



The Power to Question

# CERTIFICATE OF ANALYSIS

Catalog Number: sc-269333  
Lot Number: SAMPLE  
Product Name: Lithium manganese(III,IV) oxide  
CAS Number: 12057-17-9  
Molecular Formula:  $\text{Mn}_2\text{O}_4 \cdot \text{Li}$   
Molecular Weight: 180.81

Test	Specification	Result
Appearance	Very dark blue to black powder	Black powder
Particle Size	$\leq 5$ micron	4 micron
Trace metal analysis	$\leq 20000.0$ ppm	859.0 ppm
X-Ray Powder Diffraction	Conforms to structure	Complies
Titration	59.8 - 61.7% (Titration by $\text{KMNO}_4$ - % Mn)	59.9%
Aluminum		9.9 ppm
Barium		44.1 ppm
Bismuth		96.0 ppm
Boron		16.1 ppm
Calcium		308.9 ppm
Chromium		36.0 ppm
Cobalt		39.0 ppm
Copper		1.9 ppm
iron		187.9 ppm
Lead		30.4 ppm
Magnesium		4.5 ppm
Nickel		7.5 ppm
Potassium		17.8 ppm
Silver		2.3 ppm

Satisfaction Guarantee: We appreciate your business and are committed to providing the highest level of quality and service. Any product that does not meet the performance standards indicated in our product literature will be replaced at no charge. Our policy is valid for one year from the date of your purchase.

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Sodium	53.9 ppm
Strontium	1.0 ppm
Zinc	1.7 ppm

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