

Titanium Dioxide

CAS 13463-67-7 · TiO_2 · Rutile & anatase, ISO 591-1 types

Velora Chemicals Private Limited
Ahmedabad, Gujarat, India
+91 99255 22674 · info@velorachemicals.com

1. Product identity

Product name	Titanium Dioxide
Synonyms	TiO_2 , titanium white, rutile titanium dioxide, anatase titanium dioxide, CI Pigment White 6
C.A.S. number	13463-67-7 (titanium dioxide). The crystal forms carry their own registrations - anatase 1317-70-0 (EC 215-280-1), rutile 1317-80-2 (EC 215-282-2) - but Indian commercial paperwork almost always quotes 13463-67-7 for both, so the CAS number on an invoice does not tell you which form you are getting. EC 236-675-5. Colour Index name CI Pigment White 6.
Molecular formula	TiO_2
Molecular weight	79.87
Grade supplied against	Rutile & anatase, ISO 591-1 types
Appearance	White, odourless, tasteless fine powder. Rutile grades run a slightly creamer undertone than anatase; within rutile, a smaller mean particle size reads bluer and a larger one neutral to cream.
Product group	Industrial Salts & Inorganics
HSN code	3206 11 90
Country of origin	As stated on the producer's documents for the lot supplied. India is a net importer of pigment-grade titanium dioxide, so material may be of Indian or imported origin; origin is confirmed at offer stage and on the shipping documents, not assumed here.
Packing	25 kg multiwall paper bag
Storage	Store in closed bags in a cool, dry, well-ventilated place out of direct sunlight, and reseal opened bags. No producer sheet consulted declares titanium dioxide hygroscopic or prone to caking, but every one of them instructs that moisture be excluded and the Indian standards require moisture-proof packing, so treat the material as moisture-sensitive in practice even though it is not hygroscopic on paper: absorbed moisture shows up as high volatile matter at 105 C and as poor dispersion, not as a chemical change. Control dust at the tipping point with enclosure and local exhaust ventilation, keep bag slitting away from the general workspace, and launder rather than brush down overalls, because brushing re-aerosolises settled dust. Store away from food and feed. Because there is no chemical degradation pathway, shelf life is governed by packaging integrity rather than ageing - around 24 months sealed is a trade convention rather than a producer-stated figure, and both IS 411 and IS 9788 require the month and year of manufacture on the bag, which is the buyer's real age-control mechanism.

2. Analytical specification

S. No.	Test parameter	Specification	Method
1	Description	White, odourless, tasteless fine powder.	Visual

S. No.	Test parameter	Specification	Method
2	Identification	Conforms to the substance supplied	X-ray diffraction for the crystal form (rutile or anatase); note that FTIR cannot distinguish the polymorphs. Elemental confirmation by XRF or wet chemistry.
3	Assay / grade	Rutile & anatase, ISO 591-1 types	Titrimetry or instrumental, per method agreed
4	Physical state	Solid (fine powder)	Visual
5	Solubility in water	Practically insoluble (less than 0.1%).	Per the test method agreed
6	pH	6-8 measured on an aqueous suspension, which is the window both ISO 591-1 and IS 9788 use where the parties agree to specify it. KMML publishes 7.1 for KEMOX RC-822 and 6.0 for RC-800 PG. Because the solid is practically insoluble this is a suspension pH and not a solution pH - always state the concentration, the temperature (the Indian standards specify 27 C) and that it is a slurry. Test method ISO 787-9 or ASTM D1208.	Potentiometry on an aqueous suspension
7	Relative density	Rutile crystal about 4.23 g/cm ³ , anatase 3.78-3.97 g/cm ³ ; surface-treated pigment reads lower because the coating displaces titanium dioxide. Bulk density is far lower than true density. Producer's figure governs - not a Velora specification.	Pyknometry or gas displacement
8	Melting / freezing point	About 1830 (INEOS Pigments SDS; ChemicalBook gives 1840). The material is refractory and does not soften at any process temperature a pigment user will meet. Anatase converts irreversibly to rutile on heating, with no single transition temperature - reported values span 400-1200 C depending on particle size, dopants and surface treatment, and the onset for bulk anatase is usually around 600-700 C - so treat an anatase grade as unsuitable much above 600 C and confirm the figure with the producer.	Thermal analysis
9	Boiling point	Not available - no boiling point is reported for titanium dioxide on the producer sheets consulted; the solid is refractory and does not boil at atmospheric pressure.	Not applicable
10	Flash point	Not flammable. Titanium dioxide is inert, non-flammable and non-combustible, and producer sheets record no unusual fire or explosion hazard.	Not applicable — the substance is not combustible
11	Additional parameters	To the specification agreed before order	As agreed

3. Transport classification

None assigned · Class Not classified - titanium dioxide is not a dangerous good · Packing group Not applicable

Proper shipping name: Not applicable. Producer sheets record 'not regulated as dangerous goods' for ADR, IMDG and IATA alike, and no UN number is assigned. Because the Indian road-transport rules for dangerous goods operate on the same UN class framework, a bagged pigment movement is ordinary freight - no TREM card, no hazard placarding, no specialist driver endorsement. Ordinary commercial carriage rules, weight limits and e-way bill obligations apply as for any bagged industrial powder.

What this document is. This is a product specification sheet. It states the grade this material is supplied against, its packing and its identity. **It is not a certificate of analysis, it carries no test results, and it certifies no batch.** Tested values for the consignment actually loaded appear on the batch certificate of analysis issued against that batch, which travels with the despatch documents. Identity and physical data are drawn from PubChem, the ECHA CLP inventory and ILO safety cards; the producer's documents for the grade quoted govern. Velora Chemicals Private Limited is a bulk supplier and trader, not a manufacturer.