



Rutile Titanium Dioxide

Grades, Applications & Specifications

OxiWhite Global sources and exports certified rutile titanium dioxide to paint, coatings, plastics and masterbatch manufacturers worldwide. This brochure summarises our nine production grades, the applications they serve and their published specifications.

14,000

Tonnes exported / year

30

Countries served

10

Years trading

One product. One expertise. One global specialist.

Pure titanium dioxide specialist

OxiWhite Global is 100% focused on titanium dioxide. Unlike diversified chemical traders, we dedicate our expertise, resources and global network exclusively to TiO_2 , allowing us to understand the product, its applications and the market in depth.

Direct access to competitive plant pricing

Our significant trading volumes give us strong relationships and purchasing power with leading TiO_2 manufacturers, so we secure preferential pricing, supply conditions and commercial terms directly from the plants and pass them on to our customers.

Quality control at source

With our own offices and laboratory in China, we maintain direct control over quality at the origin. Our local technical team works closely with manufacturing plants to monitor production, test products and ensure that every shipment consistently meets the agreed specifications.

Global reach, local expertise

We combine direct access to Chinese manufacturing with an international export network, providing customers worldwide with reliable supply, competitive pricing and professional technical support.

Specialist knowledge. Direct supply. Consistent quality.

Rutile TiO_2 and the two production routes

Rutile is the denser, more thermally stable crystal form of titanium dioxide. Its higher refractive index gives greater opacity and tinting strength per kilogram than anatase, and its surface treatment gives far better weathering and UV durability — which is why it is the standard choice for exterior coatings and for plastics exposed to sunlight or high processing temperatures.

Sulfate process	Chloride process
Uses ilmenite or titanium slag. Produces well-established general-purpose and high-durability rutile grades, often with alumina/zirconia plus organic treatment. Grades: R-5566, R-244, R-268, R-298, R-249.	Uses a continuous chlorination route with tight particle-size control, giving very high rutile ratios, a cleaner bluish undertone and excellent dispersibility. Grades: CR-340, CR-350, TYR-568, TYR-588.

Applications

Paints & Coatings

Rutile TiO₂ for durable, bright, high-gloss finishes

High-performance titanium dioxide grades engineered to deliver exceptional whiteness, opacity, gloss, and UV durability in architectural, automotive, industrial, powder, and ink systems.

Grades: R-5566, R-244, R-298, CR-350, TYR-588

Plastic & Masterbatch

Dispersible TiO₂ grades for polymer compounding

Rutile titanium dioxide designed for high-concentration masterbatch, film, fibre, and injection moulding, where dispersibility, filter pressure value, and heat stability matter most.

Grades: R-268, CR-340, R-249, TYR-568

Grade overview

Grade	Process	Application	TiO ₂ content	Oil absorption
R-5566	Sulfate	Paints & Coatings	≥ 93	≤ 23
R-244	Sulfate	Paints & Coatings	≥ 93.00	≤ 20
R-268	Sulfate	Plastic & Masterbatch	≥ 95.00	≤ 17
R-298	Sulfate	Paints & Coatings	≥ 91.0	≤ 20.00
CR-350	Chloride	Paints & Coatings	≥ 92.5	≤ 20
TYR-588	Chloride	Paints & Coatings	≥ 94.0	≤ 20.0
CR-340	Chloride	Plastic & Masterbatch	≥ 95.0	≤ 15.0
R-249	Sulfate	Plastic & Masterbatch	≥ 96.0	≤ 17
TYR-568	Chloride	Plastic & Masterbatch	≥ 96.0	≤ 16.0

R-5566

SULFATE PROCESS - PAINT & COATINGS

R-5566 is a rutile titanium dioxide pigment with alumina, zirconia and organic surface treatment, offering high whiteness and gloss, strong scattering power, high durability and excellent dispersibility.

Typical applications

- Interior and exterior paint
- Emulsion paint
- Powder coating
- Printing inks
- Paper
- Rubber

Specifications

Property	Specification
TiO ₂ content, %	≥ 93
Rutile content, %	≥ 97
Particle size, μm	0.35 - 0.43
Density, g/cm ³	4.0 - 4.3
Oil absorption, g/100g	≤ 23
pH value	6.5 - 8.5
Inorganic surface treatment	Alumina, zirconia
Organic treatment	Yes

Packaging 25 kg paper bags, or 500 kg and 1000 kg jumbo bags.	Storage Keep the product from direct contact with moisture.
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R-244

SULFATE PROCESS - PAINT & COATINGS

R-244 is a rutile titanium dioxide pigment surface-treated with alumina, zirconia and an organic coating. It offers high whiteness and gloss, high scattering power, high durability and excellent dispersibility, and is widely used across coatings, inks and paper.

Typical applications

- Architectural and industrial coatings
- Printing inks
- Paper

Specifications

Property	Specification
TiO ₂ content, %	≥ 93.00
Brightness, %	≥ 94.0
Tinting power (Reynolds number, TCS)	≥ 1850
Volatile at 105 °C, %	≤ 0.5
Matter soluble in water, %	≤ 0.5
pH value	6.5 – 8.5
Oil absorption, g/100g	≤ 20
Fineness (45 µm sieve residue), %	≤ 0.02
Resistivity, Ω·m	≥ 80
Oil dispersible power (Hegman)	≥ 6.0
L*	≥ 100.0
b*	≤ 1.80
Surface treatment	Al ₂ O ₃ , ZrO ₂ , organic

Packaging 25 kg paper bags, or 500 kg and 1000 kg jumbo bags.	Storage Store in a dry, well-ventilated area, protected from direct contact with moisture.
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R-268

SULFATE PROCESS - PLASTICS & MASTERBATCH

R-268 is a rutile titanium dioxide pigment with alumina and organic surface treatment, offering a blue undertone, high gloss, high scattering power, high durability and excellent dispersibility, with outstanding covering power while helping retain the mechanical properties of finished products.

Typical applications

- PVC, ABS and PS masterbatch
- PVC pipe compounds

Specifications

Property	Specification
TiO ₂ content, %	≥ 95.00
Brightness, %	≥ 94.8
Tinting power (Reynolds number, TCS)	≥ 1850
Volatile at 105 °C, %	≤ 0.5
Matter soluble in water, %	≤ 0.5
pH value	6.5 – 8.5
Oil absorption, g/100g	≤ 17
Fineness (45 µm sieve residue), %	≤ 0.02
Rutile content, %	≥ 98.0
Resistivity, Ω·m	≥ 80
Oil dispersible power (Hegman)	≥ 6.0
L*	≥ 100.0
b*	≤ 1.50
Surface treatment	Alumina, organic

Packaging 25 kg, 500 kg and 1000 kg bags.	Storage Store in a dry, well-ventilated area, protected from direct contact with moisture.
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R-298

SULFATE PROCESS - PAINT & COATINGS

R-298 is a general-purpose rutile titanium dioxide pigment produced by the sulfate process from high-quality ilmenite concentrate. An advanced aluminium and zirconium inorganic coating with a compound organic treatment gives strong whiteness with a bluish undertone, efficient dispersibility and high gloss in paints and inks.

Typical applications

- Furniture paint
- Automotive repair paint
- Printing inks
- Food & packaging coatings
- Architectural paint
- Industrial coatings

Specifications

Property	Specification	Typical
TiO ₂ content, %	≥ 91.0	94.5
Rutile content, %	≥ 98.0	98.0
Brightness, %	≥ 95.0	95.1
L* (dry powder)	≥ 97.2	97.3
b* (dry powder)	≤ 2.8	2.6
Tint reducing power (Reynolds number)	≥ 1920	1950
Dispersibility (Hegman)	≥ 6.50	6.75
Oil absorption, g/100g	≤ 20.00	17.00
Slurry pH	6.5 – 8.5	7.3
Electric resistivity, Ω·m	≥ 80	150
Volatile at 105 °C, %	≤ 0.8	0.3
Sieve residue (45 µm), %	≤ 0.02	0.01
Average particle size (SEM), nm	—	235
Inorganic surface treatment	ZrO ₂ , Al ₂ O ₃	ZrO ₂ , Al ₂ O ₃
Organic surface treatment	Yes	Yes

Packaging
25 kg, 500 kg and 1000 kg bags.

Storage
Avoid product exposure to damp conditions and direct sunlight.

CR-350

CHLORIDE PROCESS - PAINT & COATINGS

CR-350 is a general-purpose rutile titanium dioxide pigment produced by the chloride process. Advanced particle-size control technology combined with a tailored surface treatment gives whiteness with a bluish undertone, efficient dispersibility and high gloss.

Typical applications

- High-end decorative paint
- Automotive paint
- Industrial paint
- Printing inks
- Plastics and sealants

Specifications

Property	Specification	Typical
TiO ₂ content, %	≥ 92.5	93.5
Rutile content, %	≥ 99.8	100
L* (dry powder)	≥ 98.0	98.3
b* (dry powder)	≤ 2.0	1.5
Tint reducing power (Reynolds number)	≥ 1950	1970
CBU	≥ 12.0	12.5
Dispersibility (Hegman)	≥ 6.50	6.75
Oil absorption, g/100g	≤ 20	18
Slurry pH	6.5 – 8.5	7.2
Electric resistivity, Ω·m	≥ 80	200
Volatile at 105 °C, %	≤ 0.5	0.4
Sieve residue (45 µm), %	≤ 0.02	0.01
Average particle size (SEM), nm	—	230
Inorganic treatment	ZrO ₂ , Al ₂ O ₃	ZrO ₂ , Al ₂ O ₃
Organic treatment	Yes	Yes

Packaging
15 kg, 25 kg, 500 kg and 1000 kg bags.

Storage
Avoid product exposure to damp conditions and direct sunlight.

TYR-588

CHLORIDE PROCESS - PAINT & COATINGS

TYR-588 is a rutile titanium dioxide pigment produced by the chloride process and specially surface-treated with alumina, zirconia and an organic coating. Good particle size and distribution, a bluish undertone and high lightness make it widely applicable in coatings, inks, paper and plastics.

Typical applications

- Building coatings — indoor and outdoor, gloss and semi-gloss
- Automotive OEM and refinishing paint, coil coating
- Industrial anti-corrosive, decorative and powder coatings
- Letterpress, offset and gravure printing inks

Specifications

Property	Specification
TiO ₂ content, wt%	≥ 94.0
Rutile ratio, %	≥ 99.5
Oil phase lightness, L*	≥ 97.0
b*	≤ 2.0
Tinting strength (TCS)	≥ 1900
Oil absorption, g/100g	≤ 20.0
Aqueous suspension pH	6.0 – 9.0
Volatile at 105 °C, wt%	≤ 0.5
Water extract resistance, Ω·m	≥ 100
Tone (SCX)	3.5 – 5.0
CIE brightness	≥ 90.0
45 µm residue, wt%	≤ 0.05
Oil dispersion (Hegman)	≥ 6.00
Surface treatment	Al ₂ O ₃ , ZrO ₂ , organics
ISO 591-1:2000	R2
ASTM D476-15	II (IV)
Packaging 25 kg bags, or 500 kg and 1000 kg jumbo bags. Storage Avoid product exposure to damp conditions and direct sunlight.	

CR-340

CHLORIDE PROCESS - PLASTICS & MASTERBATCH

CR-340 is a rutile titanium dioxide pigment for plastics produced by the chloride process. Advanced particle-size control and surface treatment deliver the dispersibility needed to improve masterbatch productivity, high whiteness with a bluish undertone, and 300 °C heat resistance to protect against yellowing.

Typical applications

- High-concentration masterbatch
- High-quality films
- Silk and wire plastics
- Injection-moulded plastics
- Rubber and other applications

Specifications

Property	Specification	Typical
TiO ₂ content, %	≥ 95.0	97.0
Rutile content, %	≥ 99.8	99.8
L* (dry powder)	≥ 98.0	98.2
b* (dry powder)	≤ 1.9	1.4
Tint reducing power (Reynolds number)	≥ 1850	1920
Dispersibility (Hegman)	≥ 6.50	7.00
Oil absorption, g/100g	≤ 15.0	14.5
Volatile at 105 °C, %	≤ 0.2	0.1
pH	—	7.0
Colour change at 320 °C, ΔE	—	0.5
Filter pressure value, bar/g	≤ 0.2	0.2
Average particle size (SEM), nm	—	200
Inorganic treatment	Al ₂ O ₃	Al ₂ O ₃
Organic treatment	Yes	Yes

Packaging
15 kg, 25 kg, 500 kg and 1000 kg bags.

Storage
Avoid product exposure to damp conditions and direct sunlight.

R-249

SULFATE PROCESS — PLASTICS & MASTERBATCH

R-249 is a rutile titanium dioxide pigment for plastics, produced by the sulfate process from high-quality ilmenite concentrate. A special inorganic and organic coating gives high whiteness with a bluish undertone, high-temperature anti-yellowing performance, and an excellent filter pressure value to support masterbatch productivity.

Typical applications

- High-concentration masterbatch
- High-temperature resistant plastics
- Films and spinning (fibre) plastics

Specifications

Property	Specification	Typical
TiO ₂ content, %	≥ 96.0	96.8
Rutile content, %	≥ 96.0	98.0
Brightness, %	≥ 94.5	94.8
L* (dry powder)	≥ 97.2	97.4
b* (dry powder)	≤ 2.8	2.6
Tint reducing power (Reynolds number)	≥ 1800	1850
Dispersibility (Hegman)	≥ 6.00	6.50
Oil absorption, g/100g	≤ 17	14.0
Volatile at 105 °C, %	≤ 0.5	0.1
Colour change at 320 °C, ΔE	—	0.5
Average particle size (SEM), nm	—	210
Filter pressure value, bar/g	≤ 1.0	0.8
Inorganic treatment	Al ₂ O ₃	Al ₂ O ₃
Organic treatment	Yes	Yes

Packaging
25 kg, 500 kg and 1000 kg bags.

Storage
Avoid product exposure to damp conditions and direct sunlight.

TYR-568

CHLORIDE PROCESS — PLASTICS & MASTERBATCH

TYR-568 is a rutile titanium dioxide pigment produced by an advanced chloride process and treated with special inorganic and organic surface treatments, giving good whiteness, a bluish undertone, high tinctorial strength and good dispersibility for plastics applications.

Typical applications

- Engineering plastics such as PVC, PE, PP and ABS
- PS and its copolymers
- Plastics, masterbatch and film blowing

Specifications

Property	Specification
TiO ₂ content, %	≥ 96.0
Rutile ratio, %	≥ 99.0
L*	≥ 98.2
b*	1.6 – 2.0
CBU	≥ 16
Oil absorption, g/100g	≤ 16.0
Aqueous suspension pH	6.5 – 8.5
Volatile at 105 °C, %	≤ 0.3
Resistivity of aqueous extract, Ω·m	≥ 90
Filtration pressure, bar/kg	≤ 200
Surface treatment	Al, organic

Packaging 25 kg three-layer paper bags (quality-paper inner layer); 500 kg or 1000 kg jumbo bags on request.	Storage Store in a ventilated, dry area, sorted by batch. Do not store directly on the ground — separate with pallets or plastic sheeting. Protect from moisture, sun exposure and reactive chemicals.
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Request a quotation

Tell us your grade, application and annual volume and our team will respond with pricing, lead times and documentation. Full technical datasheets for every grade are available on our website.

Website

oxiwhiteglobal.com · Enquiry form: oxiwhiteglobal.com/enquiry

Email

info@oxiwhiteglobal.com

Specification values in this brochure are taken from the manufacturers' official technical datasheets and are subject to change. They are provided for guidance and do not constitute a warranty; customers should confirm suitability for their own process.