

Methanol  
CMOS



Material No.: 9073-05  
Batch No.: 0000197926  
Manufactured Date: 2018/04/03  
Retest Date: 2023/04/02  
Revision No: 1

## 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
Heavy Metals (as Pb)	<= 100 ppb	< 100
Residue after Evaporation	<= 5 ppm	< 2
Water (H <sub>2</sub> O)(by Karl Fischer titrn)	<= 0.05 %	0.02
Solubility in H <sub>2</sub> O	Passes Test	PT
Chloride (Cl)	<= 0.2 ppm	< 0.2
Phosphate (PO <sub>4</sub> )	<= 0.3 ppm	< 0.3
Sulfate (SO <sub>4</sub> )	<= 0.5 ppm	< 0.5
Trace Impurities – Aluminum (Al)	<= 50.0 ppb	< 5.0
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	4.3
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

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600  
Avantor Performance Materials, LLC.

3477 Corporate Parkway. Center Valley, PA 18034. U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

Test	Specification	Result
Trace Impurities – Iron (Fe)	<= 50.0 ppb	1.3
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	1.1
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	18.5
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	27.5
Trace Impurities – Zirconium (Zr)	<= 300.0 ppb	< 1.0
Particle Count – 0.5 µm and greater	<= 100 par/ml	2
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, FSSC 22000  
Paris, KY 9001:2008  
Mexico City, Mexico 9001:2008  
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003  
Gliwice, Poland 9001:2008, 13485:2012  
Selangor, Malaysia 9001:2008  
Dehradun, India, 9001:2008, 14001:2004, 13485:2003  
Mumbai, India, 9001:2008  
Panoli, India 9001:2008



Jamie Ethier  
Vice President Global Quality

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