



Material No.: 9830-02 Batch No.: 0000158383 Manufactured Date: 2016/11/02 Expiration Date: 2018/11/02

Certificate of Analysis

Test	Specification	Result
Assay (CH3OH) (by GC, corrected for water)	>= 99.9 %	100.0
Appearance	Passes Test	PT
Gradient Elution Test (a.u.) – 254 nm	<= 0.01	< 0.01
Fluorescence Trace Impurities, measured as Quinine Base – at 450 nm Emission	<= 0.30 ppb	0.10
Fluorescence Trace Impurities, measured as Quinine Base – at Emission Maximum for Impurities	<= 1.0 ppb	0.4
Color (APHA)	<= 10	5
Residue after Evaporation	<= 1.0 ppm	0.3
Water (H2O)	<= 500 ppm	< 500
LC/MS Suitability – Largest Response on ESI– Positive Mode (as Reserpine)	<= 50 ppb	< 25
Trace Impurities – Aluminum (Al)	<= 50 ppb	< 5
Trace Impurities - * Calcium (Ca)	<= 50 ppb	2
Trace Impurities – Iron (Fe)	<= 50 ppb	< 1
Trace Impurities – Lithium (Li)	<= 30 ppb	< 1
Trace Impurities – Magnesium (Mg)	<= 50 ppb	< 1
Trace Impurities – Nickel (Ni)	<= 30 ppb	< 5
Trace Impurities – Potassium (K)	<= 50 ppb	< 10
Trace Impurities – * Sodium (Na)	<= 50 ppb	< 5

For Laboratory, Research or Manufacturing Use

* May change over time due to extraction from glass container.

Filtered through a 0.2 micron filter.

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

Country of Origin: Packaging Site: US Phillipsburg 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

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 Inc.

3477 Corporate Parkway. Suite #200. Center Valley, PA 18034. U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610