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## CERTIFICATE OF ANALYSIS

**PRODUCT NAME:** CUMPSC1875CB2CT  
**CHEMICAL:** Mixture of MgSO<sub>4</sub>, CUPSA, CUCARB, CEC18  
**SILICA TYPE:** Irregular particles 40-63 micron, 60 Angstroms  
**LOT NUMBER:** 043352-TO

<u>Test</u>	<u>Method</u>	<u>Specification Values</u>		<u>Lot Analysis</u>
		<u>Min</u>	<u>Max</u>	
Average Pore Size	SOP82-4.042	55Å	65Å	60Å
Surface Area (m <sup>2</sup> /g)	SOP82-4.042	470	530	493 m <sup>2</sup> /g
Pore Volume (cm <sup>3</sup> /g)	SOP82-4.042	0.70	0.85	0.76 cm <sup>3</sup> /g
Appearance	Visual	White Fine Powder		White Fine Powder
<b>MgSO<sub>4</sub></b> (lot#919010-BE)				
Assay	Ignition	99.50%	100.5%	100.0%
● Total sorbent weight per tube (150mg)		143	158	Conforms
<b>CUPSA</b> (lot#817221-GE)				
Carbon Analysis by Weight (Organic Loading)	SOP82-4.024	10.50%	12.50%	11.40%
Anion Exchange	SOP82-4.028	1.00	1.50	1.041 meq/g
● Total sorbent weight per tube (50mg)		48	53	Conforms
<b>CUCARB</b> (lot#816021-DU)				
Graphitized carbon	SOP82-4.042			133m <sup>2</sup> /g
● Total sorbent weight per tube (7.5mg)		7.13	7.88	Conforms
<b>CEC18</b> (lot#812121-BJ)				
Carbon Analysis by Weight (Organic Loading)	SOP82-4.024	20.50%	22.70%	20.66%
Endcapping	SOP82-4.027	0.00abs	0.90abs	0.698abs
● Total sorbent weight per tube (50mg)		48	53	Conforms

- All components of this product are individually weighed. The mass of each raw material meets method required tolerances.

*The shelf life is only valid if the material is stored in the original unopened container.*

*The specifications and lot analysis are only valid using the listed methods.*

*The test methods and specifications were current when the product was lotted.*

**CERTIFIED BY:**  
**NAME:** L. Bender

**TITLE:** QC ANALYST

**Certificate issue DATE:** 06/28/2019

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