

Standard Analysis Certificate

PRODUCT : HYDROCHLORIC ACID ULTRAPURE RS
CODE : 403891
LOT N° : SS01120H **METHOD** : 10428
EXPIRING DATE : 08/2023 **EDITION** : 3

TEST	U.M.	SPECIFICATION	RESULT
Assay (HCl, w/w)	%	32 - 35%	32%
Aluminum (Al)	ppt	20 ppt	< 2 ppt
Antimony (Sb)	ppt	20 ppt	< 0.1 ppt
Arsenic (As)	ppt	50 ppt	< 1 ppt
Barium (Ba)	ppt	10 ppt	< 0.1 ppt
Beryllium (Be)	ppt	10 ppt	< 0.01 ppt
Bismuth (Bi)	ppt	10 ppt	< 1 ppt
Boron (B)	ppt	100 ppt	< 10 ppt
Cadmium (Cd)	ppt	10 ppt	< 0.02 ppt
Calcium (Ca)	ppt	10 ppt	< 10 ppt
Cerium (Ce)	ppt	10 ppt	< 0.01 ppt
Cesium (Cs)	ppt	10 ppt	< 0.01 ppt
Chromium (Cr)	ppt	10 ppt	< 1 ppt
Cobalt (Co)	ppt	10 ppt	< 0.05 ppt
Copper (Cu)	ppt	10 ppt	< 0.5 ppt
Dysprosium (Dy)	ppt	1 ppt	< 0.01 ppt
Erbium (Er)	ppt	1 ppt	< 0.01 ppt
Europium (Eu)	ppt	1 ppt	< 0.01 ppt
Gadolinium (Gd)	ppt	1 ppt	< 0.01 ppt
Gallium (Ga)	ppt	10 ppt	< 2 ppt
Gold (Au)	ppt	50 ppt	< 1 ppt
Hafnium (Hf)	ppt	10 ppt	< 0.01 ppt
Holmium (Ho)	ppt	1 ppt	< 0.01 ppt
Indium (In)	ppt	1 ppt	< 0.05 ppt
Iron (Fe)	ppt	10 ppt	< 5 ppt
Lanthanum (La)	ppt	1 ppt	< 0.01 ppt
Lead (Pb)	ppt	10 ppt	< 0.05 ppt
Lithium (Li)	ppt	10 ppt	< 0.05 ppt
Lutetium (Lu)	ppt	10 ppt	< 0.01 ppt
Magnesium (Mg)	ppt	10 ppt	< 0.5 ppt
Manganese (Mn)	ppt	10 ppt	< 0.05 ppt
Mercury (Hg)	ppt	50 ppt	< 20 ppt

Approve Date : 12/08/2020 (DD/MM/YYYY)

QUALITY CONTROL RESPONSIBLE

B. COULANGE (VDR)

Greg Henson



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Assay (HCl, w/w)	%	32 - 35%	32%
Molybdenum (Mo)	ppt	10 ppt	< 1 ppt
Neodymium (Nd)	ppt	1 ppt	< 0.01 ppt
Nickel (Ni)	ppt	20 ppt	< 10 ppt
Niobium (Nb)	ppt	1 ppt	< 0.01 ppt
Palladium (Pd)	ppt	Information Only	< 0.1 ppt
Platinum (Pt)	ppt	Information Only	< 1 ppt
Potassium (K)	ppt	10 ppt	< 1 ppt
Praseodymium (Pr)	ppt	1 ppt	< 0.01 ppt
Rhenium (Re)	ppt	10 ppt	< 0.01 ppt
Rhodium (Rh)	ppt	10 ppt	< 0.01 ppt
Rubidium (Rb)	ppt	10 ppt	< 0.01 ppt
Ruthenium (Ru)	ppt	10 ppt	< 0.01 ppt
Samarium (Sm)	ppt	1 ppt	< 0.01 ppt
Scandium (Sc)	ppt	10 ppt	< 0.05 ppt
Selenium (Se)	ppt	Information Only	< 20 ppt
Silver (Ag)	ppt	10 ppt	< 0.05 ppt
Sodium (Na)	ppt	10 ppt	< 1 ppt
Strontium (Sr)	ppt	10 ppt	< 0.02 ppt
Tantalum (Ta)	ppt	Information Only	< 0.01 ppt
Tellurium (Te)	ppt	1 ppt	< 0.02 ppt
Terbium (Tb)	ppt	1 ppt	< 0.01 ppt
Thallium (Tl)	ppt	10 ppt	< 0.01 ppt
Thorium (Th)	ppt	1 ppt	< 0.01 ppt
Thulium (Tm)	ppt	1 ppt	< 0.01 ppt
Tin (Sn)	ppt	20 ppt	< 0.5 ppt
Titanium (Ti)	ppt	10 ppt	< 0.1 ppt
Tungsten (W)	ppt	10 ppt	< 0.1 ppt
Uranium (U)	ppt	1 ppt	< 0.01 ppt
Vanadium (V)	ppt	10 ppt	< 0.1 ppt
Ytterbium (Yb)	ppt	1 ppt	< 0.01 ppt
Yttrium (Y)	ppt	1 ppt	< 0.01 ppt
Zinc (Zn)	ppt	10 ppt	< 0.5 ppt
Zirconium (Zr)	ppt	10 ppt	< 0.01 ppt

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