

CAMPO PEARL EXTRACT

Novel carbon-dioxide lypolized water soluble extract of sea-pearl for novel skin care & skin whitening cosmetics



**Novel functional ingredients for
multi-purpose formulations**



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CAMPO® Multi-Purpose Cosmetic Base Chemicals & Active Ingredients

CAMPO® Novel Functional Active Cosmetic Ingredient & Raw Materials

Campo Natural Product Campo Natural Product

Campo™ Pearl Extract (PWS)

CAMPO™ PEARL EXTRACT (PWS) EXTRACT

Day after day, exposure to UV A and UV B creates sun-stressed skin. Dryness causes an uneven skin tone, radiance fades and skin become tougher. CAMPO™ Pearl Extract (PWS), had the 3 answers; viz. UV A UV B repair by moisturizing the already sun-stressed and damaged skin to recover its youthful radiance and as skin whitener of the sun browned skin; and further enhancing more protection as novel marine organic filter to the skin from further future UV induced damage and sun-stress.

CAMPO™ Pearl Extract (PWS) enhance any skin moisturizer, skin whitener, skin repair and UV protection cosmetic formulations, with active high performance moisturizer action, high performance skin-whitening and repair action and high performance UV repelling actions.

CAMPO™ Pearl Extract (PWS) is produced from Japan Inland Sea Freshwater Oyster cells that are cloned and tissue-cultured in industrial biotechnological vats, to secrete Pearl secretions at regular intervals, and the Pearl secretion are collected before being calcified or harden; and frizzed-dried and lypholized. Campo's Pearl Extract(PWS) is a natural, pure and high quality product which has internal uses in Campo, Chinese and Oriental Traditional Herbal Medicine as well as in Modern Western Cosmetic products.

CAMPO™ Pearl Extract and various other derivatives of Pearl were first tested in 1988 at a reputable Japanese University for a multi-national Japanese Drug Co., for Sun-Screen and Skin self-repair against UV-induced immuno-suppression which caused diseases to proliferate; such as measles and other viral disease that elicit a rash i.e.; poxes and herpes; parasitic diseases introduced via the skin i.e. malaria, dengue fever and leishmaniasis; and some fungal diseases (see UN environmental report 1989 and Update 1991).

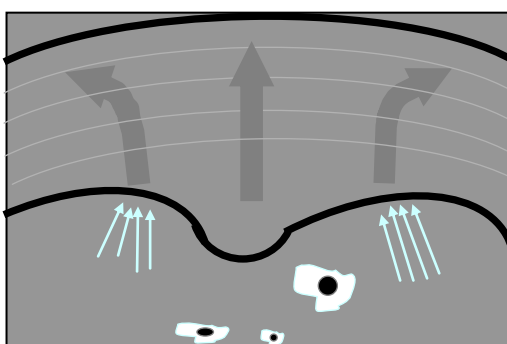
As it is now known that unlike the more commonly known threats of skin-cancers and cataracts which take years of exposure of Sun-UV before being full-blown, UV-induced immuno-suppression (effects of the sun on the immune system) effects are immediately damaging. The UV rays affect the skin's ability to detect whether it (skin) is infected by altering the Langerhans cells, thereby reduce the immune-response to the infection and allows viruses to attack more easily (see graphic in Sun and The Harm).

The depletion of the ozone layer, has now more effect on the amount of sun-UV reaching earth, putting population of the world to great-risk of UV-induced immuno-suppression (according to United Nation doctors who wrote the report and update)(see also UVzymes literature volume 1, 2, & 3).

CAMPO's Pearl Extract (PWS) entirely dissolves in water (preferably at 70 °C) and 95 - 99% is absorbed by the skin (four times the absorbtivity of the ordinary Pearl-powder); it consists of complex of amino acids which exists as organic matter and over a dozen of metal elements: (via Spark Mass-Chromatograph Analysis)

Calcium (as CaCO ₃)	min 90%
Amino acids	min 5.5 - 6.5%
Germanium-organic	min. 0.005%
Strontium –organic	min. 0.001%
Selenium-organic	min. 0.03%
Zinc complex-organic	min. 0.10%
Mercury	0.001 ppm max
Other Heavy Metals	0.05 ppb max
Arsenic	not detected
Lead	0.80 ppm
Copper	0.19 ppm
Bezoar acid	0.010%
Other Trace Elements	2.00 ppm

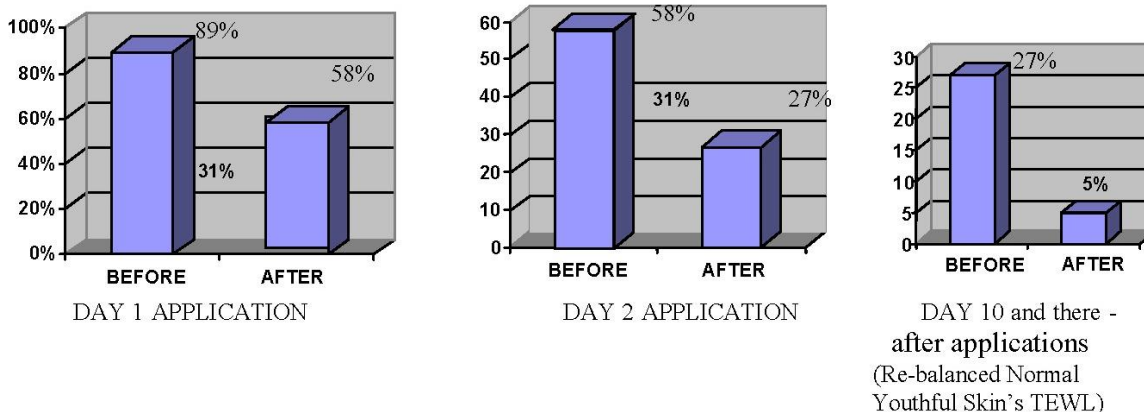
Once it is drawn and absorbed into the skin, it is able to nurse and maintain the skin through participating in enzymatic metabolic activities and promotes the skin growth of new cells and replenish the surface skin to make the skin smooth, fine, elastic and naturally white and beautiful. The other main actions are of promoting the activities of SOD and prevention of the melanin formation (without inhibiting the melanin formation but reducing the formation of the dark pigmented melanin into colorless and invisible but photo-protective functional melanin-known as leuco-melanin) and further whitening the skin and prevention of skin senility and repair thereof, because SOD has the function of clearing the skin of cellulite natured toxins. It is also suitable for creams to heal minor slow healing wounds, removes boils, color spots and blemish. It further acts as an extension to the exfoliators like Alpha & Beta-Hydroxy Acids, reducing the harshness caused by the AHA and BHA.



Youthful epidermis after regular applications
 With CAMPO™ Pearl Extract (PWS) aqueous solution (1:1 w/v)
 See below for continuation of this diagram

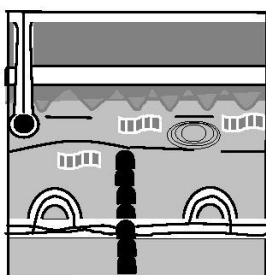
EFFICIENCY TEST

Decreasing of the Trans Epidermal Water Loss (TEWL) in proportionate sequence decreasing via daily application.

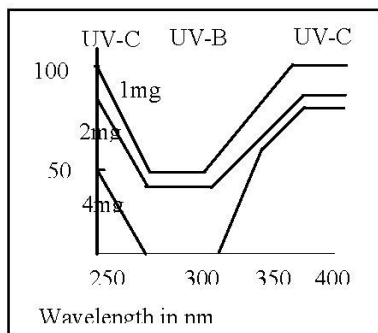


LITERATURE REFERANCE:

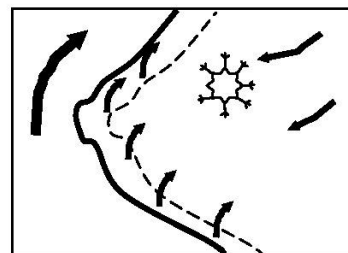
United Nations Environment Programme (UNEP) reports 1989; titled: Environmental Effects of Ozone Depletion; and its update in 1991. Dr. Jan van der Leun (author) and chairman of UN Committee on Effects of UV rays Further reading request for Dr. Balasubramaniam M's treatise and commentary on UNEP report 1991 (see sun and the harm)



Cellulite Treatment with CAMPO™ Pearl Solution (1:1 w/v)



Dependance of the Transmittance on Filter Concentration (mg per 100ml) at a cell thickness of 1cm



UV-Damaged Langerhans cells revitalization with CAMPO™ Pearl extr.pws cream

CAMPO™ PEARL EXTRACT (PWS)

TECHNICAL SPECIFICATION

CFTA NAME:	PEARL EXTRACT, Natural
INCI NAME:	PEARL POWDER
APPEARANCE:	Pure White Extra Fine Powder
SIEVE SIZE:	> 50 - 85 nm
SOLUBILITY: (IN WATER)	Aqueous total solution and proper dispersion

COMMENTS:

Generic comparison to Sunveil (TiO₂-ANATASE; Size 10-20nm) of Ikeda Corp. of Japan. However, CAMPO's product is totally natural product.

CHEMISTRY

Calcium (as CaCO ₃)	min 90%
Amino acids	min 5.5 - 6.5%
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Mercury	0.001 ppm max
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Lead	0.80 ppm
Copper	0.19 ppm
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Other Trace Elements	2.00 ppm

BROAD-SPECTRUM PROTECTION

The advantages of complete safety, absence of recent animal testing, a long history of use in medicine and cosmetics-albeit for a different function - and the ability to achieve high sun protection factor (SPF) values and provide broad spectrum protection have all combined to generate much interest and success in this natural product. UV protection is dependent on particle size and completeness of dispersion, and the pre-dispersed varieties remain the easiest to formulate into products.

The optimal size for high SPF values is approximately 50 nm, while for particle sizes below the size, peak attenuation is in the UV C region. As particle sizes get larger (>90nm) and peak attenuation shifts towards visible light, towards higher protection is obtained in the UVA region only.

As particle size and complete dispersion is critical to effectiveness, it is obvious that an oxide (i.e. zinc or titanium oxides) if not properly dispersed in the end-product or if aggregation occurs on storage, the result will shift towards the visible spectrum of light. Lack of proper dispersion in a stable end-product and another formulation problem is the greying of TiO₂ caused by UV light; which are promoted by the particle size and the presence of anatase form of titanium dioxide promote this tendencies, respectively.

Campo™ Pearl Extract (pws) is a challenge to brought forth to be the answer to the above described technicalities and as well as to a formulation technical problem faced by a Japanese Cosmetic House, for its Natural UV White, a UV protection, skin-whitener and skin-moisturizer (3 in 1) to be incorporated and activeness caused by a single ingredient, as well as for proper dispersion and to eliminate the greying of the particles on exposure to UV.

As confidentially restriction(s) applies, the other areas of immuno-re-activation to the Langerhans cells that are already affected by immuno-suppression actions of UV could not be elaborated here in this technical specification. As immense confidential clinical data are available for the various activities, but due to difficulties in patenting this natural product has shelved this product for time-being, which product was researched as an answer to the problems and afflictions potentials described in the UNEP report 1989 & Update 1991.

FORMULATION GUIDELINES:

SKIN MOISTURIZERS CREAMS & LOTIONS:	1 - 5 %
SUNSCREENS/UV PROTECTION PRODUCTS	10%
SKIN WHITENER PRODUCTS	10%

TOLERANCE TESTS:

SKIN IRRITATION	None
EYE IRRITATION	None
LD ₅₀ MICE	6.03 gm/kg of body weight (Regarded as edible supplementary health diet)

AMES TEST	Non-Mutagenic
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