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## CERTIFICATE OF ANALYSIS

**PRODUCT NAME:** CSDAU  
**CHEMICAL:** C8 + Benzyl Sulfonic Acid  
**SILICA TYPE:** Irregular particles 40-63 micron, 60 Angstrom pores  
**LOT NUMBER:** 227111-AI

<u>Test</u>	<u>Method</u>	<u>Specification Values</u>		<u>Lot Analysis</u>
		<u>Min</u>	<u>Max</u>	
Appearance	Visual	White Fine Powder		White Fine Powder
Average Pore Size	SOP82-4.042	55Å	65Å	60Å
Surface Area (m <sup>2</sup> /g)	SOP82-4.042	470	530	504m <sup>2</sup> /g
Pore Volume (cm <sup>3</sup> /g)	SOP82-4.042	0.70	0.85	0.74 cm <sup>3</sup> /g
Carbon Analysis by Weight (Organic Loading)	SOP82-4.024	12.00%	12.80%	12.59%
Cation Exchange	SOP82-4.025	0.065meq/g	0.088meq/g	0.076meq/g
%Recovery - Acid	SOP82-4.011	85.00%	110.0%	Pass
%Recovery - Neutral	SOP82-4.011	85.00%	110.0%	Pass
%Recovery - Base	SOP82-4.011	85.00%	110.0%	Pass

*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:** 12/01/2022

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