

Hydrogen Peroxide, 30%  
CMOS  
(Stabilized)



Material No.: 2190-23  
Batch No.: 0000095920  
Manufactured Date: 2014/11/06  
Expiration Date: 2016/05/06

## Certificate of Analysis

Test	Specification	Result
Assay (H <sub>2</sub> O <sub>2</sub> )	30.0 - 32.0 %	31.0
Color (APHA)	<= 10	5
Free Acid (µeq/g)	<= 0.2	< 0.2
Residue after Evaporation	<= 10 ppm	< 5
Ammonium (NH <sub>4</sub> )	<= 3 ppm	< 3
Chloride (Cl)	<= 0.2 ppm	< 0.2
Nitrate (NO <sub>3</sub> )	<= 2 ppm	< 2
Phosphate (PO <sub>4</sub> )	<= 1 ppm	< 1
Sulfate (SO <sub>4</sub> )	<= 3 ppm	< 3
Trace Impurities - Aluminum (Al)	<= 70.0 ppb	< 5.0
Arsenic and Antimony (as As)	<= 10 ppb	< 10
Trace Impurities - Barium (Ba)	<= 20.0 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	< 1.0
Trace Impurities - Chromium (Cr)	<= 20.0 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)	<= 20.0 ppb	< 1.0
Trace Impurities - Germanium (Ge)	<= 10.0 ppb	< 10.0
Trace Impurities - Gold (Au)	<= 10.0 ppb	< 5.0
Heavy Metals (as Pb)	<= 500 ppb	< 250

Test	Specification	Result
Trace Impurities – Iron (Fe)	<= 50.0 ppb	< 1.0
Trace Impurities – Lead (Pb)	<= 10.0 ppb	< 10.0
Trace Impurities – Lithium (Li)	<= 10.0 ppb	< 1.0
Trace Impurities – Magnesium (Mg)	<= 10.0 ppb	< 1.0
Trace Impurities – Manganese (Mn)	<= 10.0 ppb	< 1.0
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)	<= 600.0 ppb	241.0
Trace Impurities – Silicon (Si)	<= 100.0 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)	<= 50.0 ppb	< 5.0
Trace Impurities – Tin (Sn)	190.0 – 500.0 ppb	401.6
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	<= 100 par/ml	15
Particle Count – 1.0 µm and greater	<= 10 par/ml	2

For Microelectronic Use

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



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



Richard M Siberski  
 Vice President Global Quality

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