TECHNICAL DATA SHEET

Hydrochloric Acid 37% (HCL 37%) - Technical Grade

Revised: 04/27/2026

PRODUCT IDENTIFICATION

Product Name: Hydrochloric Acid 37% (HCL 37%) - Technical Grade
CAS Number: 7647-01-0
Molecular Formula: ClH
Molecular Weight: 36.46 g/mol
Grade: Technical Grade
Purity / Concentration: 37%
Synonyms: Muriatic Acid, Hydrochloric Acid Solution

PRODUCT OVERVIEW

Alliance Chemical offers high-purity Technical Grade Hydrochloric Acid 37%, a versatile and powerful industrial reagent. With a precise assay of 37.1% and minimal trace impurities, this fuming liquid is engineered for consistent performance in demanding chemical processing and water treatment applications.

Grade Significance: Technical Grade indicates that this product is manufactured to meet rigorous industrial standards, providing a reliable balance of purity and cost-effectiveness for heavy-duty applications.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	37.1	36.5	38	Titration with NaOH
Color (APHA)	APHA	10	—	20	ASTM D1209
Specific Gravity (20°C)	g/mL	1.185	1.18	1.19	ASTM D891
Residue After Ignition	%	0.0005	—	0.0010	Gravimetric
Heavy Metals (as Pb)	ppm	0.1	—	1	ICP-OES
Iron (Fe)	ppm	0.2	—	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**	108°C (226.4°F)
Melting / Freezing Point	-114°C (-173.2°F)	**Specific Gravity**	1.19
Solubility	Highly soluble in water and ethanol	**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)**	1.334
Density (25°C)	1.19 g/mL		

APPLICATIONS

1. **Water Treatment** — Utilized effectively to lower the pH of water in large-scale treatment facilities to ensure optimal chemical balance.
2. **Chemical Manufacturing** — Acts as a primary reagent in the synthesis of diverse chemical compounds and organic intermediates.
3. **Metalworking** — Provides superior strength for removing rust and scale from metal surfaces during pickling processes.
4. **Laboratory Analysis** — Used as a standard reagent for titration and various analytical procedures requiring high-concentration acid.

STORAGE & HANDLING

Proper storage is critical to prevent the release of toxic, corrosive fumes and to maintain the integrity of the 37% concentration. Due to its classification as a severe skin and respiratory hazard, it must be kept in a cool, well-ventilated area in secondary containment to prevent dangerous reactions or accidental exposure.

- Store in a cool, dry, well-ventilated area away from incompatible materials.
- Use materials compatible with hydrochloric acid, such as HDPE or glass containers.
- Avoid contact with metals, bases, and organic materials to prevent hazardous reactions.
- Ensure proper personal protective equipment (PPE) is worn, including gloves and goggles.
- Keep containers tightly closed when not in use to minimize vapor release.

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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