

Technical Data Sheet of G-Block DTB 300 CCT

Product Description

Fine and stable dispersion of UV grade and **broad spectrum** titanium dioxide in cosmetic oils at high % of active. It can be incorporated easily with the conventional equipments into any personal care products to provide the broad-spectrum sun protection benefit.

Legislation

- INCI Titanium Dioxide (and) Caprylic/Capric Triglyceride (and) Alumina (and) Stearic Acid (and) Polyhydroxystearic acid (and) Isostearic acid (and) lecithin (and) Polyglyceryl-3 Polyricinoleate
- CAS # 13463-67-7/73398-61-5/1344-28-1/57-11-4/27924-99-8/30399-84-9/8002-43-5/(29894-35-7, 235783-76-3)
- EINECS 236-675-5/277-452-2/215-691-6/200-313-4/exempt/250-178-0/232-307-2/exempt

General Product Specification

<u>Item</u>	<u>Specification</u>
Appearance	Off-white soft cream
Odor	Mild
Viscosity, 50 rpm	10,000 – 120,000 cP
% TiO ₂	~ 60%

Safety data:

- Repeated Insult Patch Test (RIPT) with 50 human subjects shows no skin irritation and no skin sensitization.

----- Create Possibilities -----

Last product specification update: 3/1/2014 Last document update: 11/7/2017

- The titanium dioxide powder before the coating of a thin alumina layer (for further protection of skin against radicals) and dispersion meets with USP standard. The powder is designed and manufactured for strong broad Spectrum UV protection.
- Total heavy metal < 20 ppm, and Arsenic < 2 ppm
- Microbiology data: Total aerobic bacteria count and the total yeast/mold count < 100 cfu/g, free of Pathogens: E.Coli, P. Aeruginosa, and S. Aureus.

Features/Benefits

- Easy Manufacturing
 - Stable product, no separation and no sedimentation.
 - Easy to transfer and to mix with the common cosmetic equipments.
- Easy Formulation/product development
 - **ECOCERT and Natural Product Association (NPA) approved for natural sunscreens** which meet with global regulations.
 - Meet with global UVA criteria: FDA of USA: critical wavelength > 370 nm; PA +++ of Asia; UVAPF/SPF > 1/3 of EU
 - Speed to market: Provides the guide equations to calculate the appropriate % dosage for the target SPF and critical wavelength for quick formulation development.
 - Extremely high % active for flexible formulation development with good sensory.

Applications

Cosmetic and Toiletry:

- Natural sunscreens that meet with all global regulations for broad spectrum and “natural” standards.
- Sunscreens for baby and people with sensitive skin.
- Sport sunscreens with long lasting UV A and B protection.
- Daily skin care lotion and cream with UV A and B protection.
- Natural Color cosmetics with sunscreen benefit.

----- **Create Possibilities** -----

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- Sun protection products of high SPF with a synergistic combination of organic UVA/UVB filters and G-Block DTB 300 CCT.

How to use it?

- Just add into the oil phase of the formulation and mix.
- Dosage: About 3 SPF per 1% TiO₂ active; Critical Wavelength 378 nm. For example, SPF 30 sunscreen would need: $30/3 = 10\%$ TiO₂ active or 16.7% G-Block DTB 300 CCT ($16.7\% \times 60\% = 10\%$ TiO₂ active).
- For predicting the SPF and critical wavelength of sunscreen prototypes made of the blends of several G-Block products, please contact us for the "**G-Block Prediction Calculator**" program to do it easily.
- **Sunscreen Test Protocols:**
 - SPF: In-Vivo Protocols of FDA of USA and EN ISO 24444:2010.
 - UVA: In-Vivo protocol of EN ISO 24442:2011; In-Vitro Protocol of FDA of USA(critical wave) ; EN ISO 2443:2012 (UVAPF) .
 - Please note that in-vitro SPF measurement is not suitable for sunscreens of inorganic UV filters

Packaging

25 kg in 5 gallon plastic pail

Storage

- Store the product in its original package and avoid storing at extreme high and low temperature.

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----- **Create Possibilities** -----

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