

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

Hydrochloric Acid 37% Technical Grade is a versatile solution characterized by its colorless, fuming liquid appearance and a specific gravity of 1.19. With an assay of 37.1%, this technical grade acid is commonly used to lower the pH of water in various treatment processes. It is also effective as a reagent in chemical production and metal cleaning applications.

Grade Significance: Technical Grade Hydrochloric Acid 37% is suitable for industrial applications where high purity is not a primary requirement. While it meets defined specifications, trace impurities may be present, making it a cost-effective choice for applications where these impurities do not affect the desired outcome.

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°F)
Melting / Freezing Point	-114°C (-173°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** — Hydrochloric Acid is used to adjust and lower the pH of water in municipal and industrial water treatment plants, ensuring optimal conditions for disinfection and preventing scale formation.
2. **Chemical Manufacturing** — As a fundamental reagent, Hydrochloric Acid participates in the synthesis of numerous chemicals, including chlorides, fertilizers, and various organic compounds.
3. **Metal Cleaning** — Hydrochloric Acid effectively removes rust, scale, and other unwanted deposits from metal surfaces, preparing them for further processing or finishing, as well as improving the lifespan of metal equipment.
4. **Laboratory Analysis** — In analytical chemistry, Hydrochloric Acid is used in titrations, sample preparation, and as a general-purpose reagent for various quantitative and qualitative analyses.
5. **Oil and Gas** — Hydrochloric acid is used in oil well acidizing to dissolve rock and stimulate production in mature wells. This process enhances the permeability of the reservoir, increasing the flow of oil or gas.
6. **Food Industry** — Hydrochloric acid is used as a food additive, pH control agent, and in the production of various food products. Its use is strictly regulated to ensure safety and compliance.

STORAGE & HANDLING

Proper storage of Hydrochloric Acid 37% is crucial to maintain its purity and prevent hazardous situations. Due to its corrosive nature (H314), it should be stored in tightly sealed, chemically resistant containers in a cool, well-ventilated area, away from incompatible materials. This prevents degradation of the container and minimizes the risk of exposure to corrosive fumes or liquid.

- 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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