

# Certificate of Analysis

Product Name:

Hydrochloric acid - puriss. p.a., ACS reagent, reagent ISO, reagent Ph. Eur., fuming, ≥37%, APHA: ≤10

Product Number: 30721  
Batch Number: STBL2337  
Brand: SIGALD  
Formula: HCl  
Formula Weight: 36,46 g/mol  
Quality Release Date: 04 AUG 2023  
Recommended Retest Date: AUG 2025

# HCl

| Test                      | Specification | Result     |
|---------------------------|---------------|------------|
| Appearance (Color)        | Colorless     | Colorless  |
| Appearance (Form)         | Liquid        | Liquid     |
| Color Test                | ≤ 10 APHA     | < 10 APHA  |
| Assay                     | ≥ 37 %        | 37 %       |
| Density<br>(D20/4)        | ≥ 1.18        | > 1.18     |
| Residue on Ignition       | ≤ 0.0005 %    | < 0.0005 % |
| Residue after evaporation | ≤ 0.005 %     | < 0.005 %  |
| Free Chlorine             | ≤ 0.5 ppm     | < 0.5 ppm  |
| Aluminum (Al)             | ≤ 0.05 ppm    | < 0.05 ppm |
| Arsenic (As)              | ≤ 0.01 ppm    | < 0.01 ppm |
| Barium (Ba)               | ≤ 0.02 ppm    | < 0.02 ppm |
| Beryllium (Be)            | ≤ 0.02 ppm    | < 0.02 ppm |
| Bismuth (Bi)              | ≤ 0.1 ppm     | < 0.1 ppm  |
| Calcium (Ca)              | ≤ 0.5 ppm     | < 0.5 ppm  |
| Cadmium (Cd)              | ≤ 0.01 ppm    | < 0.01 ppm |
| Cobalt (Co)               | ≤ 0.01 ppm    | < 0.01 ppm |
| Chromium (Cr)             | ≤ 0.02 ppm    | < 0.02 ppm |
| Copper (Cu)               | ≤ 0.02 ppm    | < 0.02 ppm |
| Iron (Fe)                 | ≤ 0.2 ppm     | < 0.2 ppm  |
| Germanium (Ge)            | ≤ 0.05 ppm    | < 0.05 ppm |
| Potassium (K)             | ≤ 0.1 ppm     | < 0.1 ppm  |
| Lithium (Li)              | ≤ 0.01 ppm    | < 0.01 ppm |

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at [Sigma-Aldrich.com](http://Sigma-Aldrich.com). For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.



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| Test                         | Specification | Result     |
|------------------------------|---------------|------------|
| Magnesium (Mg)               | ≤ 0.1 ppm     | < 0.1 ppm  |
| Manganese (Mn)               | ≤ 0.01 ppm    | < 0.01 ppm |
| Molybdenum (Mo)              | ≤ 0.02 ppm    | < 0.02 ppm |
| Sodium (Na)                  | ≤ 0.5 ppm     | < 0.5 ppm  |
| Nickel (Ni)                  | ≤ 0.02 ppm    | < 0.02 ppm |
| Lead (Pb)                    | ≤ 0.02 ppm    | < 0.02 ppm |
| Strontium (Sr)               | ≤ 0.01 ppm    | < 0.01 ppm |
| Titanium (Ti)                | ≤ 0.1 ppm     | < 0.1 ppm  |
| Thallium (Tl)                | ≤ 0.05 ppm    | < 0.05 ppm |
| Vanadium (V)                 | ≤ 0.01 ppm    | < 0.01 ppm |
| Zinc (Zn)                    | ≤ 0.05 ppm    | < 0.05 ppm |
| Zirconium (Zr)               | ≤ 0.1 ppm     | < 0.1 ppm  |
| Heavy Metal<br>(as Pb)       | ≤ 0.0001 %    | < 0.0001 % |
| Ammonium                     | ≤ 0.0001 %    | < 0.0001 % |
| Bromide                      | ≤ 0.005 %     | < 0.005 %  |
| Phosphate (PO <sub>4</sub> ) | ≤ 0.5 ppm     | < 0.5 ppm  |
| Sulfate                      | ≤ 0.0001 %    | < 0.0001 % |
| Sulfite (SO <sub>3</sub> )   | ≤ 0.0001 %    | < 0.0001 % |



Dr. Christian Matheis  
Manager, Quality Control  
Steinheim, Germany DE

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