AVEKA

EMPLOYEE OWNED

SPECIALIST IN PARTICLE TECHNOLOGY
TOLL MANUFACTURING

CHARACTERIZATION SERVICES

AVEKA provides analytical testing services for customers on a one-time or ongoing basis using a variety of characterization techniques. Our Chemists will work closely with you to conduct routine and advanced material characterization testing for a variety of industries including chemical, food, personal care, and many more. Choose AVEKA when you need precise and reliable results with a quick turnaround.

PARTICLE SIZE ANALYSIS
- Particles 3nm to 2+ mm
- Particle Size Distribution (PSD)
- Sonic Sieve
- Ro-Tap
- Coulter Counter

IMAGING (PARTICLE SHAPE ANALYSES)
- Optical Microscopy
- Scanning Electron Microscopy (SEM)
- Dynamic Imaging Analysis

AREA AND DENSITY
- BET Surface Area

FORMULATION ANALYSIS
- Thermogravimetric Analysis (TGA)
- Visible Spectrophotometer
- Differential Scanning Calorimetry (DSC)
- Conductivity and pH
- High Performance Liquid Chromatography (HPLC)

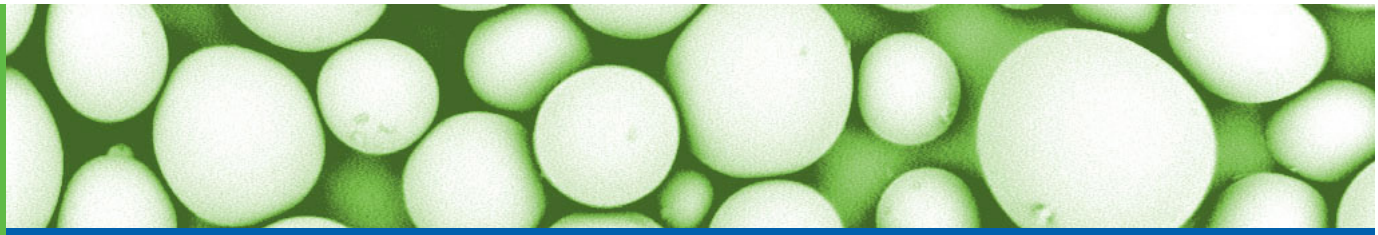
ADDITIONAL ANALYSIS
- Zeta Potential Analysis
- Fluid & Powder Rheological Analysis
- Moisture & Solids Analysis
- Karl Fisher Titration
- FT4 Powder Rheometer
- Energy-Dispersive X-ray Spectroscopy for Elemental ID (EDS)

HIGHLIGHTS

- **FULL SERVICE LABORATORY**
- **DIVERSE CAPABILITIES**
- **COMPETITIVE PRICING**
- **FAST SAMPLE TURNAROUND**
- **PRECISE AND RELIABLE**
- **ISO 9001 CERTIFIED**

2045 WOODDALE DRIVE, WOODBURY, MN 55125 ***TEL 888.317.3700*** ***AVEKA.COM***

CHARACTERIZATION



SURFACE COAT POWDER WITH SILANE

How much silane was added to our material?
- *Thermogravimetric Analysis*

Is our final moisture content within the specifications?
- *Karl Fischer Titration*

Can I make the surface of my active hydrophobic or more compatible with a resin?
- *Thermogravimetric Analysis, High Shear Mixing with Rheological Analysis*

Will my powder flow out of the hopper?
- *FT4 Powder Rheometer*

Has the flow of my powder changed after surface modification?
- *FT4 Powder Rheometer*

CERAMIC PARTICLE SIZE REDUCTION

What particle size and morphology exist after milling?
- *Particle Size Distribution, Scanning Electron Microscopy*

What elements are present in the powder? Can any foreign material be identified?
- *SEM Microscopy followed by EDS Elemental Mapping*

Does the viscosity of the ceramic slurry meet specifications?
- *Rheological Analysis*

Are my particles multi-shaped?
- *Horiba Camsizer*

FORMULATION OF NUTRACEUTIAL EMULSION FOR SPRAY DRYING

Is there a variation between batches or contamination?
- *High Performance Liquid Chromatography*

Is our emulsion stable?
- *Zeta Potential*

Are there issues with temperature changes post production?
- *Differential Scanning Calorimetry*

Do we need to protect our material from oxygen or heat?
- *Thermogravimetric Analysis*

Q&A

DRY, POWDERED GELLING AGENT

What does the powder look like dry vs. gelled?
- *Optical and Scanning Electron Microscopy*

Does the powder behave properly when gelled?
- *Rheological Analysis*

How does the gel behave with temperature change, cooking?
- *Differential Scanning Calorimetry*

ENCAPSULATED FRAGRANCE OILS

What is the size of our product?
- *Particle Size Distribution*

Is the product dry enough?
- *Moisture and Solids Analysis*

Is the oil well encapsulated? Are the capsules cracked?
- *Scanning Electron Microscopy*

What is the fraction of oil to shell material? Is oil release temperature dependent?
- *Thermogravimetric Analysis*

Are my particles spherical?
- *Horiba Camsizer*

THE *AVEKA* ADVANTAGE

- Development of unique test methods to be highly specific to customers' needs
- Fast 2-3 day turnaround
- Ever-expanding technical capability

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