

Nitric Acid, 69.0–70.0%  
 Genius High purity solvent  
 For Trace Metal Analysis, **GR Plus**

Material No.1.002152  
 Batch No.: 0000BG4728  
 Manufactured Date: 2018/03/03  
 Retest Date: 2023/03/03

## Certificate of Analysis

Test	Specification	Result
ACS – Assay (HNO <sub>3</sub> )	69.0 – 70.0 %	69.8
Appearance	Passes Test	PT
ACS – Color (APHA)	<= 10	5
ACS – Residue after Ignition	<= 2 ppm	1
ACS – Specific Gravity at 60°/60°F	1.416 – 1.420	1.420
Chloride (Cl)	<= 0.04 ppm	< 0.03
Phosphate (PO <sub>4</sub> )	<= 0.1 ppm	0.1
Sulfate (SO <sub>4</sub> )	<= 0.4 ppm	< 0.1
Trace Impurities – Aluminum (Al)	<= 5 ppb	<2
Arsenic and Antimony (as As)	<=5 ppb	<2
Trace Impurities – Barium (Ba)	<= 10 ppb	< 5
Trace Impurities – Beryllium (Be)	<= 10 ppb	< 6
Trace Impurities – Bismuth (Bi)	<= 10 ppb	< 2
Trace Impurities – Boron (B)	<= 10 ppb	<5
Trace Impurities – Cadmium (Cd)	<=10 ppb	< 3
Trace Impurities – Calcium (Ca)	<= 10 ppb	< 6
Trace Impurities – Chromium (Cr)	<= 10 ppb	< 3
Trace Impurities – Cobalt (Co)	<= 5 ppb	< 2
Trace Impurities – Copper (Cu)	<= 5 ppb	< 2
Trace Impurities – Gallium (Ga)	<= 10 ppb	< 2
Trace Impurities – Germanium (Ge)	<= 10 ppb	< 2
Trace Impurities – Gold (Au)	<= 10 ppb	< 2
Heavy Metals (as Pb)	<= 10 ppb	< 6
Trace Impurities – Iron (Fe)	<= 5 ppb	< 3
Trace Impurities – Antimony(Sb)	<= 10 ppb	<10
Trace Impurities – Selenium(Se)	<= 10 ppb	< 10

Test	Specification	Result
Trace Impurities – Lead (Pb)	<= 5 ppb	< 0.5
Trace Impurities – Lithium (Li)	<= 5 ppb	< 0.2
Trace Impurities – Magnesium (Mg)	<= 10 ppb	< 6
Trace Impurities – Manganese (Mn)	<= 5 ppb	< 1
Trace Impurities – Mercury (Hg)	<= 5 ppb	< 1
Trace Impurities – Molybdenum (Mo)	<= 5 ppb	< 3
Trace Impurities – Nickel (Ni)	<= 5 ppb	< 3
Trace Impurities – Niobium (Nb)	<= 5 ppb	< 2
Trace Impurities – Potassium (K)	<= 5 ppb	< 2
Trace Impurities – Silicon (Si)	<= 10 ppb	< 6
Trace Impurities – Silver (Ag)	<= 5 ppb	< 3
Trace Impurities – Sodium (Na)	<= 10 ppb	< 6
Trace Impurities – Strontium (Sr)	<= 5 ppb	< 2
Trace Impurities – Tantalum (Ta)	<= 5 ppb	< 1
Trace Impurities – Thallium (Tl)	<= 5 ppb	< 2
Trace Impurities – Tin (Sn)	<= 5 ppb	< 3
Trace Impurities – Vanadium (V)	<= 5 ppb	< 2
Trace Impurities – Zinc (Zn)	<= 5 ppb	< 3
Trace Impurities – Zirconium (Zr)	<= 5 ppb	< 1

For Laboratory, Research or Manufacturing Use  
Meets ACS Specifications

Country of Origin: TW  
Packaging Site: Paris Mfg Ctr & DC