

TECHNICAL DATA SHEET

General Description

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|-------------------|---|
| Commercial name: | EffectiveU-T-black |
| Producer: | Advanced Dispersed Particles S.L |
| Chemical formula: | TiO ₂ - FeO.Fe ₂ O ₃ -SiO ₂ (mixture) |
| INCI: | Titanium Dioxide (and) CI-77499 (and) Silica |
| CAS No.: | 13463-67-7, 1317-61-9, 7631-86-9 |
| Colour and Form: | Dark grey to black Powder |
| Type of product: | Pigment for colouring of cosmetics |
| Other properties: | SPF and UVA PF booster (see comparison below) |

| | Concentration in formula | SPF | UVA PF | Ratio UVA/UVB | LOC (nm) |
|--|--|-----|--------|---------------|----------|
| | EnhanceU-T (12wt.%) | 32 | 19 | 0,74 | 380 |
| | EnhanceU-T (12wt.%) + EffectiveU-T (3wt.%) | 37 | 24 | 0,83 | 385 |

Solar Light SPF-290AS Spectrophotometer. In vitro measurements after samples irradiation.

Technical Data – Typical Values

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|-----------------------|---|
| Average particle size | >0.1µm (Dynamic light scattering, SEM Microscopy) |
| Titanium dioxide | 63-69wt. % (X-Ray Fluorescence Analysis) |
| Iron oxide | 26-34wt. % (X-Ray Fluorescence Analysis) |
| Silicon dioxide | 0-5wt. % (X-Ray Fluorescence Analysis) |

| Metals | Units | Max. | Method |
|--------------------------|-------|------|------------|
| As (Arsenic) | mg/Kg | 1 | ICP-MS |
| Cd (Cadmium) | mg/Kg | 1 | ICP-MS |
| Cr (Chromium) | mg/Kg | 40 | ICP-MS |
| Cu (Copper) | mg/Kg | 25 | ICP-MS |
| Hg (Mercury) | mg/Kg | 1 | ICP-MS |
| Ni (Nickel) | mg/Kg | 80 | ICP-MS |
| Pb (Lead) | mg/Kg | 10 | ICP-MS |
| Sb (Antimonium) | mg/Kg | 2 | ICP-MS |
| Zn (Zinc) | mg/Kg | 50 | ICP-MS |
| Loss on drying (100°C) | % | 3 | Gravimetry |
| Loss on ignition (600°C) | % | 10 | Gravimetry |
| Solubility in water | % | 5 | Gravimetry |

This product is in compliance with Regulation (CE) 1223/2009 on cosmetic products. Traces' metals obey limits for E172 and E171 included in Commission Regulation (EU) No 231/2012 and Spanish Real Decreto No 1465/2009, as well as FDA 21.CFR.73.1200, 21.CFR.73.2250, FDA 21.CFR.73.1575, 21.73.575. Internal specifications are set for loss of water, loss in ignition, and solubility due to the nature of the product (the product is not a pure substance but a mixture, obtained by treating the ingredients with a patented technology).

Completed and approved by:

Blanca Motos Pérez

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