evaporate and may be spread via wind.
Other adverse effects	Not available

#### SECTION 13. DISPOSAL CONSIDERATIONS

Waste From Residues / Unused Products	Dispose in accordance with all federal, provincial, and local regulations including the Canadian Environmental Protection Act.
Contaminated Packaging	Do not remove label, follow label warnings even after the container is empty. Empty containers should be recycled or disposed of at an approved waste handling facility.

#### SECTION 14. TRANSPORT INFORMATION

UN number	UN1789
UN proper shipping name and description	HYDROCHLORIC ACID
Transport hazard class(es)	8
Packing group	II
Excepted quantities	1 L
Environmental hazards	Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.
Special precautions	No special precautions



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Transport in bulk	ERAP index: 3000 L
	MARPOL 73/78 and IBC Code:
	Product name: Hydrochloric Acid
	Pollution category: Z
	Hazards: the product is included in the Code because of both its safety and pollution hazards.
	Ship type: ship type 3
	Tank type: independent gravity tank
	Tank vents: controlled venting
	Tank environmental control: no special requirements under this Code
	Temperature classes
	Electrical equipment: Apparatus group
	Flash point non-flammable product
	Gauging: restricted gauging
	Vapour detection: toxic vapours
	Fire protection: no special requirements under this Code
	Emergency equipment see 14.3.1
	Specific and operational requirements 15.11
Additional information	Secure containers (full or empty) during shipment and ensure all caps, valves, or closures are secured in the closed position.

#### SECTION 15. REGULATORY INFORMATION

All components of this product appear on the domestic substance list.

NSF Certification: Hydrochloric Acid 31.45% NSF® - 60 is certified to NSF / ANSI / CAN Standard 60 for pH adjustment and as a descaler at a maximum dosage of 44 mg/L for the concentration of 31.45%. NSF product use restrictions based on requirements obtained from the NSF website; consult NSF website for current requirements.

Hydrochloric Acid (>1%) is listed in the National Pollutant Release Inventory (NPRI). Reporting threshold: 10 tonnes manufactured, processed or otherwise used.

Hydrochloric Acid is listed in the Environmental Emergency Regulations, Schedule 1. Concentration: 30% w/w Minimum Quantity: 6.8 tonnes Hazard Category: Inhalation hazard

#### SECTION 16. OTHER INFORMATION

Date of latest revision: March 05, 2026

Note: The responsibility to provide a safe workplace remains with the buyer / user. The buyer / user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results and assume no liability for damages incurred by the use of this material. It is the responsibility of the buyer / user to comply with all applicable laws and regulations regarding handling, using, reselling and shipping this product.



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Attention: Receiver of the chemical goods / SDS coordinator

As part of our commitment to the RDC Responsible Distribution® initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Safety Data Sheet(s) to all affected employees, customers, and end-users. ClearTech will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns, please call our customer service center.

#### References:

- 1) *NIOSH Pocket Guide to Chemical Hazards*; U.S. Department of Health and Human Services, <https://www.cdc.gov/niosh/npg/npgd0332.html>
- 2) *WorkSafe BC E-Limit*; Workers' Compensation Board of British Columbia, <https://elimit.online.worksafebc.com/>
- 3) *ECHA - Registered Substance Dossier*; European Chemicals Agency, <https://chem.echa.europa.eu/100.028.723>
- 4) *Transportation of Dangerous Goods Regulations*; Transport Canada, <https://laws-lois.justice.gc.ca/eng/regulations/SOR-2001-286/index.html>
- 5) Globally Harmonized System of Classification and Labeling of Chemicals (GHS) *Seventh revised edition*
- 6) International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) 2007 Edition
- 7) The ACS Style Guide