

# TITANIUM DIOXIDE Zinc Oxide CORE SHELL

99.9%

(Purity)



Stock no:  
**NS6130-12-001663**

## CHEMICAL IDENTIFIERS

Purity	:	99.9%
Chemical name	:	TiO <sub>2</sub> /ZnO
APS	:	<50nm
Molecular Weight	:	-
Density	:	-
Melting Point	:	-

Nanomaterials have been developed for the food industry for uses such as food storage, preventing microbial growth, and as a nutritional ingredient. Titanium dioxide (TiO<sub>2</sub>) and zinc oxide (ZnO) have unique physicochemical properties including a bright white color, ability to block UV light, and antimicrobial activity. TiO<sub>2</sub> nanoparticles naturally exist in three different crystalline structures (anatase, rutile and brookite) and have a high refractive index. The bright white color of micron-sized TiO<sub>2</sub> might be more useful for some applications than nanosized TiO<sub>2</sub> because TiO<sub>2</sub> becomes more transparent as its particle size decreases. However, smaller TiO<sub>2</sub> particles have higher UV-blocking properties, which can be advantageous for food storage. In addition, nanosized TiO<sub>2</sub> prevents microbial growth. Because of these properties, nanosized TiO<sub>2</sub> might be popular in the food industry with further technological developments. ZnO is another commonly used particle with similar utility to TiO<sub>2</sub>.

## Applications

- ✓ TiO<sub>2</sub> is widely used as a pigment (paint, plastics, and paper), in personal care products (sunscreen and toothpastes), and in food (cream).
- ✓ In addition, ZnO is used for its antimicrobial properties and in nutritional supplements such as multivitamins. Compared with micron-sized ZnO, nanosized ZnO might have better UV-blocking and anti-microbial properties and higher bioavailability.



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