Acetic Acid, Glacial CMOS





Material No.: 9503-03 Batch No.: 0000107311 Manufactured Date: 2015/03/23 Retest Date: 2020/03/21

## Certificate of Analysis

Test	Specification	Result
Assay (CH3COOH) (by freezing point)	>= 99.7 %	100.0
Color (APHA)	<= 10	5
Acetic Anhydride ((CH <sub>3</sub> CO) <sub>2</sub> O)	<= 0.01 %	< 0.01
Acetaldehyde	<= 0.05 %	< 0.05
Residue after Evaporation	<= 4 ppm	2
Solubility in H <sub>2</sub> O	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 (SO4)	<= 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	8.0
Trace Impurities - Chromium (Cr)	<= 30.0 ppb	5.2
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

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

Test	Specification	Result
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	14.9
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	7.7
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	5.0
Trace Impurities - Zirconium (Zr)	<= 10.0 ppb	< 1.0
Particle Count - 1.0 µm and greater	<= 10 par/ml	7

For Microelectronic Use

For additional information, go to www.askavantor.com. Search keywords

"freezing" and product name.

Storage Conditions:IMPORTANT: Material will freeze if stored below 17 °C (63°F).Country of Origin:USPackaging Site:Paris Mfg Ctr & DC



Phillipsburg, NJ 9001:2008, 14001:2004, FSSC 22000 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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