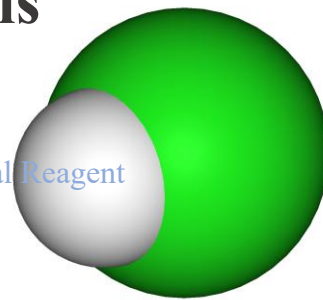


Certificate of Analysis

Hydrochloric acid (HCl)

Ultrapure Analytical Reagent



Catalog No : UP-10H
Lot : UH18J20A
CAS No.: 7647-01-0
Grade : Ultrapure
Empirical Formula : HCl
Density : 1.15 g/cm³ (20 °C)

Date Certified : OCT 20, 2025
Expiration : APR 19, 2026
Packaging : 500g in PFA Bottle
Identified uses : Laboratory Reagent
Description : For Trace Metal Analysis
Storage Condition : Room temp.

1. Chemical properties

Item	Unit	Spec.	Result
Assay(acidimetric)	% (as HCl)	30±1.0	30.0
Color	APHA	≤10	≤10
Particle	≥0.5um	≤100	≤100

2. Cation traces

[Unit : ppt]

Element	Spec.	Result
Al (Aluminum)	≤10	≤10
As (Arsenic)	≤10	≤10
Au (Gold)	≤10	≤10
Ba (Barium)	≤10	≤10
Be (Beryllium)	≤10	≤10
Bi (Bismuth)	≤10	≤10
Ca (Calcium)	≤10	≤10
Cd (Cadmium)	≤10	≤10
Co (Cobalt)	≤10	≤10
Cr (Chromium)	≤10	≤10
Cu (Copper)	≤10	≤10
Fe (Iron)	≤10	≤10
Ga (Gallium)	≤10	≤10
Ge (Germanium)	≤10	≤10
Hf (Hafnium)	≤10	≤10
Mg (Magnesium)	≤10	≤10
In (Indium)	≤10	≤10
K (Potassium)	≤10	≤10
Li (Lithium)	≤10	≤10
Mn (Manganese)	≤10	≤10

Na (Sodium)	≤10	≤10
Nb (Niobium)	≤10	≤10
Ni (Nickel)	≤10	≤10
Pb (Lead)	≤10	≤10
Pd (Palladium)	≤10	≤10
Pt (Platinum)	≤10	≤10
Sb (Antimony)	≤10	≤10
Se (Selenium)	≤10	≤10
Sn (Tin)	≤10	≤10
Sr (Strontium)	≤10	≤10
Ta (Tantalum)	≤10	≤10
Te (Tellurium)	≤10	≤10
Ti (Titanium)	≤10	≤10
Th (Thorium)	≤10	≤10
Tl (Thallium)	≤10	≤10
U (Uranium)	≤10	≤10
W (Tungsten)	≤10	≤10
Zn (Zinc)	≤10	≤10
V (Vanadium)	≤10	≤10
Zr (Zirconium)	≤10	≤10

ICP-MS: Determination after evaporation to dryness with ICP-MS

ICP-MS*: Determination with ICP-MS

GFAAS**: Determination with graphite furnace atomic absorption spectrometry

Actual analysis values are subject to unavoidable systematic variations in this concentration range. Each metallic impurity level guaranteed to be 10 ppt or less. Open and use in a clean environment of CLASS 10 or higher. This product is for laboratory analysis and research purpose only. Keep tightly capped and stored under the conditions stated above. Products are tested by validated methods specified in the manufacturer's quality system. The manufacturer warrants that its products shall conform to the description of such as provided in its catalog or on the specific product label. This warranty is exclusive, and the manufacturer makes no other warranty, express implied, including any implied warranty of merchantability or fitness for any particular purpose.

HCI

For use in laboratory analysis.

Certified by :



JEONG, Inorganic QC Manager