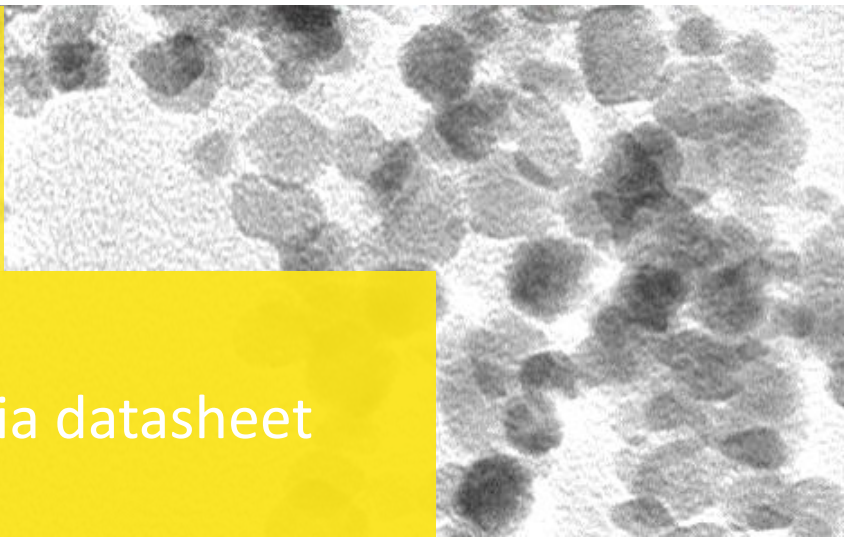




3YSZ



Yttria-stabilized zirconia datasheet

## Our offer

We offer yttria-stabilized zirconia nanoparticles in suspension to be used as starting material, or additive, for the fabrication of ceramics. The ceramics are in turn used for different applications like structural, biomedical and dental applications.

Our nanoparticles also find applications as nanofillers in composite materials, including dental composites. They can also be used in transparent windows, refractory coatings and ceramic filters.

We offer as well non-stabilized zirconia suspensions, please refer to the corresponding datasheet.

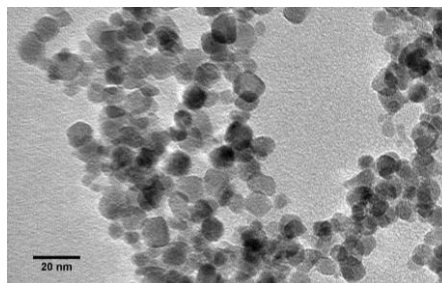
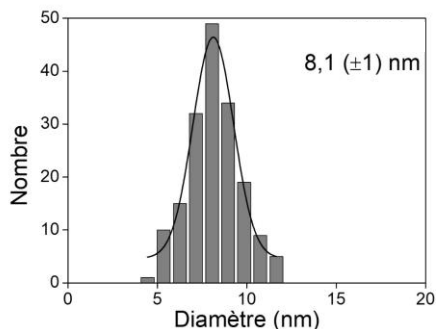
## Main benefits

- Very small nanoparticles having high reactivity
- High translucency and low viscosity
- Low sintering temperature
- Fine-grained final ceramics
- Improved translucency of final ceramics
- Improved mechanical properties of final ceramics

## Properties

Main characteristics	
Chemical formula	ZrO <sub>2</sub> – 3 mol% Y <sub>2</sub> O <sub>3</sub>
Crystal structure of particles	Tetragonal, mix of tetragonal and monoclinic
Crystal structure of ceramics	Tetragonal
Density	6.1 g/cm <sup>3</sup>
Average particle size	4 – 15 nm
Refractive index	2.16
Suspension solid content	Up to 70% depending on morphology and dispersion medium
Dispersion medium	Water, alcohol, acetone, polyol, methacrylate-based dental resin, apolar organic solvent, silicone oil, customer specific monomer mixture
Type of functionalization	Depends on dispersion medium and application requirements
Sintering temperature	950 – 1200°C

## Size distribution



## Packaging

Available sample size : 10 g to 200 g of dry matter - Safety Data Sheet available