

Product data sheet

ZircoDisp titania TiO₂ based liquid coating additives used for

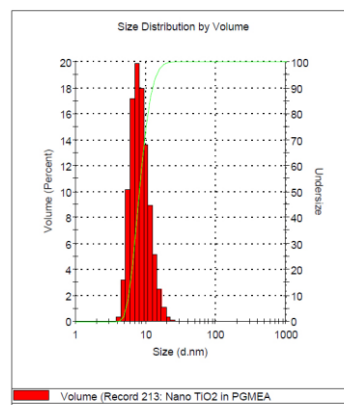
- Very high index of refraction coatings
- NIL applications (Nano-Imprint-Lithography)
- Improved light extraction for displays/LEDs

Key features

Nearly transparent and viscous like water, even at high load



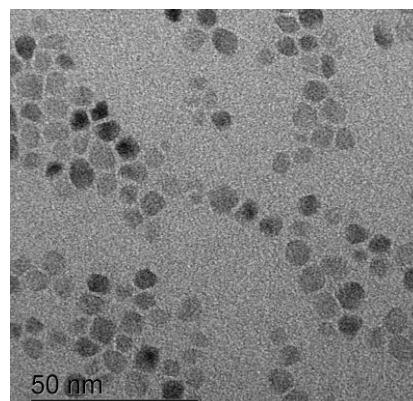
Very narrow particle size distribution



Z-Average (d.nm): 10,34

D90 vol [nm]: 12,6

Agglomerate-free dispersion



REM:
courtesy
INM-
Leibniz
Institute
Of New
Materials

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Description	<ul style="list-style-type: none"> • ZircoDisp titania is a nano-TiO₂ dispersion with 40% solids. • It is distinguished by high transmission and a monomodal and very narrow monodisperse particle size distribution.
Applications	<p>Main feature: Improvement index of refraction</p> <ul style="list-style-type: none"> • ZircoDisp titania can increase the index of refraction of low-haze coatings to >1.9 for displays, AR coatings (via NIL), optical diffractive elements, wave guides, micro lenses → improved light extraction. • It can be used to increase the index of refraction of silicones esp. for LED applications. • ZircoDisp titania is under trial as an additive potentially allowing optical 3D printing techniques such as 2PP
	<ul style="list-style-type: none"> • The crystalline TiO₂-nanoparticles have a primary particle size of ca. 5-7 nm. In dispersion, the D_{90vol} is <15nm (measured by PCS) • Crystal phase: Anatase • Very low viscosity
Solvents	<ul style="list-style-type: none"> • ZircoDisp titania can be dispersed in tetrahydrofuran and PGMEA (Propylenglycol-Monomethyl-Ether-Acetate), Other solvents upon request. • ZircoDisp titania can be formulated solvent-free in an acrylate.
Stabiliser	<ul style="list-style-type: none"> • ZircoDisp titania is stabilized with an organic acid or with a functionalized silane.
Compatibility	<ul style="list-style-type: none"> • ZircoDisp titania is compatible with acrylates, acrylate-based lacquers and resins. • ZircoDisp titania can be used as crucial component for NIL lacquers applied via spin-coating and embossing. • It can also be used for coatings with very high index of refraction.

