Toluene CMOS





Material No.: 9466-03 Batch No.: 0000191776 Manufactured Date: 2017/12/19 Retest Date: 2022/12/18 Revision No: 1

## Certificate of Analysis

Test	Specification	Result
Assay (C6H5CH3) (by GC)	>= 99.5 %	99.9
Color (APHA)	<= 10	5
Acidity (µeq/g)	<= 0.2	< 0.2
Residue after Evaporation	<= 2.0 ppm	< 2.0
Water (by KF, coulometric)	<= 0.03 %	< 0.01
Substances Darkened by H2SO4	Passes Test	РТ
Sulfur Compounds (as S)	<= 0.003 %	< 0.003
Chloride (Cl)	<= 2 ppm	< 2
Phosphate (PO4)	<= 0.5 ppm	< 0.5
Trace Impurities – Aluminum (Al)	<= 20.0 ppb	< 5.0
Arsenic and Antimony (as As)	<= 10 ppb	< 10
Trace Impurities – Barium (Ba)	<= 10.0 ppb	< 1.0
Trace Impurities – Boron (B)	<= 20.0 ppb	< 5.0
Trace Impurities – Cadmium (Cd)	<= 20.0 ppb	< 1.0
Trace Impurities – Calcium (Ca)	<= 100.0 ppb	35.4
Trace Impurities – Chromium (Cr)	<= 10.0 ppb	< 1.0
Trace Impurities – Cobalt (Co)	<= 20.0 ppb	< 1.0
Trace Impurities – Copper (Cu)	<= 20.0 ppb	< 1.0
Trace Impurities – Gallium (Ga)	<= 50.0 ppb	< 1.0
Trace Impurities – Germanium (Ge)	<= 50.0 ppb	< 10.0
Frace Impurities – Gold (Au)	<= 20.0 ppb	< 5.0
Heavy Metals (as Pb)	<= 500 ppb	< 500
Trace Impurities – Iron (Fe)	<= 20.0 ppb	< 1.0
Trace Impurities – Lithium (Li)	<= 20.0 ppb	< 1.0

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700 Avantor Performance Materials, LLC 100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Test	Specification	Result
Trace Impurities – Magnesium (Mg)	<= 10.0 ppb	< 1.0
Trace Impurities – Manganese (Mn)	<= 10.0 ppb	< 1.0
Trace Impurities – Nickel (Ni)	<= 20.0 ppb	< 5.0
Trace Impurities – Potassium (K)	<= 50.0 ppb	20.0
Trace Impurities – Silicon (Si)	<= 100.0 ppb	< 10.0
Trace Impurities – Silver (Ag)	<= 20.0 ppb	< 1.0
Trace Impurities – Sodium (Na)	<= 100.0 ppb	9.4
Trace Impurities – Strontium (Sr)	<= 10.0 ppb	< 1.0
Trace Impurities – Tin (Sn)	<= 30.0 ppb	< 10.0
Trace Impurities – Zinc (Zn)	<= 20.0 ppb	9.5
Particle Count – 1.0 µm and greater	<= 10 par/ml	< 1

For Microelectronic Use

Country of Origin: Packaging Site: US Paris Mfg Ctr & DC



Phillipsburg, NJ 9001:2015, FSSC22000 Paris, KY 9001:2008 Mexico City, Mexico 9001:2008 Gliwice, Poland 9001:2015, 13485:2012 Selangor, Malaysia 9001:2008 Dehradun, India, 9001:2008, 14001:2004, 13485:2003 Mumbai, India, 9001:2015, 17025:2005 Panoli, India 9001:2015

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