

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Hydrochloric Acid 5% Technical Grade
Synonyms: Muriatic Acid, Spirits of Salt, hydrogen chloride, Hydrochloric Acid
CAS Number: 7647-01-0
Grade/Purity: Technical Grade
Product Type: Acids
Product Use: Industrial, Manufacturing or Laboratory use
Manufacturer/Supplier: Alliance Chemical, 204 South Edmond St, Taylor, Texas 76574
Information: 512-365-6838 | www.alliancechemical.com
Emergency: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

Signal Word: Danger

GHS Pictograms:



Hazard Statements:

H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage
H335	May cause respiratory irritation

Precautionary Statements:

P234	Keep only in original packaging.
P260	Do not breathe dust, fume, gas, mist, vapours or spray.
P261	Avoid breathing dust, fume, gas, mist, vapours or spray.
P264	Wash hands and face thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing, and eye/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+P340	IF INHALED: Remove person to fresh air and keep 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.
P310	Immediately call a POISON CENTER or doctor.
P321	Specific treatment (see first-aid information on this label).
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P406	Store in a corrosion resistant container with a resistant inner liner.

P501	Dispose of contents and container in accordance with local, regional, national, and international regulations.
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3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	% MIN	% MAX	CAS #	EINECS# / ELINCS#	FORMULA	MOLECULAR WEIGHT
Hydrochloric Acid	5	5	7647-01-0	231-595-7	ClH	36.46 g/mol
Water	95	95	7732-18-5	231-791-2	H ₂ O	18.02 g/mol

4. FIRST-AID MEASURES

Eyes	EYES: immediately flush with plenty of water for at least 15 min. and get medical attention; continue flushing for another 15 min. if physician does not arrive promptly.
Skin	SKIN: immediately flush skin while removing contaminated clothing; get medical attention promptly; use soap and wash area for at least 15 min. (USCG, 1999)
Inhalation	INHALATION: remove person to fresh air; keep him warm and quiet and get medical attention immediately; start artificial respiration if breathing stops.
Ingestion	INGESTION: have person drink water or milk; do NOT induce vomiting.

5. FIRE-FIGHTING MEASURES

Suitable Media	Dry chemical, CO ₂ , water spray. Use water spray to cool containers.
Unsuitable Media	Do not use a solid water stream as it may scatter and spread fire.
Protective Equipment	Wear self-contained breathing apparatus and full protective clothing.
Combustion Products	May include carbon oxides and other toxic fumes. See Section 10.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use PPE as described in Section 8. Ensure adequate ventilation. Evacuate personnel to safe areas.
Environmental	Prevent leakage or spillage from entering drains, sewers, or waterways.
Containment & Cleanup	Absorb with inert material. Collect in appropriate waste container. Dispose per applicable regulations.

7. HANDLING AND STORAGE

Safe Handling	Use with adequate ventilation. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Keep container closed when not in use.
Safe Storage	Store in a cool, dry, well-ventilated area. Use corrosion-resistant containers. Keep away from incompatible materials (see Section 10). Keep containers tightly closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Use adequate ventilation. Provide eyewash stations and quick-drench showers accessible to areas of use.

Occupational Exposure Limits:

AGENCY	EXPOSURE LIMIT
OSHA PEL	5 ppm ceiling
NIOSH REL	5 ppm ceiling
IDLH	50 ppm

Eyes	Wear chemical safety goggles or face shield.
Skin	Wear chemical-resistant gloves and protective clothing.
Inhalation	For mist or aerosol applications (e.g., spray, atomization, pressure washing), use a NIOSH-approved half-face air-purifying respirator with combination acid gas / P100 cartridges. For dust exposure, an N95 or P100 particulate filter is acceptable. Ensure local exhaust ventilation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, colorless liquid
Odor	Pungent, irritating odor
Particle Characteristics	Not Applicable
pH	Not Available
Melting Point	Not characterized for the 5% solution
Boiling Point	Not characterized for the 5% solution
Flash Point	Not Available
Vapor Pressure	413.6 mmHg (USCG, 1999)
Specific Gravity	1.025
Solubility	Soluble in water and organic solvents
Molecular Formula	ClH
Molecular Weight	36.46 g/mol

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage conditions.
Hazardous Reactions	None under normal processing conditions.
Conditions to Avoid	Heat, sparks, open flame, and incompatible materials.
Incompatible Materials	Strong acids, strong bases, reactive metals, water (for some concentrated forms).
Decomposition Products	May produce carbon oxides and other toxic fumes when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: See Section 2 for GHS hazard classification.

IARC	Not listed as carcinogen.
NTP	Not listed as carcinogen.
OSHA	Not listed as carcinogen.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Daphnia EC50: ~ 100 mg/L (48 h, Marine crustaceans — pH-driven; shrimp 100–330 ppm; Carcinus maenas 240, Crangon crangon 260 mg/L)
Persistence	Not applicable (inorganic; dissociates to chloride and hydronium ions)
Bioaccumulation	log Kow 0.25, BCF Does not bioaccumulate
Mobility in Soil	Not Available

13. DISPOSAL CONSIDERATIONS

Dispose of contents/container in accordance with applicable federal, state, and local regulations. Do not dispose of into drains or waterways.

14. TRANSPORT INFORMATION

US DOT	UN1789, Hydrochloric acid, 8, PG III
IMDG	UN1789, Hydrochloric acid, 8, PG III
IATA/ICAO	UN1789, Hydrochloric acid, 8, PG III
Marine Pollutant	No

15. REGULATORY INFORMATION

TSCA Inventory	Listed.
SARA 313 (TRI)	Listed (de minimis 1.0%).
California Prop 65	Not listed.
SARA 311/312	See Section 2 for hazard classifications.

Data retrieved as of — TSCA Inventory: 2026-08-02; SARA 313 (TRI): 2026-08-02; California Prop 65: 2026-08-02

16. OTHER INFORMATION

Revision Date: 08/10/2026

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