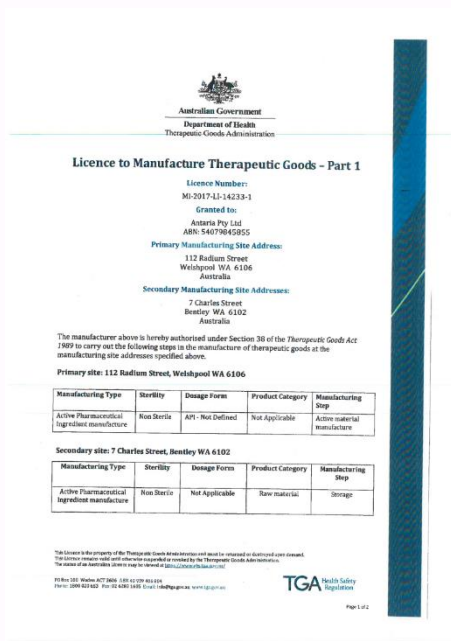




ZinClear®-XP65 COCO Zinc Oxide Dispersion

Coco Caprylate/ Caprate is a skin penetration enhancer and skin sensory enhancer, e.g. dry but silky finish.

It is Non-comedogenic and Hypoallergenic



Major Brands using ZinClear®-XP65 Coco



ZinClear®-XP65 COCO

Is a 65 wt% dispersion of uncoated zinc oxide in coco-caprylate/ caprate. For use in a variety of sun care, skincare and cosmetic applications. It is also NPA and COSMOS certified.

This dispersion can be incorporated as the main UV filter into primary sunscreens to achieve high target SPF alternatively, it can also be used in other SPF related products including lip balms, moisturisers, antiaging, dry oils and cleansing products.

ZinClear®-XP65 COCO IS ORGANIC

(cas 1314-13-2)

It is most commonly used as a skin protectant, helping to reduce the harmful effects of external factors on the skin as both a UV absorber and UV filter. It can also be found in cosmetics and baby lotions including foundation and concealers. It is certified organic. [1]

[1]

<https://incibeauty.com/en/ingredients/15305-zinc-oxide>

BENEFITS

Antaria has developed ZinClear®-XP65 COCO to provide zinc oxide particles offering broad spectrum UV protection with exceptional transparency, allowing the formulation of elegant skincare products that do not cause a 'white cast'.

APPLICATIONS

ZinClear®-XP65 COCO can be used in a variety of cosmetics applications including:

- Natural Sunscreens
- Mineral only Sunscreens
- Cosmetics
- Skincare
- Low irritant or sensitive skin sunscreens
- Baby & children sun care products
- Lip balms

CHEMICAL COMPOSITION

INCI Name	CAS No.
Zinc Oxide	1314-13-2
Coco-caprylate/ Caprate	95912-86-0
Polyglyceryl-3 Polyricinoleate	29894-35-7
Isostearic Acid	30399-84-9

RANGE OF ABSORPTION

ZinClear®XP65 coco is designed to provide exceptional UVB (SPF-280nm to 230nm) and UVA (broad spectrum – 320nm to 400nm) protection while minimising reflection in the visible spectra (400nm+) which causes the 'white case' on the skin.

ZinClear®-XP65 COCO has a broad absorption profile spanning both UVA and UVB and can absorb 65% of rays. This dispersion is photostable meaning it won't degrade or lose effectiveness under UV influence. The dispersion can also be combined with different UV filters to produce high SPF sunscreens that will meet the UVAPF>1/3SPF criterion where required and can also be formulated for the critical wavelength to reach 370nm where required.

ZINCLEAR NON-NANO POWDER DESIGNED TO BE TINTED

In conjunction with Zinc Oxide

- Iron Oxides enhance protection against skin damage – new results demonstrate HEV blocking powder in specialty skin care products formulated with iron oxides (Carlsbad, CA. 2020) [ColoreScience](#).
- Iron oxides in novel skin care formulations attenuate blue light for

enhanced protection against skin damage (Bernstein EF, et al. 2021) [J Cosmet Dermatol](#)

- Iron oxides provide protection against all visible light, including blue light.
- Darker skin tones are more susceptible to immediate pigment darkening when exposed to visible light.
- Lest you think this is a new notion, check out this reference to a 1991 paper from the JAMA dermatology; Efficiency of Opaque Photoprotective Agents in Visible Light Range [\(Kaye, ET, et al., 1991\)](#)

STORAGE AND HANDLING

Store in tightly closed containers in a dry area away from food and incompatible materials. When handling small quantities, no special ventilation is necessary, however, when working with large quantities mechanical extraction ventilation is recommended. Consult SDS for additional handling or safety information.

SHELF LIFE

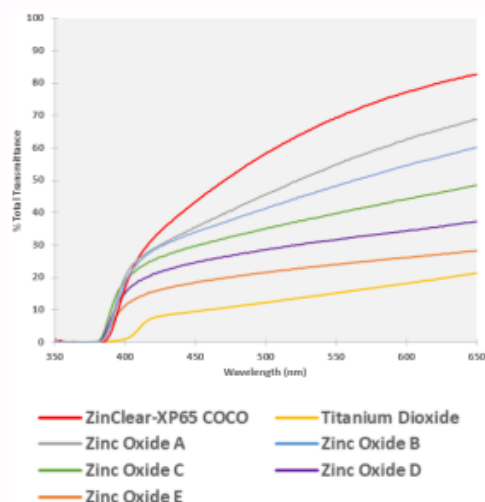
ZinClear®XP65 COCO has a shelf life of 24 months when stored under standard conditions (above 5°C and below 30°C). Re-testing after 2 years is required to extend the shelf life to 3 years from the manufacturing date.

Zinclear-XP®65 COCO: Technical Specifications & Properties

Appearance	Off-white to light yellow
Odor	Mild odor
ZnO Assay %	Off-white to light yellow (Visual)
Secondary Particle Size (D[4,3])	≥ 1.00 µm (Laser Light Scattering)

Zinc oxide contained in ZinClear®-XP65 COCO is tested prior to dispersion and complies with the current USP Monograph for zinc oxide

ZinClear®-XP65 COCO dispersions are supplied in the form of a viscous, free flowing liquid. The dispersion is off-white to peachy beige in colour but when applied to the skin will remain highly transparent, even at high loadings. A comparison of ZinClear-XP65 COCO transparency to competitor ZnO products is shown in the graph below



EXPOSURE ASSESSMENT AND HEALTH CONSIDERATIONS

Most estimates of human toxicity are based on animal studies. Toxicity is an inbuilt property of a material, similar to its physical constants. It is the ability of a chemical substance to cause an undesirable effect in a biological system. Zinc oxide itself is considered non-toxic, however, fumes generated from melting and oxidizing can be [2,3]. The European Chemicals Agency has given an LD50 value for zinc oxide oral ingestion is 2000mg/Kg [4]. The recommended dietary allowance for adult males is 11mg/day and 8mg/day for females, however, the maximum adult daily intake unlikely to cause harm is 40mg/day. The body can only uptake zinc from the diet, source include red meats, some seafood and whole grains. [5]

REFERENCES

[2] Jillian Levy, C., 2022. *Zinc Oxide Benefits for Protecting Your Skin from the Sun + More!*. [Online]
Available at: <https://draxe.com/health/zinc-oxide-benefits/>

[3] Reshma VG, M. P., 2018. *Hidden Toxicity of Zinc Oxide Nanoparticles*. [Online]
Available at: <https://atlasofscience.org/hidden-toxicity-of-zinc-oxide-nanoparticles/>

[4] European Chemicals Agency, Unknown. *Zinc Oxide Toxicological Information*. [Online]
Available at: <https://echa.europa.eu/registration-dossier/-/registered-dossier/16139/7/3/1#:~:text=%20With%20LD50%20values%20consistently%20exceeding%202%20C000%20mg%20Fkg%20bw%20C,shown%20to%20be%20of%20low%20acute%20inhalation%20toxicity.>

[5] Micronutrients, I. o. M. (. P. o., 2001. *Dietary Reference Intakes for Vitamin A, Vitamin K, Arsenic, Boron, Chromium, Copper, Iodine, Iron, Manganese, Molybdenum, Nickel, Silicon, Vanadium, and Zinc*. Washington (DC): National Academies Press (US).

ZINC DISPERSION IS SAFE

UVA/UVB/UVC & Blue Light Broad Spectrum

- “Of the available sunscreens, only zinc oxide provides effective protection across the UV band range of 240nm to 300nm, covering UVC (240 to 280nm), UVB (280-320nm), UVA 2 (320 To 340nm) and UVA1 (340 to 400nm).”
- “UVA rays account for 95% of our sun exposure. They cause skin aging and contribute to skin cancer.”
- “The risk for skin cancer doubles in people who have had five or more sunburns.”
- UVA rays penetrate deeply into the skin layers, damaging collagen and cells which leads to wrinkling, hyperpigmentation and loss of elasticity.”

Zinc oxide safety

- “A new study led by two Australian universities has found evidence that

zinc oxide nanoparticles used in sunscreen does not cause cellular toxicity even after repeated applications.”

- “The levels in blood were very small,” says McCall, a research consultant on nanoSafety at CSIRO. “After applications over five days, the levels of the tracer zinc in the blood were only one thousandth of what is the naturally occurring total zinc levels in the blood.”

Zinc Anti-Bacterial & Wound Healing

- “Zinc has been used during the regime of Pharaohs, and historical records show that zinc oxide was used in many ointments for the treatment of injuries and oils even in 200BC.”

Hypoallergenic

- “A study in Denmark, 56.7% of women (3,288,60 million) and 33.6% of men (1,948,800) in Denmark have experienced and adverse effect after using cosmetics at least once.”
- “In a study in which a 25% zinc oxide patch (2.9mg/cm²) was placed on human skin for 48 hours, there was no evidence of dermal irritation.”

REGULATORY STATUS

Region	Approval Limit
USA	25%
Canada	25%
EU Union	25%
Japan	No Limit
Korea	25%
Australia/ New Zealand	No Limit
ASEAN	25%
China	25%
South Africa	25%

