Inorganic UV filters have been manufactured during the past forty years for use in sunscreen products. They are preferred over organic UV filters because of their physical and chemical stability, as well as their non-irritating properties. In order to optimize the protection against UV light, and to minimize the scattering of visible light, Zinc Oxide with particle sizes less than 100nm, or “nanoparticles,” have become increasingly popular. However, there are recent safety concerns surrounding “nanoparticles,” particularly skin penetration, risk of inhalation, eco-toxicity, and bioaccumulation in the human body. In light of perceived health risks associated with “nanoparticles,” pigment producers have been challenged to develop grades with a mean particle size greater than 100nm, while maintaining adequate UV protection and cosmetic acceptability.

Kobo offers a range of Non-Nano Zinc Oxide dispersions, where the particle sizes are greater than 100nm when measured by light scattering sizing, according to the last Nano Guidance from Cosmetics Europe (Interpretation of the Definition of the Term “Nanomaterial” according to the EU Cosmetic Regulation 1223/2009, May 24, 2019).

These dispersions have been designed to help formulators develop sunscreen products with high SPF/PFA and minimal whitening without nanoparticles. Kobo also offers a unique Non-Nano grade, ZnO-C, with a primary particle size distribution curve above 100nm as measured with Image Analysis. This ZnO-C also complies with Cosmetics Europe interpretation for non-nano material (see separate flyer).
This chart was prepared to assist formulators using ZnO Dispersions. The information contained herein is believed to be accurate at the time of printing and represents typical values, but should not be used as a substitute for product specification sheets.

The Non-Nano Dispersions listed in this flyer have been tested by light scattering method, according to the Cosmetics Europe Nano Guidance Package; Part II: Interpretation of the Definition of the Term “nanomaterial” according to the EU Cosmetic Regulation 1223/2009, published on May 24, 2019.

The following information is listed:
- Active content (%)
- Primary Particle Size (nm) of the ZnO pigment used
- Size of aggregates as measured by Dynamic Light Scattering - DLS size (nm) - for comparison; should not be utilized for labeling or notification purpose
- EU Compliance: These ZnO comply with the conditions for Zinc Oxide (nano) as set forth in the Annex VI to Regulation (EC) No 1223/2009
- Viscosity

We recommend that customers make their own assessment when using particle size data for the purpose of identifying nanomaterials in their finished formulations.

Please contact our team at techservice@koboproductsinc.com for additional information on this subject.