

Borhan Nano Scale Innovators Knowledge-Based Co.

Titanium Oxide (TiO₂) Nanoparticles

Introduction

TiO₂ nanoparticles are widely used in numerous technologies due to their unique properties such as hydrophilicity, advanced electrophotocatalytic and photocatalytic activity and antimicrobial. TiO₂ nanoparticles are produced in the anatase and rutile forms.

Specifications

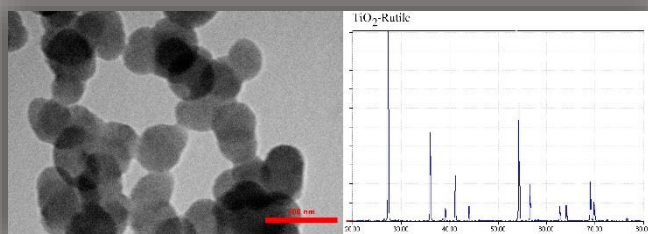
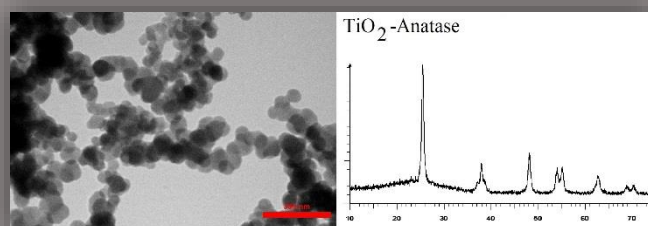
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|-------------------|------------------|
| Molecular formula | TiO ₂ |
| Molecular weight | 79.87 |
| Morphology | Spherical |
| Color | White |
| Size (nm) | Less than 100 |
| Form | Nanopowder |
| CAS No. | 13463-67-7 |

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

- Cost-effective production
- Use of biocompatible materials in the production process
- Extensive commercialization capability



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