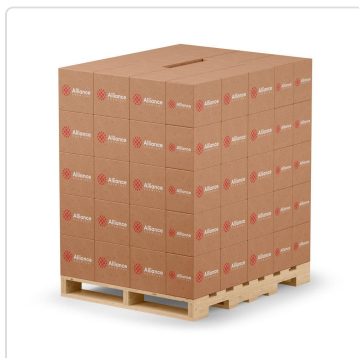


PRODUCT IDENTIFICATION



Product Name: Hydrochloric Acid 37% ACS Reagent Grade

CAS Number: 7647-01-0

Molecular Formula: ClH

Molecular Weight: 36.46 g/mol

Grade: Reagent Grade

Purity / Concentration: 37%

Synonyms: Hydrochloric Acid 37%, Muriatic Acid 37%

PRODUCT OVERVIEW

Alliance Chemical offers high-purity Hydrochloric Acid 37% ACS Reagent Grade, a clear and corrosive liquid essential for precise laboratory and industrial applications. With a verified assay of 37.1% and minimal trace impurities, this product meets stringent American Chemical Society standards for reliable analytical performance.

Grade Significance: Reagent Grade indicates that the chemical meets the high purity standards set by the ACS, ensuring that trace contaminants like heavy metals and sulfates are at or below detection limits for consistent, reproducible results.

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 | 5 | — | 10 | APHA 2120 |
| Specific Gravity (20°C) | g/mL | 1.188 | — | — | USP <841> |
| Residue After Ignition | % | 0.0003 | — | 0.0005 | ACS |
| Arsenic (As) | ppm | ND | — | 0.01 | ICP-MS |
| Heavy Metals (as Pb) | ppm | 0.05 | — | 1 | ICP-MS |
| Iron (Fe) | ppm | 0.05 | — | 0.2 | ICP-MS |
| Phosphate (PO ₄ ³⁻) | ppm | ND | — | 1 | Spectrophotometry |
| Sulfate (SO ₄ ²⁻) | ppm | 0.2 | — | 1 | Turbidimetry |
| Bromide Br | ppm | ND | — | 50 | Ion Chromatography |
| Free Chlorine Cl | ppm | ND | — | 1 | DPD Colorimetric |

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

PHYSICAL & CHEMICAL PROPERTIES

| | | | |
|---------------------------------|--|--------------------------------|---|
| Appearance | Clear, colorless corrosive liquid | Odor | Pungent, irritating odor |
| Form | Liquid | Boiling Point | 108°C (226.4°F) |
| Melting / Freezing Point | -114°C (-173.2°F) | Flash Point | Does not apply |
| Solubility | Fully miscible with water, most organic solvents | 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 | Decomposition Temp. | Not decomposed at moderate temperatures; decomposes upon strong heating |

APPLICATIONS

- Water Treatment** — Used as a critical chemical agent for adjusting pH levels in municipal and industrial water treatment processes to ensure regulatory compliance.
- Pharmaceutical Manufacturing** — Acts as a high-purity reagent in the synthesis of active pharmaceutical ingredients where strict impurity profiles are mandatory.
- Metal Processing** — Utilized for pickling applications to effectively remove oxides and scale from metal surfaces, preparing them for further manufacturing steps.
- Analytical Chemistry** — Serves as a fundamental reagent for laboratory titrations and complex chemical analyses requiring certified concentration levels.

STORAGE & HANDLING

Due to its corrosive nature and toxicity, this acid must be stored in a cool, well-ventilated area away from incompatible substances like bases and oxidizing agents. Proper containment is critical to prevent the release of toxic fumes and to protect personnel from severe skin burns and respiratory hazards.

- Store in a cool, dry, well-ventilated area away from incompatible materials.
- Use corrosion-resistant containers (e.g., HDPE, glass) for storage.
- Avoid contact with metals, bases, and organic materials.
- Ensure proper personal protective equipment (PPE) is worn, including gloves and goggles.
- Keep container tightly closed when not in use to prevent moisture absorption.

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.

Disclaimer: The information contained herein is believed to be accurate and represents the best information currently available to us. However, Alliance Chemical makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.