46280 Buff Titanium, natural titanium dioxide

TiO_2 does not have to be pure white and expensive!
Most titanium dioxides are pure white, but Buff Titanium demonstrates that whiteness is not a pre-requisite for effectiveness in color formulations.

(46280) **Buff Titanium**	versus	(46200) **Titanium White**
- in colored products, offers comparable performance characteristics to titanium white : opacity, consistency, color quality		- acknowledged pigment standard for use in white products
- natural "neutral" color allows reduction of expensive additional tinting pigments		- in colors, resulting whiteness must be "overcome“ by tinting with expensive additional pigments
- reduction of expensive additional pigments further lowers cost of finished product		- additional pigments add cost of finished product

How is Buff Titanium used?
In many products which require opacity and color but which do not have to be pure white, buff titanium can economically replace all or part of the titanium white or other expensive pigments that may be used. Depending on the finished color desired, buff titanium can replace from 15 to 100 % of the white TiO_2 used, at a cost savings. In addition to replacing titanium white, buff titanium may also allow reduction of amounts used of phthalo blues and greens, hansa yellows, organic oranges, synthetic iron oxides and carbon black (in whole or in part, again depending on desired color).
Buff titanium is chemically inert and non-toxic, allowing you to save on your total pigment cost and achieve equal or better opacity, consistency and color quality.

Applications for Buff Titanium:
Some examples of coatings applications in which buff titanium is used widely and successfully are many types of architectural paints, traffic marking paints, automotive and maintenance primers, and coatings for appliances and office furniture. Coating systems which may incorporate buff titanium include alkyds, acrylic urethanes, high solids systems, water reducibles, water bases and powder coatings.

Plastics uses include primarily green, gray, blue and beige plastic PVC pipe and conduit, vinyl siding, floor tiles, color concentrates and plastic film.
Buff Titanium may also be used in inks, adhesives, paper, foundry products and building materials.

Manufacturing and quality control:

Buff Titanium pigment is manufactured from an intermediate raw material, synthetic rutile, which is in turn made from ilmenite sands.

Kremer Pigmente GmbH & Co. KG · Hauptstr. 41-47 · DE-88317 Aichstetten ·Tel. 0049 7565 914480 · info@kremer-pigmente.com· www.kremer-pigmente.com

Buff Titanium is made from synthetic rutile in a process which incorporates fluid energy milling. During the manufacture of synthetic rutile, high temperature calcination and strong acid leaching render buff titanium dioxide totally inactive and inert. The process produces a high quality pigment, leaving only a very small percentage of iron oxide.
The small percentage of iron oxide remaining gives buff titanium its characteristic natural of "buff" color. In the buff titanium process, particles of synthetic rutile mechanically abrade each other to form the end product. It is ground to a specified fineness with particles slightly larger and more irregularly-shaped than typical TiO_2 pigment.

Property	**Buff Titanium Performance**
Acid, alkali and water resistance	Totally resistant
Activity and reactivity	Totally inactive and inert
Chalk resistance	Anti-chalking (ASTM D-476-84: Type II/III TiO2)
Electrical resistance	excellent
Salt spray and humidity resistance	excellent
Abrasion resistance	excellent
Flatting effect	mild
Gloss: high	not generally recommended
Semi	good
Dispersion (high-speed)	excellent
Vehicle compatibility	good to excellent

Chemical Composition and Properties (Typical):

TiO_2	95.0 %
Fe_2O_3	< 2.0 %
SiO_2	1.25 %
Al_2O_3	0.40 %
Loss on ignition (L.O.I.)	0.90 %
Moisture at 110°C	< 0.50 %
pH-value	6.5 - 7.5

Physical Properties (Typical):

Color	beige
Crystal structure	Rutile
Median particle diameter (sedigraph)	1.0 µm
Surface area	16 m^2/gram
Oil absorption	23 g Oil/ 100 g
Hegman grind	7.0
+325 Mesh retention	< 0.01 %
Specific gravity	4.1 g/cm^3
Bulk density (loose)	720 kg/m^3
Bulk density (tap)	1200 kg/m^3

Color Index: Pigment White 6:1, C.I. 77891

Kremer Pigmente GmbH & Co. KG · Hauptstr. 41-47 · DE-88317 Aichstetten ·Tel. 0049 7565 914480 · info@kremer-pigmente.com· www.kremer-pigmente.com