



Combustion Synthesis

Redefining nano-engineered ceramic powders and processes
for next generation products and applications



Phosphors



Solid-state
Batteries



Optics



Electronics



EMI Absorbers



Catalysts

and more...

WHY IT'S UNIQUE

Combustion synthesis overcomes the deficiencies of conventional solid state reaction by producing materials accurately, agilely, and quickly

- High purity products
- Precise particle-to-particle control of chemistry
- Complex chemical doping possibilities
- Minimizes post-synthesis processing
- Sub-micron particle sizes possible
- High surface area obtainable (up to 40 m²/g)
- Unlimited product compositions achievable
- Available from small quantities to commercial scale

BENEFITS



ACCURACY

Solution-based precursor provides for atomic-scale mixing and infinitely-variable compositional control.



AGILITY

Composition and stoichiometry can be easily adjusted in the precursor stage.



SPEED

Rapid turnaround and delivery of desired product compositions.



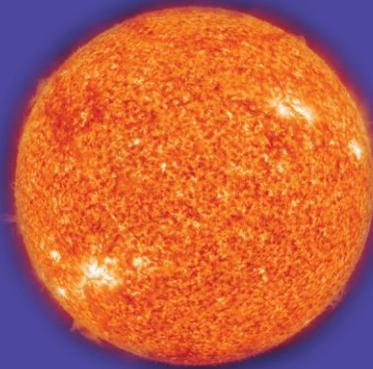
HOW IT WORKS

A single process that goes from solution to a ready-to-use ceramic powder



Chemical solution

Liquid precursors and fuel create a micro "reaction vessel"



Combustion Reaction

Rapid conversion from metallic salts to phase pure ceramic powders



High purity products

Fine particle (sub-micron) oxides and cermets, ready-to-use

QUALITY + EXPERIENCE

**Over 140 years of experience
revolutionizing materials for
a range of industries.**

- Aerospace
- Defense
- Automotive
- Consumer
- Industrial
- Energy



LET'S GET YOUR PROJECT STARTED

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