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CERTIFICATE OF ANALYSIS

PRODUCT NAME: CUMPSCB2CT
CHEMICAL: Mixture of MgSO₄, CUPSA, CUCARB
SILICA TYPE: Irregular particles 40-63 micron, 60 Angstroms
LOT NUMBER: 039867-DF

| <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 ² /g) | SOP82-4.042 | 470 | 530 | 508 m ² /g |
| Pore Volume (cm ³ /g) | SOP82-4.042 | 0.70 | 0.85 | 0.79 cm ³ /g |
| Appearance | Visual | White Fine Powder | | White Fine Powder |
| MgSO₄ (lot#814160-BD) | | | | |
| Assay | Ignition | 99.50% | 100.5% | 99.90% |
| ● Total sorbent weight per tube (150mg) | | 143 | 158 | Conforms |
| CUPSA (lot#818011-GD) | | | | |
| Carbon Analysis by Weight (Organic Loading) | SOP82-4.024 | 10.50% | 12.50% | 11.00% |
| Anion Exchange | SOP82-4.028 | 1.00 | 1.50 | 1.119 meq/g |
| ● Total sorbent weight per tube (50mg) | | 48 | 53 | Conforms |
| CUCARB (lot#819260-DT) | | | | |
| Graphitized carbon (Surface area) | SOP82-4.042 | | | 133m ² /g |
| ● 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: 02/20/2019

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