



# Hydrochloric Acid, 36.5-38.0%

BAKER ANALYZED<sup>®</sup> A.C.S. Reagent

Product No. 9535

Lot No. L16035

Release Date 04/25/2012

## Certificate of Analysis

| TEST                                                       | SPECIFICATION | RESULT      |
|------------------------------------------------------------|---------------|-------------|
| Meets A.C.S. Specifications                                |               |             |
| Meets Reagent Specifications for testing USP/NF monographs |               |             |
| Appearance                                                 | Passes Test   | Passes Test |
| Assay (as HCl) (by acid-base titrn)                        | 36.5 - 38.0 % | 37.4 %      |
| Color (APHA)                                               | 10 max.       | 5           |
| Extractable Organic Substances                             | 5 ppm max.    | < 1 ppm     |
| Free Chlorine (as Cl <sub>2</sub> )                        | 1 ppm max.    | < 0.5 ppm   |
| Residue after Ignition                                     | 3 ppm max.    | < 1 ppm     |
| Specific Gravity at 60°/60°F                               | 1.185 - 1.192 | 1.189       |
| Bromide (Br)                                               | 0.005 % max.  | < 0.005 %   |
| <b>Trace Impurities (in ppm):</b>                          |               |             |
| Phosphate (PO <sub>4</sub> )                               | 1 max.        | < 0.03      |
| Sulfate (SO <sub>4</sub> )                                 | 0.5 max.      | < 0.3       |
| Sulfite (SO <sub>3</sub> )                                 | 0.8 max.      | 0.2         |
| Ammonium (NH <sub>4</sub> )                                | 3 max.        | < 1         |
| <b>Trace Impurities (in ppb):</b>                          |               |             |
| Aluminum (Al)                                              | 100 max.      | < 5         |
| Arsenic and Antimony (as As)                               | 5 max.        | < 3         |
| Boron (B)                                                  | 50 max.       | < 5         |
| Calcium (Ca)                                               | 200 max.      | 6.8         |
| Chromium (Cr)                                              | 100 max.      | < 1         |
| Copper (Cu)                                                | 100 max.      | < 1         |
| Gold (Au)                                                  | 100 max.      | < 5         |
| Heavy Metals (as Pb)                                       | 100 max.      | < 50        |
| Iron (Fe)                                                  | 100 max.      | < 1         |
| Lead (Pb)                                                  | 50 max.       | < 10        |
| Magnesium (Mg)                                             | 300 max.      | < 1         |
| Manganese (Mn)                                             | 300 max.      | < 1         |
| Mercury (Hg)                                               | 5 max.        | < 0.1       |
| Nickel (Ni)                                                | 100 max.      | < 5         |
| Potassium (K)                                              | 300 max.      | < 10        |
| Sodium (Na)                                                | 300 max.      | < 5         |
| Tin (Sn)                                                   | 300 max.      | < 10        |
| Titanium (Ti)                                              | 300 max.      | < 1         |
| Zinc (Zn)                                                  | 100 max.      | < 1         |
| For Laboratory, Research or Manufacturing Use              |               |             |
| Country of Origin: USA                                     |               |             |



For questions on this Certificate of Analysis please contact Technical Services at 855-282-6867 or 610-573-2600

Avantor <sup>TM</sup> Performance Materials, Inc.

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