

### Identification of the substance Titanium dioxide

Substance name	Titanium dioxide
EC	236-675-5
CAS	13463-67-7
IUPAC	Titanium dioxide
Molecular formula	TiO <sub>2</sub>
Forms in the market	Powder; Nanorods, 1% aqueous solution; hydrophobized; Nanowires; aqueous suspension

### Physical and chemical properties

Shape	Nanowires, nanotubes
Size (nm)	10, 20, 50-100, 4-8, 6

### Toxicological information

Inhalation acute toxicity	Practically nontoxic
Dermal acute toxicity	No data
Oral acute toxicity	Nontoxic
Genotoxicity	Negative
Cytotoxicity	Negative

### Ecotoxicological information

Freshwater Acute toxicity (Daphnia)	EC <sub>50</sub> = >100 mg/L (Nontoxic)
	EC <sub>50</sub> = 42 mg/L (Practically nontoxic)
	EC <sub>50</sub> = 29.8 mg/L (Practically nontoxic)
Freshwater Acute toxicity (Alga)	EC <sub>50</sub> = 5.8 mg/L (Toxic)
	EC <sub>50</sub> = 16.12 mg/L (Practically nontoxic)
Freshwater Acute toxicity (Fish)	LC <sub>50</sub> = 124.5 mg/L (Nontoxic)
	LC <sub>50</sub> = 20 mg/L (toxic)
Soil invertebrates (worms)	NOEC = >= 200 mg/kg soil dw
BAF-Bioaccumulation	No data

### Application

Industrial uses	Plastic manufacturing
	Buildings and infrastructures
	Coatings
Improved properties	Dispersibility
	Gloss
	Durability
	UV Protection
Polymeric matrix	Drying
	Polyethylene (PE), polypropylene (PP), polystyrene (PS), polycarbonate (PC), polyamide (PA), polyvinyl chloride (PVC)
Recommendations, comments	Applied in high-temperature plastics applications
	Applied in interior and exterior coatings