

Product data sheet

ZircoDisp ZrO₂ based liquid additives for optical applications

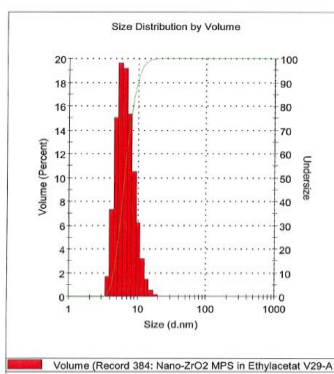
ZircoDisp:	monodisperse ZrO ₂ dispersion in solvents
ZircoDisp Ytria	monodisperse Ytria (3-10%) doped ZrO ₂ dispersion
ZircoDisp aq	aqueous dispersion of ZrO ₂

Key features

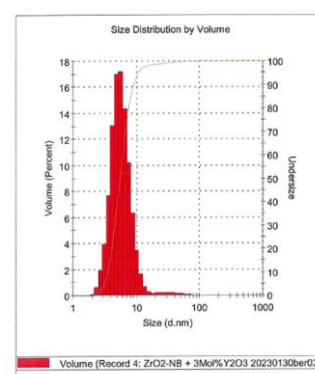
Nearly transparent and viscous like water, even at high load



Very narrow particle size distribution, undoped and doped

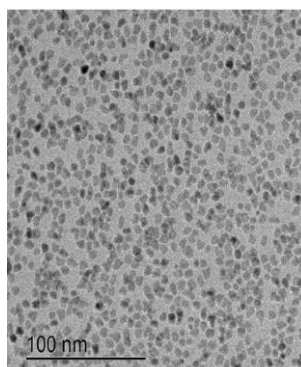


n-ZrO₂ undoped



n-ZrO₂ doped 3%Y

Agglomerate-free dispersion



REM: courtesy INM-Leibniz Institute Of New Materials



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Description	<ul style="list-style-type: none"> ZircoDisp is an undoped or Yttria doped nano-ZrO₂ dispersed in a liquid with 40% solid content. <p>It is distinguished by a monomodal and very narrow monodisperse particle size distribution.</p>
Applications	<ul style="list-style-type: none"> ZircoDisp can increase the index of refraction of low-haze coatings to 1.7-1.8, e.g. for displays. ZircoDisp allows optical 3D printing techniques such as 2PP with ceramics as it does not scatter the light used to activate the photoresin. Doped ZircoDisp Yttria can be used in translucent ceramics and sintered translucent ceramic coatings.
Properties	<ul style="list-style-type: none"> The crystalline ZrO₂-nanoparticles have a primary particle size of ca. 5 nm. In dispersion, the D_{90vol} is <10nm (measured by PCS) Mostly cubic crystal phase, also available mixed monoclinic/tetragonal phase Very low viscosity Sintering temperature: <1000°C Available with no doping or with variable Yttria content (3,4,8 or 10%)
Solvents	<ul style="list-style-type: none"> ZircoDisp can be dispersed in isopropanol, methoxypropanol, ethylacetate, tetrahydrofurane or water. Other solvents upon request.
Stabiliser	<ul style="list-style-type: none"> ZircoDisp is stabilized with an organic acid. It can be hydrophobized with a silane upon request.
Compatibility	<ul style="list-style-type: none"> ZircoDisp in a solvent is compatible with acrylate-based lacquers and resins. It is also compatible to UV-photocurable acrylate-based 3D printing feedstocks.

