Titanium(IV) oxide

Product Number  T 8141
Store at Room Temperature

Product Description
Molecular Formula:  TiO₂
Molecular Weight:  79.90
CAS Number:  1317-70-0
Melting point:  1855 °C
Synonyms:  titanium dioxide

Titanium (IV) dioxide occurs in nature in different crystalline mineral forms, which include rutile (tetragonal), anatase, and octahedrite (tetragonal). Rutile is used as a ceramic colorant and in welding rod coating materials. Anatase is used in acid resistant vitreous enamels, welding rod coatings, specification paints, inks and plastics, and paper filling and coating.¹ This product is almost pure anatase with almost no rutile, by X-ray crystallography studies. The particle size is approximately 325 mesh (< 44 µm).

Titanium dioxide has been used to develop coated surfaces for capillary electrophoresis and capillary electrochromatography.² TiO₂ is also frequently used in photocatalytic studies on organic compounds.³,⁴ Studies on titanium dioxide-cell interactions, with relation to cell response and implants, have been published.⁵,⁶

Precautions and Disclaimer
For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions
This product is soluble in hot concentrated H₂SO₄ and HF. It is insoluble in water, HCl, HNO₃, and dilute H₂SO₄.¹

References
1. The Merck Index, 12th ed., Entry# 9612.