size range (20 to 100 µm) suitable for plasma spraying and a much larger proportion of undesired finer particles. Water atomization yields particles that are less spherical in character but still more rounded than those produced by crushing, and yields a greater proportion of usable particles.

As one might expect from the intermediate nature of the shapes of water-atomized BaF$_2$-CaF$_2$ particle shapes, the flow properties of PS304 powders containing water-atomized BaF$_2$-CaF$_2$ are intermediate to those of PS304 powders containing equal proportions of gas-atomized BaF$_2$-CaF$_2$ and those containing equal proportions of crushed BaF$_2$-CaF$_2$. Inasmuch as water atomization tends to be less expensive and better suited to high-volume production than is gas atomization, water atomization could be preferable for applications in which the shapes of the eutectic BaF$_2$-CaF$_2$ particles are not required to closely approximate spheres and the intermediate flow properties are acceptable.

This work was done by Christopher Della-Corte of Glenn Research Center and Malcolm K. Stanford of the University of Dayton. Further information is contained in a TSP (see page 1).

Inquiries concerning rights for the commercial use of this invention should be addressed to NASA Glenn Research Center, Innovative Partnerships Office, Attn: Steve Fedor, Mail Stop 4–8, 21000 Brookpark Road, Cleveland, Ohio 44135. Refer to NPO-40415, volume and number of this NASA Tech Briefs issue, and the page number.