Sulfuric Acid 96%
CMOS

Material No.: 9684-05
Batch No.: 0000041311
Manufactured Date: 2013/03/14
Expiration Date: 2013/12/12

Certificate of Analysis

Test	Specification	Result
Assay (H_2SO_4)	95.0 - 97.0 %	96.4
Color (APHA)	<= 10	6
Residue after Ignition	<= 2 ppm	<1
Chloride (Cl)	<= 0.1 ppm	<0.1
Nitrate (NO_3)	<= 0.2 ppm	<0.1
Phosphate (PO_4)	<= 0.3 ppm	<0.1
Trace Impurities - Aluminum (Al)	<= 50.0 ppb	< 5.0
Arsenic and Antimony (as As)	<= 5 ppb	< 2
Trace Impurities - Barium (Ba)	<= 10.0 ppb	< 1.0
Trace Impurities - Beryllium (Be)	<= 10.0 ppb	< 1.0
Trace Impurities - Bismuth (Bi)	<= 20.0 ppb	< 10.0
Trace Impurities - Boron (B)	<= 10.0 ppb	< 5.0
Trace Impurities - Cadmium (Cd)	<= 10.0 ppb	< 1.0
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	3.6
Trace Impurities - Chromium (Cr)	<= 50.0 ppb	< 1.0
Trace Impurities - Cobalt (Co)	<= 10.0 ppb	< 1.0
Trace Impurities - Copper (Cu)	<= 10.0 ppb	< 1.0
Trace Impurities - Gallium (Ga)	<= 10.0 ppb	< 1.0
Trace Impurities - Germanium (Ge)	<= 10.0 ppb	< 10.0
Trace Impurities - Gold (Au)	<= 20.0 ppb	< 5.0
Heavy Metals (as Pb)	<= 200 ppb	< 50
Trace Impurities - Iron (Fe)	<= 100.0 ppb	< 1.0
Trace Impurities - Lead (Pb)	<= 20.0 ppb	< 10.0
Trace Impurities - Lithium (Li)	<= 10.0 ppb	< 1.0

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600
Avantor ™ Performance Materials Inc.
3477 Corporate Parkway. Suite #200. Center Valley, PA 18034. U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

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Test	Specification	Result
Trace Impurities - Magnesium (Mg)	<= 50.0 ppb	< 1.0
Trace Impurities - Manganese (Mn)	<= 10.0 ppb	< 1.0
Trace Impurities - Mercury (Hg)	<= 5.0 ppb	<0.1
Trace Impurities - Molybdenum (Mo)	<= 10.0 ppb	< 5.0
Trace Impurities - Nickel (Ni)	<= 10.0 ppb	< 5.0
Trace Impurities - Niobium (Nb)	<= 10.0 ppb	< 1.0
Trace Impurities - Potassium (K)	<= 50.0 ppb	< 10.0
Trace Impurities - Silicon (Si)	<= 50.0 ppb	< 10.0
Trace Impurities - Silver (Ag)	<= 10.0 ppb	< 1.0
Trace Impurities - Sodium (Na)	<= 100.0 ppb	< 5.0
Trace Impurities - Strontium (Sr)	<= 10.0 ppb	< 1.0
Trace Impurities - Tantalum (Ta)	<= 10.0 ppb	< 5.0
Trace Impurities - Thallium (Tl)	<= 20.0 ppb	< 5.0
Trace Impurities - Tin (Sn)	<= 50.0 ppb	< 10.0
Trace Impurities - Titanium (Ti)	<= 10.0 ppb	< 1.0
Trace Impurities - Vanadium (V)	<= 10.0 ppb	< 1.0
Trace Impurities - Zinc (Zn)	<= 50.0 ppb	< 1.0
Trace Impurities - Zirconium (Zr)	<= 10.0 ppb	< 1.0
Particle Count - 0.5 µm and greater	<= 60 par/ml	31
Particle Count - 1.0 µm and greater	<= 10 par/ml	6

For Microelectronic Use

Storage Conditions:	Recommended Storage Conditions: 15° - 100°F
Country of Origin:	US
Packaging Site:	Paris Mfg Ctr & DC

ISO

Phillipsburg, NJ 9001:2008, 14001:2004
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008, 17025:2005
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2008, 17025:2005
Panoli, India 9001:2008

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