

Sulfuric Acid 96%
CMOS



Material No.: 9684-03
Batch No.: 0000020233
Manufactured Date: 2012/09/18
Retest Date: 2017/09/27

Certificate of Analysis

Test	Specification	Result
Assay (H ₂ SO ₄)	95.0 – 97.0 %	96.7
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	12.0
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	< 100
Trace Impurities – Iron (Fe)	<= 100.0 ppb	5.7
Trace Impurities – Lead (Pb)	<= 20.0 ppb	< 1.0
Trace Impurities – Lithium (Li)	<= 10.0 ppb	< 1.0

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	20.3
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	1.1
Trace Impurities – Vanadium (V)	<= 10.0 ppb	< 1.0
Trace Impurities – Zinc (Zn)	<= 50.0 ppb	1.1
Trace Impurities – Zirconium (Zr)	<= 10.0 ppb	< 1.0
Particle Count – 0.5 µm and greater	<= 60 par/ml	20
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
Selangor, Malaysia 9001.2008
Panoli, India 9001.2008
Gliwice, Poland 9001.2008, 17025.2005

Richard M Siberski

Richard M Siberski
Global Director of Quality Assurance