Methanol VLSI





Material No.: 5370-05 Batch No.: 0000177005 Manufactured Date: 2017/06/19 Retest Date: 2022/06/18

## Certificate of Analysis

Test	Specification	Result
Assay (CH₃OH) (by GC)	>= 99.9 %	100.0
Color (APHA)	<= 10	5
cidity (µeq/g)	<= 0.3	0.2
Alkalinity (µeq/g)	<= 0.1	0.1
lesidue after Evaporation	<= 5 ppm	< 1
Vater (H2O)(by Karl Fischer titrn)	<= 0.05 %	0.01
olubility in H2O	Passes Test	РТ
Arsenic and Antimony (as As)	<= 10 ppb	< 10
Chloride (Cl)	<= 0.2 ppm	< 0.1
leavy Metals (as Pb)	<= 100 ppb	< 50
hosphate (PO4)	<= 0.3 ppm	< 0.3
race Impurities – Aluminum (Al)	<= 50.0 ppb	< 5.0
race Impurities – Barium (Ba)	<= 20.0 ppb	< 1.0
race Impurities – Boron (B)	<= 10.0 ppb	< 5.0
race Impurities – Cadmium (Cd)	<= 20.0 ppb	< 1.0
race Impurities – Calcium (Ca)	<= 50.0 ppb	1.0
race Impurities – Chromium (Cr)	<= 20.0 ppb	< 1.0
race Impurities – Cobalt (Co)	<= 20.0 ppb	< 1.0
race Impurities – Copper (Cu)	<= 10.0 ppb	< 1.0
race Impurities – Gallium (Ga)	<= 50.0 ppb	< 1.0
race Impurities – Germanium (Ge)	<= 50.0 ppb	< 10.0
race Impurities – Gold (Au)	<= 20.0 ppb	< 5.0
race Impurities – Iron (Fe)	<= 50.0 ppb	5.0
race Impurities – Lead (Pb)	<= 50.0 ppb	< 10.0

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

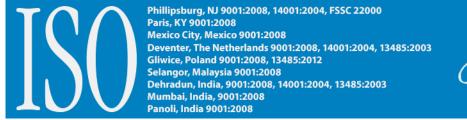
3477 Corporate Parkway. Center Valley, PA 18034. U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

Test	Specification	Result
Frace Impurities – Lithium (Li)	<= 50.0 ppb	< 1.0
Frace Impurities – Magnesium (Mg)	<= 50.0 ppb	< 1.0
Frace Impurities – Manganese (Mn)	<= 10.0 ppb	< 1.0
Frace Impurities – Nickel (Ni)	<= 10.0 ppb	< 5.0
Frace Impurities – Potassium (K)	<= 50.0 ppb	< 10.0
race Impurities – Silicon (Si)	<= 50.0 ppb	< 10.0
race Impurities – Silver (Ag)	<= 20.0 ppb	< 1.0
race Impurities – Sodium (Na)	<= 50.0 ppb	< 5.0
race Impurities – Strontium (Sr)	<= 10.0 ppb	< 1.0
race Impurities – Tin (Sn)	<= 50.0 ppb	< 10.0
race Impurities – Titanium (Ti)	<= 20.0 ppb	< 1.0
race Impurities – Zinc (Zn)	<= 50.0 ppb	< 1.0
Particle Count - 0.5 µm and greater	<= 50 par/ml	1
Particle Count - 1.0 µm and greater	<= 8 par/ml	< 1

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



James Techie

Jamie Ethier 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, LLC.

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