INSTRUMENT QUALITY

HYDROFLUORIC ACID

CERTIFICATE OF ANALYSIS

PRODUCT NUMBER: IQ-05
LOT NUMBER: 5105030
RELEASE DATE: May, 2005
EXPIRY DATE: May, 2008

Tests	Maximum Specification	Actual Value	Units
Assay (HF, w/w):	47 - 51%	49%	% by w/w
Colour:	10	<10	APHA

Analyte	Maximum Specification	Actual Value (in ppb)	Analyte	Maximum Specification	Actual Value (in ppb)
Aluminum (Al)	1 ppb	<0.5	Neodymium (Nd)	0.5 ppb	<0.1
Antimony (Sb)	1 ppb	<0.1	Nickel (Ni)	1 ppb	<0.1
Arsenic (As)	1 ppb	<0.1	Niobium (Nb)	0.5 ppb	<0.5
Barium (Ba)	1 ppb	<0.1	Palladium (Pd)	0.5 ppb	<0.5
Beryllium (Be)	1 ppb	<0.1	Platinum (Pt)	0.5 ppb	<0.5
Bismuth (Bi)	1 ppb	<0.1	Potassium (K)	1 ppb	<0.2
Boron (B)	1 ppb	<0.5	Praseodymium (Pr)	0.5 ppb	<0.1
Cadmium (Cd)	1 ppb	<0.1	Rhenium (Re)	0.5 ppb	<0.1
Calcium (Ca)	1 ppb	<0.5	Rhodium (Rh)	0.5 ppb	<0.5
Cerium (Ce)	0.5 ppb	<0.5	Rubidium (Rb)	0.5 ppb	<0.5
Cesium (Cs)	0.5 ppb	<0.5	Ruthenium (Ru)	0.5 ppb	<0.1
Chromium (Cr)	1 ppb	<0.1	Samarium (Sm)	0.5 ppb	<0.1
Cobalt (Co)	1 ppb	<0.1	Scandium (Sc)	0.5 ppb	<0.1
Copper (Cu)	1 ppb	<0.1	Selenium (Se)	1 ppb	<0.1
Dysprosium (Dy)	0.5 ppb	<0.1	Silver (Ag)	1 ppb	<0.1
Erbium (Er)	0.5 ppb	<0.1	Sodium (Na)	1 ppb	<0.5
Europium (Eu)	0.5 ppb	<0.1	Strontium (Sr)	1 ppb	<0.1
Gadolinium (Gd)	0.5 ppb	<0.1	Tantalum (Ta)	Information Only	<0.1
Gallium (Ga)	0.5 ppb	<0.1	Tellurium (Te)	0.5 ppb	<0.1
Germanium (Ge)	0.5 ppb	<0.1	Terbium (Tb)	0.5 ppb	<0.1
Gold (Au)	0.5 ppb	<0.5	Thallium (Tl)	0.5 ppb	<0.5
Hafnium (Hf)	0.5 ppb	<0.1	Thorium (Th)	1 ppb	<0.1
Holmium (Ho)	0.5 ppb	<0.1	Thulium (Tm)	0.5 ppb	<0.1
Indium (In)	0.5 ppb	<0.5	Tin (Sn)	1 ppb	<0.1
Iron (Fe)	1 ppb	<0.5	Titanium (Ti)	1 ppb	<0.5
Lanthanum (La)	0.5 ppb	<0.1	Tungsten (W)	0.5 ppb	<0.5
Lead (Pb)	1 ppb	<0.1	Uranium (U)	1 ppb	<0.1
Lithium (Li)	1 ppb	<0.1	Vanadium (V)	1 ppb	<0.1
Lutetium (Lu)	0.5 ppb	<0.1	Ytterbium (Yb)	0.5 ppb	<0.5
Magnesium (Mg)	1 ppb	<0.2	Yttrium (Y)	0.5 ppb	<0.5
Manganese (Mn)	1 ppb	<0.2	Zinc (Zn)	1 ppb	<0.1
Mercury (Hg)	10 ppb	<1	Zirconium (Zr)	1 ppb	<0.1
Molybdenum (Mo)	1 ppb	<0.2			

Element concentrations are at the point of bottling. Concentrations of some elements in particular, Ca, Fe, Zn & Al will increase due to storage in polyethylene bottles.

B McKelvey

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