

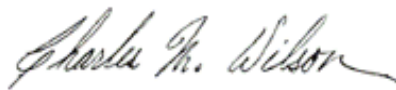
EM SCIENCE

CERTIFICATE OF ANALYSIS

NAME: Hydrochloric Acid
OmniTrace®, 37.0-38.0%
ITEM NUMBER: HX0607, HX0607/1
LOT NUMBER: 40207
FORMULA: HCl in water
FORMULA WT: 36.46

Data Order No: 00055612

PROPERTY	LIMITS		RESULTS	UNITS
	Min.	Max.		
Aluminum (Al)		15	6.5	ppb
Antimony (Sb)		1	0.5	ppb
Appearance			Passes test	
Arsenic (As)		1	0.8	ppb
Assay	37.0	38.0	37.11	%
Barium (Ba)		1	< 0.1	ppb
Beryllium (Be)		1	< 0.1	ppb
Bismuth (Bi)		1	0.8	ppb
Boron (B)		20	16.3	ppb
Bromide (Br)		50	< 50	ppm
Cadmium (Cd)		1	< 0.1	ppb
Calcium (Ca)		25	1.5	ppb
Chromium (Cr)		5	0.4	ppb
Cobalt (Co)		1	0.4	ppb
Color (APHA)		7	< 7	
Copper (Cu)		2	< 0.1	ppb
Extractable organic substances (about 5 ppm)			5	
Gallium (Ga)		3	1.0	ppb
Germanium (Ge)		5	< 0.1	ppb
Gold (Au)		5	1.0	ppb
Halogen (as Cl2)		500	< 500	ppb
Iron (Fe)		20	4.3	ppb
Lead (Pb)		1	0.8	ppb
Lithium (Li)		1	< 0.1	ppb
Magnesium (Mg)		5	1.4	ppb
Manganese (Mn)		1	< 0.1	ppb
Mercury (Hg)		1	1.0	ppb
Molybdenum (Mo)		1	< 0.1	ppb
Nickel (Ni)		5	1.0	ppb
Niobium (Nb)		1	< 0.1	ppb
Phosphate (PO4)		50	25	ppb
Potassium (K)		10	3.3	ppb
Selenium (Se)		1	0.8	ppb
Silicon (Si)		5	1.0	ppb
Silver (Ag)		1	0.5	ppb
Sodium (Na)		45	20.6	ppb
Strontium (Sr)		1	< 0.1	ppb
Sulfate (SO4)		500	50	ppb
Sulfite (SO3)		700	700	ppb
Tantalum (Ta)		3	0.8	ppb
Thallium (Tl)		2	0.8	ppb
Thorium (Th)		1	0.8	ppb
Tin (Sn)		1	0.4	ppb
Titanium (Ti)		1	0.2	ppb
Uranium (U)		1	0.4	ppb
Vanadium (V)		1	0.4	ppb
Zinc (Zn)		5	0.5	ppb
Zirconium (Zr)		1	0.4	ppb



Charles M. Wilson,
Quality Assurance Manager
Analysis Date: 7/25/00 4:39:19 PM