

PRODUCT IDENTIFICATION



Product Name: Hydrochloric Acid 15% Technical Grade

CAS Number: 7647-01-0

Molecular Formula: ClH

Molecular Weight: 36.46 g/mol

Grade: Technical Grade

Purity / Concentration: 15%

Synonyms: Hydrochloric Acid Solution, Muriatic Acid 15%

PRODUCT OVERVIEW

Alliance Chemical offers 15% Technical Grade Hydrochloric Acid, a versatile and reliable solution for industrial pH control and surface treatment. With a verified assay of 15.1% and minimal trace impurities, this high-quality reagent is engineered to meet rigorous performance standards in demanding applications.

Grade Significance: Technical Grade signifies that this product is manufactured to be effective for industrial and commercial use where high-level purity is required but reagent-grade certification is not necessary.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	15.1	14.5	15.5	Titration with NaOH
Color (APHA)	APHA	10	—	20	ASTM D1209
Specific Gravity (20°C)	g/mL	1.074	1.072	1.076	ASTM D891
Residue After Ignition	%	0.0010	—	0.0050	Gravimetric
Heavy Metals (as Pb)	ppm	ND	—	1	ICP-OES
Iron (Fe)	ppm	0.1	—	1	ICP-OES
Sulfate (SO ₄ ²⁻)	ppm	1	—	5	Turbidimetry

ND = Not Detected. Values are typical and may vary by lot.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Colorless, fuming liquid	Odor	Pungent, irritating odor
Form	Liquid	Boiling Point	-85°C (-121°F)
Melting / Freezing Point	-114°C (-173.2°F)	Specific Gravity	1.07
Solubility	Soluble in water and alcohol	Molecular Formula	ClH
Molecular Weight	36.46 g/mol	Vapor Pressure (20°C)	20 mmHg
Viscosity (25°C)	0.89 cP	Refractive Index (20°C)	1.332
Density (25°C)	1.049 g/mL	Partition Coefficient (log-P)	-3.0 (approx. for HCl aqueous; context-dependent)
Decomposition Temp.	Not applicable at room temperature; decomposes under strong oxidizing/ high temperature		

APPLICATIONS

1. **Water Treatment** — Used as a precise chemical agent to lower the pH of water in municipal and industrial treatment processes.
2. **Metalworking** — Highly effective for pickling processes, specifically designed to remove rust and scale from metal surfaces to prepare them for finishing.
3. **Chemical Manufacturing** — Serves as a fundamental reagent in the synthesis of diverse chemical compounds and specialty intermediates.
4. **Food Processing** — Utilized under controlled conditions for pH adjustment and the processing of specific food ingredients.

STORAGE & HANDLING

Proper storage is critical because this fuming, corrosive liquid poses severe risks of skin burns and toxic inhalation. Storing it in a cool, well-ventilated area prevents pressure buildup and minimizes the release of hazardous vapors that could compromise safety.

- Store in a cool, dry place away from incompatible materials.
- Use corrosion-resistant containers (e.g., HDPE, glass).
- Avoid contact with metals and strong bases.
- Ensure adequate ventilation in storage areas.
- Wear appropriate personal protective equipment (PPE) including gloves and goggles.

AVAILABLE PACKAGING

- 1 Quart
- 1 Gallon
- 5 Gallon
- 15 Gallon
- 55 Gallon
- 275 Gallon
- 330 Gallon

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: **Danger**



Hazard Statements:

- H314: Causes severe skin burns and eye damage [Danger Skin corrosion/irritation]
- H331: Toxic if inhaled [Danger Acute toxicity, inhalation]

Emergency Contact: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

For complete safety information, refer to the Safety Data Sheet (SDS) for this product.

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