



Material No.: 9503-03 Batch No.: 0000055097

Manufactured Date: 2013/08/07 Retest Date: 2018/08/06

## Certificate of Analysis

Test	Specification	Result
Assay (CH₃COOH) (by freezing point)	>= 99.7 %	100.0
Color (APHA)	<= 10	6
Acetic Anhydride ((CH₃CO)₂O)	<= 0.01 %	< 0.01
Acetaldehyde	<= 0.05 %	< 0.01
Residue after Evaporation	<= 4 ppm	3
Solubility in H₂O	Passes Test	PT
Specific Gravity at 20°/20°C	>= 1.048	1.048
Substances Reducing Dichromate	Passes Test	PT
Substances Reducing Permanganate	Passes Test	PT
Chloride (Cl)	<= 0.5 ppm	< 0.5
Phosphate (PO4)	<= 0.5 ppm	0.3
Sulfate (SO <sub>4</sub> )	<= 0.5 ppm	< 0.3
Trace Impurities – Aluminum (Al)	<= 50.0 ppb	< 5.0
Arsenic and Antimony (as As)	<= 5 ppb	< 5
Trace Impurities – Barium (Ba)	<= 10.0 ppb	< 1.0
Trace Impurities – Beryllium (Be)	<= 10.0 ppb	< 1.0
Trace Impurities – Bismuth (Bi)	<= 50.0 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)	<= 200.0 ppb	1.9
Trace Impurities - Chromium (Cr)	<= 30.0 ppb	1.7
Trace Impurities - Cobalt (Co)	<= 10.0 ppb	< 1.0
Trace Impurities - Copper (Cu)	<= 20.0 ppb	< 1.0
Trace Impurities – Gallium (Ga)	<= 10.0 ppb	< 1.0

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Trace Impurities – Germanium (Ge)	<= 10.0 ppb	< 10.0
Trace Impurities – Gold (Au)	<= 10.0 ppb	< 5.0
Heavy Metals (as Pb)	<= 300 ppb	< 300
Trace Impurities – Iron (Fe)	<= 100.0 ppb	6.3
Trace Impurities – Lead (Pb)	<= 100.0 ppb	< 10.0
Trace Impurities – Lithium (Li)	<= 10.0 ppb	< 1.0
Trace Impurities – Magnesium (Mg)	<= 50.0 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)	<= 25.0 ppb	< 5.0
Trace Impurities – Niobium (Nb)	<= 10.0 ppb	< 1.0
Trace Impurities – Potassium (K)	<= 100.0 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	8.7
Trace Impurities – Strontium (Sr)	<= 10.0 ppb	< 1.0
Trace Impurities – Tantalum (Ta)	<= 10.0 ppb	< 5.0
Trace Impurities – Thallium (TI)	<= 50.0 ppb	< 5.0
Trace Impurities – Tin (Sn)	<= 50.0 ppb	< 10.0
Trace Impurities – Titanium (Ti)	<= 100.0 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 - 1.0 µm and greater	<= 10 par/ml	3

For Microelectronic Use

Storage Conditions: IMPORTANT: Material will freeze if stored below 17 °C (63°F).

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

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