

Methanol  
VLSI



Material No.: 5370-05  
Batch No.: 0000079968  
Manufactured Date: 2014/05/19  
Retest Date: 2019/05/18

## Certificate of Analysis

Test	Specification	Result
Assay (CH <sub>3</sub> 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
Residue after Evaporation	<= 5 ppm	< 1
Water (H <sub>2</sub> O)(by Karl Fischer titrn)	<= 0.05 %	0.02
Solubility in H <sub>2</sub> O	Passes Test	PT
Arsenic and Antimony (as As)	<= 10 ppb	< 10
Chloride (Cl)	<= 0.2 ppm	< 0.1
Heavy Metals (as Pb)	<= 100 ppb	< 100
Phosphate (PO <sub>4</sub> )	<= 0.3 ppm	< 0.3
Trace Impurities – Aluminum (Al)	<= 50.0 ppb	< 5.0
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	1.2
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
Trace Impurities – Iron (Fe)	<= 50.0 ppb	1.6
Trace Impurities – Lead (Pb)	<= 50.0 ppb	< 10.0

Material No.: 5370-05  
Batch No.: 0000079968

Test	Specification	Result
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 – 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 – Zinc (Zn)	<= 50.0 ppb	< 1.0
Particle Count – 0.5 µm and greater	<= 50 par/ml	3
Particle Count – 1.0 µm and greater	<= 8 par/ml	2

For Microelectronic Use

Reported value is the average of all samples counted for this lot number, with no individual sample value exceeding the specification.

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

A handwritten signature in white ink, appearing to read 'Richard M Siberski', is written over the blue background.

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