

### CERTIFICATE OF ANALYSIS

<b>Product Name</b>	HYDROCHLORIC ACID
<b>Grade</b>	Meets ACS Grade Monograph
<b>Catalog #</b>	284000ACS
<b>Lot #</b>	C20D27CAS0000HAG
<b>Date of Manufacture:</b>	03/31/20
<b>Recommended Retest Date:</b>	Two Years from Date of Manufacture

TEST	Specification	Result
Assay (by weight)	36.5 - 38.0%	36.7%
Color	10 max.	5
Residue after Ignition	5 ppm max.	4ppm
Bromide (Br)	0.005% max.	<0.005%
Sulfate (SO <sub>4</sub> )	1 ppm max.	<1ppm
Sulfite (SO <sub>3</sub> )	1 ppm max.	<1ppm
Free Chlorine (Cl)	1 ppm max.	<1ppm
Ammonium (NH <sub>4</sub> )	3 ppm max.	<3ppm
Arsenic (As)	0.01 ppm max.	<0.01ppm
Heavy Metals (as Pb)	1 ppm max.	<1ppm
Iron (Fe)	0.2 ppm max.	<0.2ppm

#### Certification and Compliance Statements

This lot of Hydrochloric Acid complies with all of the current requirements listed in the American Chemical Society monograph. Certain test data have been supplied by third parties.

This product is not derived, nor does it come in contact with, any materials derived from bovine or other animal sources.

This product is for further commercial manufacturing, laboratory or research use, and may be used as an excipient or a process solvent for pharmaceutical purposes. It is not intended for use as an active ingredient in drug manufacturing nor as a medical device or disinfectant. Appropriate/legal use of this product is the responsibility of the user.

Approved by: T. Boudreau, Quality Control Chemist

Date of Approval: 09/11/20