Nitric Acid
AR Select® (ACS)
For Trace Element Analysis

Material No.: 6623-46
Batch No.: 0000269681
Manufactured Date: 2020/09/11
Retest Date: 2025/09/10
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
ACS - Assay (HNO_3)	68.0 - 70.0 %	69.8
Appearance	Passes Test	PT
ACS - Color (APHA)	<= 10	5
ACS - Arsenic (As)	<= 0.010 ppm	< 0.002
ACS - Arsenic and Antimony (as As)	<= 0.005 ppm	< 0.002
ACS - Chloride (Cl)	<= 0.04 ppm	< 0.03
ACS - Heavy Metals (as Pb)	<= 0.05 ppm	< 0.05
ACS - Residue after Ignition	<= 5 ppm	< 1
ACS - Sulfate (SO_4)	<= 0.4 ppm	< 0.2
Determine by Flame Photometry & ICP - Aluminum (Al)	<= 50.0 ppb	< 0.3
Determine by Flame Photometry & ICP - Barium (Ba)	<= 1.0 ppb	< 0.3
Determine by Flame Photometry & ICP - Beryllium (Be)	<= 1.0 ppb	< 0.2
Determine by Flame Photometry & ICP - Bismuth (Bi)	<= 10.0 ppb	< 1.0
Determine by Flame Photometry & ICP - Boron (B)	<= 10.0 ppb	0.8
Determine by Flame Photometry & ICP - Cadmium (Cd)	<= 1.0 ppb	< 0.3
Determine by Flame Photometry & ICP - * Calcium (Ca)	<= 200.0 ppb	1.0
Determine by Flame Photometry & ICP - Chromium (Cr)	<= 10.0 ppb	3.0
Determine by Flame Photometry & ICP - Cobalt (Co)	<= 5.0 ppb	< 0.3
Determine by Flame Photometry & ICP - Copper (Cu)	<= 1.0 ppb	< 0.1
Determine by Flame Photometry & ICP - Gallium (Ga)	<= 20.0 ppb	< 0.2
Determine by Flame Photometry & ICP - Germanium (Ge)	<= 10.0 ppb	< 2.0
Determine by Flame Photometry & ICP - Gold (Au)	<= 10.0 ppb	< 0.2

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Material No.: 6623-46
Batch No.: 0000269681

Test	Specification	Result
Determine by Flame Photometry & ICP - Iron (Fe)	<= 40.0 ppb	< 0.4
Determine by Flame Photometry & ICP - Lead (Pb)	<= 1.0 ppb	< 0.5
Determine by Flame Photometry & ICP - Lithium (Li)	<= 5.0 ppb	< 0.2
Determine by Flame Photometry & ICP - Magnesium (Mg)	<= 10.0 ppb	< 0.2
Determine by Flame Photometry & ICP - Manganese (Mn)	<= 1.0 ppb	< 0.4
Determine by Flame Photometry & ICP - Mercury (Hg)	<= 1.0 ppb	< 0.1
Determine by Flame Photometry & ICP - Molybdenum (Mo)	<= 5.0 ppb	< 3.0
Determine by Flame Photometry & ICP - Nickel (Ni)	<= 5.0 ppb	< 0.3
Determine by Flame Photometry & ICP - Potassium (K)	<= 20.0 ppb	< 2.0
Determine by Flame Photometry & ICP - * Silicon (Si)	<= 50.0 ppb	< 0.4
Determine by Flame Photometry & ICP - Silver (Ag)	<= 5.0 ppb	< 0.3
Determine by Flame Photometry & ICP - * Sodium (Na)	<= 500.0 ppb	< 0.5
Determine by Flame Photometry & ICP - Strontium (Sr)	<= 1.0 ppb	< 0.2
Determine by Flame Photometry & ICP - Thallium (Tl)	<= 20.0 ppb	< 2.0
Determine by Flame Photometry & ICP - Tin (Sn)	<= 10.0 ppb	< 0.8
Determine by Flame Photometry & ICP - Vanadium (V)	<= 1.0 ppb	< 0.2
Determine by Flame Photometry & ICP - Zinc (Zn)	<= 5.0 ppb	< 0.3
Determine by Flame Photometry & ICP - Zirconium (Zr)	<= 10.0 ppb	< 0.1

For Laboratory, Research or Manufacturing Use
Determine by Flame Photometry & ICP
* May change over time due to extraction from glass container.

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700