

TECHNICAL DATA SHEET

Product Name: Talc

INCI Name: Talc

CAS: 14807-96-6

Chemical Classification: Inorganic compound, mineral (hydrated magnesium silicate)

Functional Category: SPF/UV Protection, Mattifying Agent/Base

Description: Talc is a natural mineral commonly used in cosmetics. It is composed of magnesium, silicon, calcium, and oxygen (synonym: magnesium silicate hydroxide). Magnesium silicate provides a soft and silky texture, pleasant to the touch. The primary feature of talc is its ability to absorb moisture, reducing greasiness and giving the skin a smooth, dry feel. Due to this property, talc is widely used in face powders, baby powders, and body care products. Talc is inert, meaning it does not react with other substances in formulations. It is stable and safe for various applications. Its fineness allows for easy and even application. In addition to absorbing moisture, talc reduces friction, making it suitable for products that soothe skin irritations and prevent rashes, especially for sensitive skin. Cosmetic-grade talc undergoes processing and quality control to ensure compliance with safety and purity regulations. Talc sterilization is not always standard practice; instead, purification processes such as drying, micronization, and contaminant removal are employed to eliminate potential impurities, including asbestos, the primary safety concern associated with talc. For products with specific requirements, such as pharmaceuticals, talc may undergo sterilization (e.g., gamma irradiation or high-temperature treatment) to eliminate microorganisms. In the cosmetic industry, the focus is primarily on microbiological purity rather than sterility. Talc appears as a white powder with appropriate particle size distribution and a faint earthy odor. The average particle size is 5.5 microns (97.7% passing through a 325-mesh sieve). It is insoluble in water, alcohols, and oils.

Benefits:

- Absorbs moisture and reduces greasiness on the skin.
- Provides a smooth and silky texture to products.
- Does not react with other substances, ensuring formulation stability.

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- Mattifies the skin and controls shine.
- Enables easy and even application of powders and bases.
- Reduces friction and soothes skin irritations.
- Prevents rashes and offers protection for sensitive skin.
- Cost-effective and compatible with a wide range of ingredients.

Usage: Talc is used in cosmetic formulations at varying concentrations depending on the product type and desired effect. In face and body powders, talc concentrations typically range between 70% and 90%, achieving a smooth texture and mattifying effect. For baby care products, such as baby powder, talc is used in pure form or combined with cornstarch for enhanced moisture absorption, with concentrations up to 100%. In decorative cosmetics like eyeshadows, talc is added in smaller percentages (10% to 40%) to ensure easy blending and reduce stickiness. In creamy formulations, talc is used at lower concentrations (up to 5%) to contribute to a smooth texture and control greasiness. Fine milling and high purity are crucial to prevent skin irritation or adverse effects. Gradual addition and careful mixing are recommended, especially in powdered products, to prevent clumping.

Source Material: Talc is derived from mineralized clay.

Production Process: Talc is purified through flotation to separate it from other minerals (silicates and carbonates), followed by fine milling and additional purification processes.

Animal Testing: Not tested on animals.

GMO: Non-GMO.

Vegan: Does not contain animal-derived components.

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