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Technical Data Sheet of G-Block DZ 480 CCT

Product Description

Fine and stable dispersion of UV grade, **broad-spectrum** Zinc Oxide in cosmetic oils at **80 % of active**. It can be incorporated easily with the conventional equipments into any personal care products to provide the broad-spectrum sun protection benefit. Sunscreens made of G-Block DZ 480 CCT exhibit very good transparency and powdery sensory as if there were no ZnO particles inside.

Legislation

- INCI Zinc oxide (and) Caprylic/Capric Triglyceride (and) Polyhydroxystearic Acid (and) Isostearic Acid (and) Lecithin (and) Polyglyceryl-3 Polyricinoleate.
- CAS # 1314-13-2/73398-61-5/27924-99-8/30399-84-9/8002-43-5/(29894-35-7, 235783-76-3)
- EINECS 215-222-5/277-452-2/exempt /250-178-0/232-307-2/exempt

General Product Specification

Item	Specification
Appearance	Off-white soft cream
Odor	Mild
Viscosity, 50 rpm	8,000 – 120,000 cP
Specific Gravity	2.63 – 2.93
% ZnO	~ 80%

Safety data:

- Repeated Insult Patch Test (RIPT) with 50 human subjects shows no skin irritation and no skin sensitization.
- The zinc oxide powder before the dispersion process is USP grade and is especially designed 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
  - **COSMOS, 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/predict 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, such as BB cream and CC cream.
- Sun protection products of high SPF with a synergistic combination of organic UVB/A filters and G-Block DZ 480CCT.

How to use it?

- Just add into the oil phase of the formulation and mix.
- Dosage: About 1.5 SPF per 1% ZnO active. Critical Wavelength is 378 - 380 nm. For example, a SPF 30 sunscreen formulation would need: 30/1.5 = 20 % ZnO active, or about 25.0% G-Block DZ 480 CCT (25% x 80% = 20% ZnO 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 3.5 gallon plastic pail

Storage

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