

Nitric Acid

For Trace Metals Analysis

Material No.: 1.002150
Batch No.: 000GS230823
Manufactured Date: 2023/08/23
Expiration Date: 2028/08/22

Certificate of Analysis

Test	Specification	Result
Color (APHA)	≤ 10	< 7
Assay (HNO_3)(w/w)	67 – 70 %	69
Chloride (Cl)	≤ 0.2 ppm	< 0.2
Total Phosphorus (P)	≤ 0.01 ppm	< 0.01
Total Sulphur (S)	≤ 0.3 ppm	< 0.3
Trace Impurities – Aluminum (Al)	≤ 1 ppb	< 1
Trace Impurities – Antimony (Sb)	≤ 0.5 ppb	< 0.1
Trace Impurities – Arsenic (As)	≤ 0.5 ppb	< 0.1
Trace Impurities – Barium (Ba)	≤ 0.1 ppb	< 0.1
Trace Impurities – Beryllium (Be)	≤ 0.1 ppb	< 0.1
Trace Impurities – Bismuth (Bi)	≤ 0.1 ppb	< 0.1
Trace Impurities – Cadmium (Cd)	≤ 0.5 ppb	< 0.5
Trace Impurities – Calcium (Ca)	≤ 1 ppb	< 1
Trace Impurities – Cerium (Ce)	≤ 0.1 ppb	< 0.1
Trace Impurities – Cesium (Cs)	≤ 0.1 ppb	< 0.1
Trace Impurities – Cobalt (Co)	≤ 0.1 ppb	< 0.1
Trace Impurities – Copper (Cu)	≤ 0.5 ppb	< 0.1
Trace Impurities – Dysprosium (Dy)	≤ 0.1 ppb	0.1
Trace Impurities – Erbium (Er)	≤ 0.1 ppb	< 0.1
Trace Impurities – Europium (Eu)	≤ 0.1 ppb	< 0.1
Trace Impurities – Gadolinium (Gd)	≤ 0.1 ppb	< 0.1
Trace Impurities – Gallium (Ga)	≤ 0.1 ppb	< 0.1
Trace Impurities – Germanium (Ge)	≤ 0.1 ppb	< 0.1
Trace Impurities – Gold (Au)	≤ 0.1 ppb	< 0.1

Test	Specification	Result
Trace Impurities – Hafnium (Hf)	<= 0.1 ppb	< 0.1
Trace Impurities – Holmium (Ho)	<= 0.1 ppb	< 0.1
Trace Impurities – Indium (In)	<= 0.1 ppb	< 0.1
Trace Impurities – Iron (Fe)	<= 1 ppb	< 1
Trace Impurities – Lanthanum (La)	<= 0.1 ppb	< 0.1
Trace Impurities – Lead (Pb)	<= 0.1 ppb	< 0.1
Trace Impurities – Chromium (Cr)	<= 0.1 ppb	< 0.1
Trace Impurities – Lithium (Li)	<= 0.1 ppb	< 0.1
Trace Impurities – Lutetium (Lu)	<= 0.1 ppb	< 0.1
Trace Impurities – Magnesium (Mg)	<= 1 ppb	< 1
Trace Impurities – Manganese (Mn)	<= 0.1 ppb	0.1
Trace Impurities – Mercury (Hg)	<= 0.1 ppb	0.1
Trace Impurities – Molybdenum (Mo)	<= 0.1 ppb	< 0.1
Trace Impurities – Neodymium (Nd)	<= 0.1 ppb	< 0.1
Trace Impurities – Nickel (Ni)	<= 0.5 ppb	< 0.5
Trace Impurities – Niobium (Nb)	<= 0.1 ppb	< 0.1
Trace Impurities – Palladium (Pd)	<= 0.5 ppb	< 0.1
Trace Impurities – Platinum (Pt)	<= 0.5 ppb	< 0.1
Trace Impurities – Potassium (K)	<= 1 ppb	< 1
Trace Impurities – Praseodymium (Pr)	<= 0.1 ppb	< 0.1
Trace Impurities – Rhenium (Re)	<= 0.1 ppb	< 0.1
Trace Impurities – Rhodium (Rh)	<= 0.5 ppb	< 0.1
Trace Impurities – Rubidium (Rb)	<= 0.1 ppb	< 0.1
Trace Impurities – Ruthenium (Ru)	<= 0.5 ppb	< 0.1
Trace Impurities – Samarium (Sm)	<= 0.1 ppb	< 0.1
Trace Impurities – Scandium (Sc)	<= 0.1 ppb	< 0.1
Trace Impurities – Selenium (Se)	<= 1 ppb	< 1
Trace Impurities – Silver (Ag)	<= 0.1 ppb	< 0.1
Trace Impurities – Sodium (Na)	<= 1 ppb	< 1
Trace Impurities – Strontium (Sr)	<= 0.1 ppb	< 0.1
Trace Impurities – Tantalum (Ta)	<= 0.1 ppb	< 0.1
Trace Impurities – Tellurium (Te)	<= 0.1 ppb	< 0.1
Trace Impurities – Terbium (Tb)	<= 0.1 ppb	< 0.1
Trace Impurities – Thallium (Tl)	<= 0.1 ppb	<0.5
Trace Impurities – Thorium (Th)	<= 0.1 ppb	< 0.1
Trace Impurities – Thulium (Tm)	<= 0.1 ppb	< 0.1
Trace Impurities – Tin (Sn)	<= 0.5 ppb	< 0.1
Trace Impurities – Titanium (Ti)	<= 0.5 ppb	< 0.1
Trace Impurities – Tungsten (W)	<= 0.1 ppb	< 0.1
Trace Impurities – Uranium (U)	<= 0.1 ppb	< 0.1
Trace Impurities – Vanadium (V)	<= 0.5 ppb	< 0.1
Trace Impurities – Ytterbium (Yb)	<= 0.1 ppb	< 0.1
Trace Impurities – Yttrium (Y)	<= 0.1 ppb	< 0.1
Trace Impurities – Zinc (Zn)	<= 0.5 ppb	< 0.2
Trace Impurities – Boron (B)	<= 1 ppb	< 1
Trace Impurities – Zirconium (Zr)	<= 0.1 ppb	< 0.1

For Laboratory, Research or Manufacturing Use