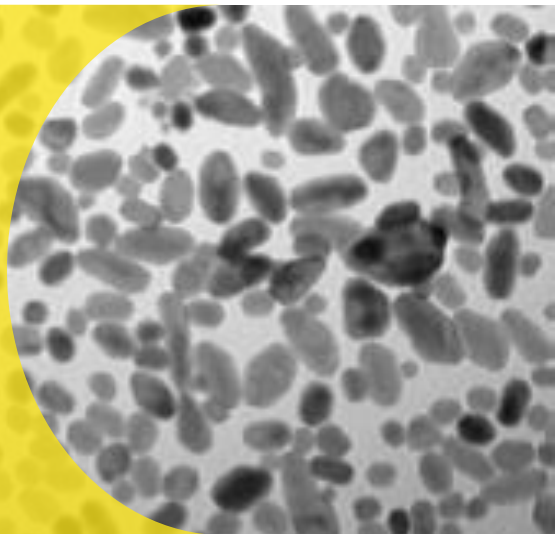
MATHYM

INNOVATIVE NANOMATERIALS

YbF_3

Ytterbium fluoride datasheet



MATHYM
INNOVATIVE NANOMATERIALS

YbF_3 – Ytterbium fluoride nanoparticles in suspension

Our offer

We offer YbF_3 nanoparticles to be used as radiopacifying fillers in dental composites. They are available dispersed in a variety of solvents and resins. Our dispersions contain the smallest YbF_3 nanoparticles on the market and exhibit the highest available solid contents. They are compatible with all dental monomers.
YbF_3 nanoparticles can also be used for the manufacturing of optical components.
Customized YbF_3 dispersions are available upon request.

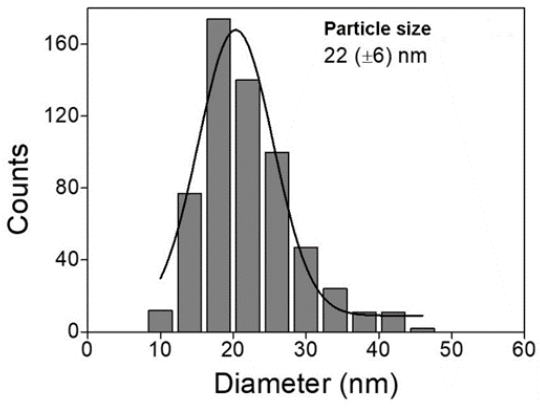
Main benefits

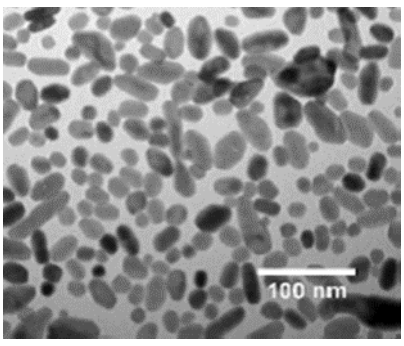
- High translucency of dental composites
- Higher depth of cure
- Low viscosity at high particle loading
- Improved flexural strength
- Higher filler load

Main properties

Chemical formula	YbF_3
Crystal structure	Orthorhombic
Average particle size	20 nm and 40 nm
Density (theoretical)	8.2 g/cm^3
Refractive index (theoretical)	1.53
Dispersion solid content	Up to 70 wt.% depending on dispersion medium
Dispersion medium	Water, alcohol, polyol, acetone, methacrylate-based dental resin and customer specific monomer mixture
Type of functionalization	Depends on dispersion medium and application requirements
Viscosity (example 1)	YbF_3 in UDMA (30wt.%): 50 Pa.s (shear rate: 1s^{-1})
Viscosity (example 2)	YbF_3 in TEGDMA (50wt.%): 6.9 Pa.s (shear rate: 1s^{-1})

Example of size distribution (20 nm)





Industrial batches (up to 11 kg of dry matter) and samples available - Safety Data Sheet available

Provided data are typical values, they are not contractual.

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