

Hydrogen Peroxide, 30%  
CMOS  
(Stabilized)



Material No.: 2190-23  
Batch No.: 0000007408  
Manufactured Date: 2012/05/11  
Expiration Date: 2013/11/09

## Certificate of Analysis

Test	Specification	Result
Assay (H <sub>2</sub> O <sub>2</sub> )	30.0 - 32.0 %	31.1
Color (APHA)	≤ 10	5
Free Acid (μeq/g)	≤ 0.2	< 0.1
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	230.0
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	338.0
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	≤ 100 par/ml	30
Particle Count –1.0 µm and greater	≤ 10 par/ml	3

For Microelectronic Use

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



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