

TECHNICAL DATA SHEET

Product Name: VitaWhite MSH

INCI Name: Undecylenoyl Phenylalanine, Pentyleneglycol, Propylene Glycol

CAS: 175357-18-3, 5343-92-0, 57-55-6

Synonyms: L-Phenylalanine, N-(1-oxo-10-undecen-1-yl)-; L-Phenylalanine, N-(1-oxo-10-undecenyl)-; N-(1-Oxo-10-undecen-1-yl)-L-phenylalanine; N-Undecenoyl-L-phenylalanine; N-Undecyl-10-enoyl-L-phenylalanine; Sepiwhite MSH; Undecylenoylphenylalanine

Chemical Classification: Amino acid derivative

Functional Category: Skin conditioning agent ~ Miscellaneous

IUPAC Name: (2S)-3-phenyl-2-(undec-10-enoylamino)propanoic acid

Description: Undecylenoyl phenylalanine is a derivative of the amino acid phenylalanine, used in cosmetics for its ability to modulate melanin production in the skin. Melanin is the pigment responsible for skin color, and its overproduction can result in dark spots and hyperpigmentation. Undecylenoyl phenylalanine works by inhibiting the enzyme tyrosinase, which plays a crucial role in melanin synthesis. By inhibiting tyrosinase, melanin production is reduced, leading to a more even skin tone and diminished appearance of dark spots. Undecylenoyl phenylalanine has been shown to be effective not only in treating hyperpigmentation but also in preventing the formation of new dark spots caused by UV exposure and skin aging. In addition to its effect on pigmentation, undecylenoyl phenylalanine has soothing properties, making it suitable for sensitive skin formulations. It reduces inflammatory processes in the skin and calms irritations that may arise from various external factors or after the use of more aggressive active ingredients. Its gentle nature allows it to be used in a wide range of products, from brightening serums and moisturizers to specialized treatments for an even skin tone. Combining undecylenoyl phenylalanine with other active ingredients, such as vitamin C or niacinamide, enhances its skin-brightening effects. It does not cause excessive exfoliation, making it ideal for long-term use in daily skincare products. The optimal pH for its stability and effectiveness is between 4.0 and 6.0, making it compatible with most skincare formulations. VitaWhite MSH is a clear, slightly viscous yellowish liquid with a characteristic odor, and it is free of preservatives.

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Mechanism of Action: Undecylenoyl phenylalanine is a synthetic derivative of the amino acid phenylalanine, known for its ability to lighten the skin by inhibiting melanosome transfer. Melanosomes are specialized organelles within melanocytes, located in the basal layer of the epidermis, responsible for producing melanin, the pigment that gives color to the skin, hair, and eyes. Melanin is produced within melanosomes through melanogenesis and is then stored and transferred to keratinocytes, the cells in the upper layer of the skin, leading to pigmentation. Undecylenoyl phenylalanine works by binding to MC1-R receptors on melanocytes, which are naturally activated by alpha-melanocyte-stimulating hormone (α -MSH). This hormone stimulates melanocytes to produce more melanin. By binding to these receptors, undecylenoyl phenylalanine blocks the action of α -MSH, reducing melanin synthesis and melanosome transfer to keratinocytes. Through a process of competitive inhibition, undecylenoyl phenylalanine prevents α -MSH from activating melanocytes, leading to a reduction in melanin on the skin's surface. In addition to acting on receptors, undecylenoyl phenylalanine may affect the expression of genes involved in melanogenesis, further decreasing melanin production. This comprehensive mechanism of action makes it highly effective in cosmetic formulations designed for skin lightening and the treatment of pigmentation disorders. Its use helps achieve a more even and radiant complexion with minimal risk of irritation, making it a popular choice in creams, serums, and lotions for skin brightening.

Benefits:

- Effectively reduces dark spots and evens out skin tone by inhibiting melanin production.
- Helps treat spots caused by sun exposure, post-inflammatory hyperpigmentation, and melasma.
- Reduces the appearance of age spots and contributes to a youthful skin appearance.
- Gentle on the skin without causing irritation, making it suitable for sensitive skin.
- Due to its lipophilic properties, it penetrates the skin easily and works at a cellular level.
- Leaves the skin smooth, radiant, and healthy.
- Helps protect the skin from free radicals and oxidative stress, preventing premature aging.

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Usage: VitaWhite MSH is used in various cosmetic products designed for skin brightening and hyperpigmentation treatment, such as creams, serums, and lotions. During the formulation process, it is recommended to add VitaWhite MSH during the cooling phase, after the base mixture has cooled, to ensure its effectiveness and stability. As for the recommended concentrations, they vary depending on the product type and desired effect. For day creams and moisturizers, where the goal is mild brightening and evening out the complexion, concentrations of 2% to 7% are used. In specialized products, such as serums and night creams targeting more intense dark spot and hyperpigmentation reduction, concentrations of up to 10% are recommended. The optimal pH for products containing VitaWhite MSH should be between 4.0 and 6.0 to ensure stability and maximum efficacy. This characteristic makes it suitable for combination with other skin-brightening active ingredients, such as vitamin C and niacinamide, which can further enhance its effect in skin care formulations.

Animal Testing: The substance has not been tested on animals.

GMO: Non-GMO

Vegan: Contains no animal-derived components.

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