

Methanol
CMOS



Material No.: 9073-05
Batch No.: 0000046282
Manufactured Date: 2013/05/22
Retest Date: 2018/05/21

Certificate of Analysis

Test	Specification	Result
Assay (CH ₃ OH) (by GC)	>= 99.9 %	100.0
Color (APHA)	<= 10	5
Acidity (µeq/g)	<= 0.3	0.2
Alkalinity (µeq/g)	<= 0.1	< 0.1
Heavy Metals (as Pb)	<= 100 ppb	< 100
Residue after Evaporation	<= 5 ppm	4
Water (H ₂ O)(by Karl Fischer titrn)	<= 0.05 %	< 0.01
Solubility in H ₂ O	Passes Test	PT
Chloride (Cl)	<= 0.2 ppm	< 0.1
Phosphate (PO ₄)	<= 0.3 ppm	< 0.3
Sulfate (SO ₄)	<= 0.5 ppm	< 0.1
Trace Impurities – Aluminum (Al)	<= 50.0 ppb	< 50.0
Trace Impurities – Arsenic (As)	<= 5.0 ppb	< 2.0
Trace Impurities – Antimony (Sb)	<= 5.0 ppb	< 1.0
Trace Impurities – Barium (Ba)	<= 20.0 ppb	< 1.0
Trace Impurities – Boron (B)	<= 10.0 ppb	< 5.0
Trace Impurities – Cadmium (Cd)	<= 20.0 ppb	< 1.0
Trace Impurities – Calcium (Ca)	<= 50.0 ppb	1.6
Trace Impurities – Chromium (Cr)	<= 20.0 ppb	< 1.0
Trace Impurities – Cobalt (Co)	<= 20.0 ppb	< 1.0
Trace Impurities – Copper (Cu)	<= 10.0 ppb	< 1.0
Trace Impurities – Gallium (Ga)	<= 50.0 ppb	< 1.0
Trace Impurities – Germanium (Ge)	<= 50.0 ppb	< 10.0
Trace Impurities – Gold (Au)	<= 20.0 ppb	< 5.0

Test	Specification	Result
Trace Impurities – Iron (Fe)	<= 50.0 ppb	2.2
Trace Impurities – Lead (Pb)	<= 50.0 ppb	< 10.0
Trace Impurities – Lithium (Li)	<= 50.0 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)	<= 300.0 ppb	< 5.0
Trace Impurities – Nickel (Ni)	<= 10.0 ppb	< 5.0
Trace Impurities – Potassium (K)	<= 50.0 ppb	< 10.0
Trace Impurities – Silicon (Si)	<= 50.0 ppb	< 10.0
Trace Impurities – Silver (Ag)	<= 20.0 ppb	< 1.0
Trace Impurities – Sodium (Na)	<= 50.0 ppb	< 5.0
Trace Impurities – Strontium (Sr)	<= 10.0 ppb	< 1.0
Trace Impurities – Tin (Sn)	<= 50.0 ppb	< 10.0
Trace Impurities – Titanium (Ti)	<= 20.0 ppb	< 1.0
Trace Impurities – Vanadium (V)	<= 300.0 ppb	< 1.0
Trace Impurities – Zinc (Zn)	<= 50.0 ppb	< 1.0
Trace Impurities – Zirconium (Zr)	<= 300.0 ppb	< 1.0
Particle Count – 0.5 µm and greater	<= 100 par/ml	4
Particle Count – 1.0 µm and greater	<= 8 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
 Global Director of Quality Assurance

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