

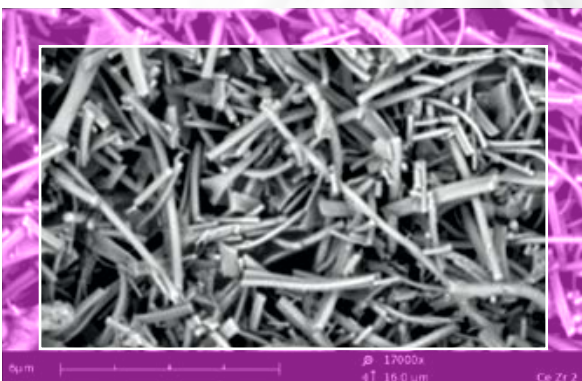
# CeZrO<sub>4</sub>

## NnF CERAM<sup>®</sup> – CeZrO<sub>4</sub>

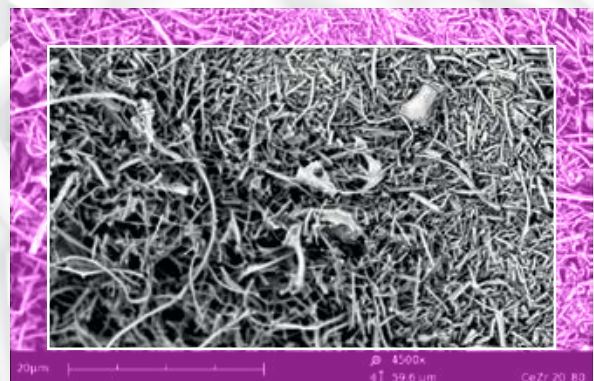
### Product description

Cerium/Zirconium bi-oxide composite nanofibers are a very interesting kind of ceramic material developed by **PARDAM, s. r. o.** in the Czech Republic. This material is fully comprised of ceramic basis of cerium/zirconium bi-oxide composite nanofibers with minor amount of porous particles of the same material. Cerium/zirconium bi-oxide have attracted great deal of attention as it combines the highly refractive properties of zirconia with the oxygen-storage properties of cerium. The mixed oxides have also better thermal resistance, chemical stability and ionic conductivity and posses a strong resistance to sintering. This material has a great potential in catalytic application due to combining catalytic properties with very high specific surface area, but may be used in a broad range of application of simple ceria and zirconia oxide.

### Images



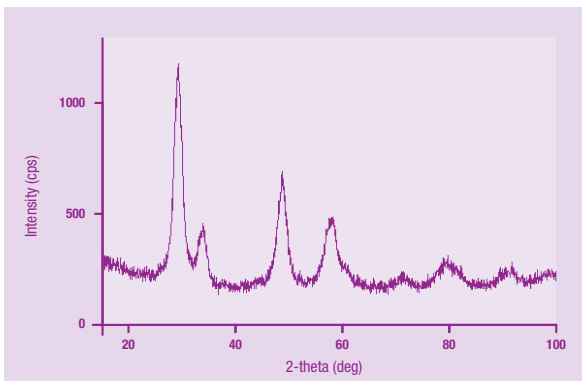
SEM image, magnification: x 17000



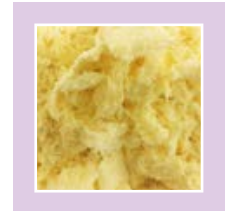
SEM image, magnification: x 4500

## Physical properties

### ■ Crystal phase



### ■ Physical form and structure



## Material characteristics

fiber structure	<b>polycrystalline nanofiber</b>
typical fiber diameter	<b>300-800 nm</b>
fiber length*	<b>2 to hundreds of μm</b>
specific surface area	<b>30-60 m<sup>2</sup>/g</b>
crystal phase	<b>tetragonal</b>
typical size of crystallites	<b>8 nm</b>
physical form	<b>3D cotton/yellow powder</b>

Excellent catalytic material | High oxygen storage/release capability | Fuel cell electrolyte enhancement | High ionic conductivity | Catalyst support | UV absorbent | Reduction of NO<sub>x</sub> | Sensors

\* Producer can modify the fiber length to different values in accordance with customers' requests and application. Please feel free to contact us for more information.

## Applications

Automotive combustion sensor and controller for catalytic converters | Advanced catalyst support for hot gas desulfurization | Fuel cell | Catalyst | Catalyst support | Thermochemical water splitting | Infrared filters | Solid oxide fuel cell | Inorganic separator

## Important notice for purchaser

All statements, technical information and recommendations contained in this document are based on tests conducted by PARDAM's R&D team and its approved equipment and are believed to be reliable. However the accuracy or completeness of the tests is not guaranteed. THE FOLLOWING IS MADE IN LIEU OF ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. The manufacturer's and seller's only obligation will be to replace the quantity of the product proved to be defective. Neither the seller nor the manufacturer will be liable for any injury, loss or damage, direct, indirect or consequential, arising out of the use of the product. Before using, the user must determine the suitability of the product for their intended use.



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