

Material No.: 9005-68 Batch No.: 0000223689

Manufactured Date: 2019/02/20

Retest Date: 2024/02/19 Revision No: 1

## Certificate of Analysis

Test	Specification	Result
Assay ((CH <sub>3</sub> ) <sub>2</sub> CO) (by GC, corrected for water)	>= 99.5 %	99.8
Color (APHA)	<= 10	< 5
Residue after Evaporation	<= 5 ppm	< 1
Titrable Acid (µeq/g)	<= 0.3	0.1
Titrable Base (µeq/g)	<= 0.5	< 0.1
Water (H <sub>2</sub> O)	<= 0.5 %	0.2
Solubility in H <sub>2</sub> O	Passes Test	PT
Chloride (Cl)	<= 0.2 ppm	< 0.2
Phosphate (PO <sub>4</sub> )	<= 0.05 ppm	< 0.05
Trace Impurities - Aluminum (Al)	<= 50.0 ppb	< 5.0
Arsenic and Antimony (as As)	<= 5 ppb	< 5
Trace Impurities - Barium (Ba)	<= 20.0 ppb	< 1.0
Trace Impurities - Beryllium (Be)	<= 10.0 ppb	< 1.0
Trace Impurities - Bismuth (Bi)	<= 20.0 ppb	< 10.0
Trace Impurities - Boron (B)	<= 10.0 ppb	< 5.0
Trace Impurities - Cadmium (Cd)	<= 10.0 ppb	< 1.0
Trace Impurities - Calcium (Ca)	<= 25.0 ppb	13.2
Trace Impurities - Chromium (Cr)	<= 10.0 ppb	< 1.0
Trace Impurities - Cobalt (Co)	<= 10.0 ppb	< 1.0
Trace Impurities - Copper (Cu)	<= 10.0 ppb	< 1.0
Trace Impurities - Gallium (Ga)	<= 10.0 ppb	< 1.0
Trace Impurities - Germanium (Ge)	<= 10.0 ppb	< 10.0
Trace Impurities - Gold (Au)	<= 20.0 ppb	< 5.0
Trace Impurities - Iron (Fe)	<= 20.0 ppb	< 1.0

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Trace Impurities – Lead (Pb)	<= 10.0 ppb	< 10.0
Trace Impurities - Lithium (Li)	<= 10.0 ppb	< 1.0
Trace Impurities – Magnesium (Mg)	<= 20.0 ppb	< 1.0
Trace Impurities - Manganese (Mn)	<= 10.0 ppb	< 1.0
Trace Impurities - Molybdenum (Mo)	<= 10.0 ppb	< 5.0
Trace Impurities - Nickel (Ni)	<= 10.0 ppb	< 5.0
Trace Impurities - Niobium (Nb)	<= 50.0 ppb	< 1.0
Trace Impurities – Potassium (K)	<= 10.0 ppb	< 10.0
Trace Impurities – Silicon (Si)	<= 50.0 ppb	< 10.0
Trace Impurities - Silver (Ag)	<= 10.0 ppb	< 1.0
Trace Impurities – Sodium (Na)	<= 10.0 ppb	7.4
Trace Impurities - Strontium (Sr)	<= 10.0 ppb	< 1.0
Trace Impurities - Tantalum (Ta)	<= 50.0 ppb	< 5.0
Trace Impurities – Thallium (TI)	<= 10.0 ppb	< 5.0
Trace Impurities – Tin (Sn)	<= 20.0 ppb	< 10.0
Trace Impurities - Titanium (Ti)	<= 10.0 ppb	< 1.0
Trace Impurities - Vanadium (V)	<= 10.0 ppb	< 1.0
Trace Impurities - Zinc (Zn)	<= 20.0 ppb	1.2
Trace Impurities – Zirconium (Zr)	<= 10.0 ppb	< 1.0
Particle Count - 0.5 µm and greater (Rion KS42AF)	<= 100 par/ml	9
Particle Count - 1.0 µm and greater (Rion KS42AF)	<= 8 par/ml	4

For Microelectronic Use

Country of Origin: US

Packaging Site: Paris Mfg Ctr & DC

