STARFIRE SYSTEMS IS PLEASE TO ANNOUNCE IT RECEIVED A PATENT FOR A NEW ULTRA-HIGHTEMPERATURE CERAMIC FORMING PRECURSOR

The Hafnium Carbide (HfC) precursor, called SHP-199, is particularly useful to make CMC's for hypersonic vehicle parts and re-entry vehicle applications

GLENVILLE, NEW YORK, UNITED STATES, February 7, 2024 /EINPresswire.com/ -- Starfire Systems® is pleased to announce it received a patent for a new ultra-high temperature ceramic forming precursor

> Starfire is committed to driving Polymer Derived Ceramic (PDC) technology and maintaining its place as a leader in the world of advanced ceramics."
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> *David Devor CEO of Starfire Systems Inc.*

Starfire Systems Inc., received notification that it was awarded US patent no.11,873,314 B2 . This patent is for its new ultra-high temperature ceramic forming precursor.

The Hafnium Carbide (HfC) precursor is a valued addition to the family of SiC forming pre-ceramic polymers. This new system referred to as SHP-199 will build on the proprietary chemical process Starfire Systems used to create its flagship product SMP-10 and will offer customers additional options for their high temperature requirements.

SHP-199 is a precursor that transforms into a thermally stable hafnium carbide (HfC). The precursor cures at or below 200°C. The cured polymer can be heated to 1600°C in an inert environment which converts it to a crystalline HfC with a high ceramic yield.

These materials provide the ultimate high temperature capability making them an ideal candidate for ultra-high temperature ceramics (UHTCs).
The SHP-199 is particularly useful to make CMC's used in hypersonic vehicle parts and re-entry vehicle applications.

"Starfire is committed to driving Polymer Derived Ceramic (PDC) technology and maintaining its place as a leader in the world of advanced ceramics," stated David Devor, Starfire's CEO. "HfC precursor is one of several new complementary products specifically designed to expand the

temperature range of parts and their performance".

About Starfire Systems:
Starfire Systems, Inc (SSI) is a specialty material company focused on Polymer Derived Ceramics (PDC) and its Polymer-to-Ceramic TM technology. SSI's core business is synthesis of silicon-based pre-ceramic polymers and SOL-GEL derived oxide forming materials which are used in polymer matrix composites, oxide and SIC based ceramic matrix composite (CMC) fabrication. SSI's high temperature materials are useful in a variety of applications where durable, lightweight and high temperature complex shaped CMC's are required. In addition, SSI has developed a broad range of specialty silane compounds which are used as CVD precursors in semiconductor dielectric coatings, matrix densification and high purity intermediates for synthesizing pharmaceuticals.

For more information, please contact Starfire Systems at info@starfiresystems.com

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