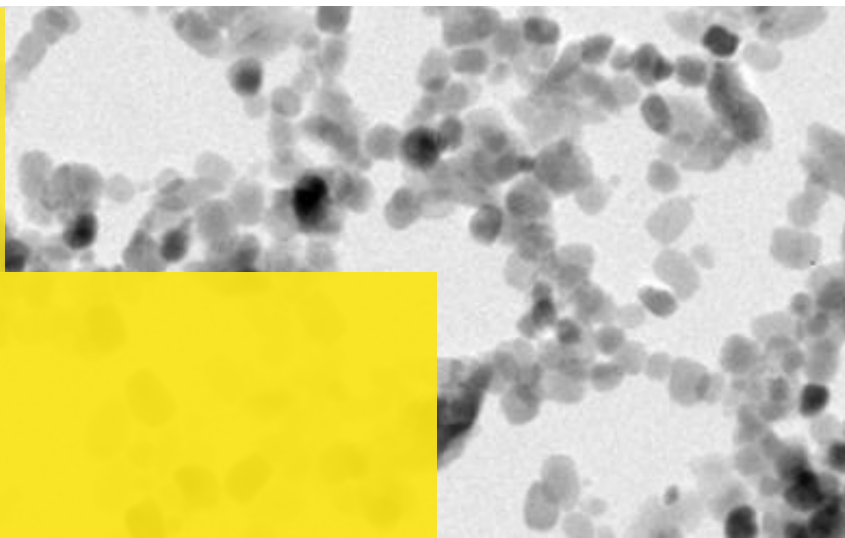




ZrO₂

Zirconia datasheet



Our offer

We offer zirconia nanoparticles dispersed in various media to be used in a wide range of applications. Our nanoparticles can be used as nanofillers in composite materials, for example in dental composites where they bring radiopacity and improve mechanical properties. They are compatible with all dental monomers.

They can also be used in nanostructured inorganic coatings or in composite coatings, where they increase the refractive index and abrasion and scratch resistance of the material. They can also be used for example in ceramic filters, catalysis and thermal insulation, and as sintering additives.

Main benefits

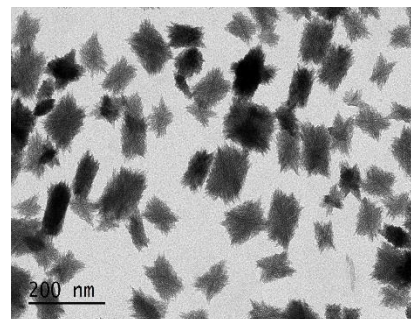
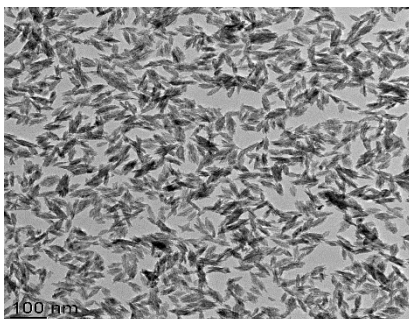
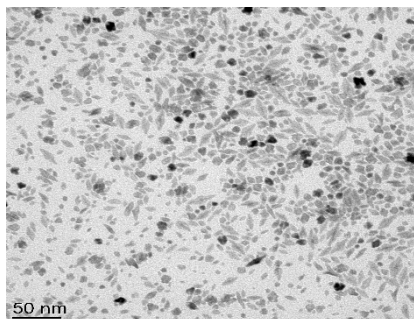
- Smallest nanoparticle on the market
- Variety of sizes and morphologies available
- High transparency
- Low viscosity
- Absence of agglomerates

Main properties

Chemical formula	ZrO ₂
Crystal structure	Monoclinic or tetragonal
Morphology	Nearly spherical, needle-like, square bundles
Average particle size	3 to 90 nm
Density (theoretical)	5.7 g/cm ³ *
Refractive index	≥ 2.14
Dispersion solid content	Up to 70% depending on size and dispersion medium
Dispersion medium	Water, alcohol, polyol, acetone, MEK, selected organic solvents, methacrylate-based dental resins Silicone oils, customer specific monomer mixture, e.g., epoxy and fluorene (under development)
Type of functionalization	Depends on dispersion medium and application requirements

* For monoclinic ZrO₂

Examples of particle morphologies



Available sample size: 100 g to 5 kg of dry matter - Safety Data Sheet available

Provided data are typical values, they are not contractual.

Revised 06/2020