



Borhan Nano Scale Innovators Knowledge-Based Co.

Titanium Oxide (TiO_2) Nanoparticles

Introduction

TiO_2 nanoparticles are widely used in numerous technologies due to their unique properties such as hydrophilicity, advanced electrophotocatalytic and photocatalytic activity and antimicrobial. TiO_2 nanoparticles are produced in the anatase and rutile forms.

Specifications

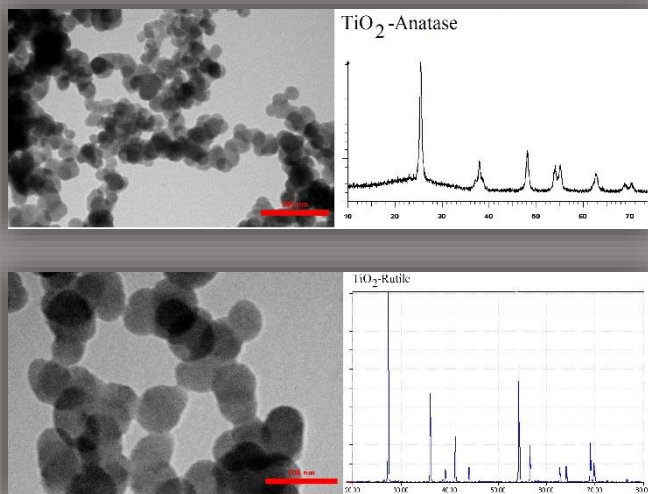
Molecular formula	TiO_2
Molecular weight	79.87
Morphology	Spherical
Color	White
Size (nm)	Less than 50
Form	Nanopowder
CAS No.	1317-70-0 (Anatase) 1317-80-2 (Rutile)

Applications

- Paint, wood, textile and fiber industries
- Decolourization
- Cement, Concrete and Self-cleaning ceramic tiles
- Filtration membranes
- Fuel cells and Dye-sensitized Solar Cell (DSSC)
- Metals, Paper, Rubber and plastic
- Anti-fog surfaces and self-cleaning glass
- Self-cleaning and bioactive smart nanocoatings
- Food packing
- Medicine and Pharmacy
- TV screens and Light-Emitting Diodes (LEDs)
- UV resistant/protective coatings
- Sensors
- Lithium ion batteries
- Cosmetics (sunscreens)
- Water, Soil and air purification and sewage treatment
- Toothpaste-free toothbrushes
- Identification of criminals
- Dielectric mirrors
- Production of hydrogen and oxygen

Advantages

- Highly stable in aqueous media
- Non-toxic
- Environmentally safe
- Chemically stable



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