Import and distribution for Serbia: Farmadria DOO
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TECHNICAL DATA SHEET

Product Name: Sunflower Wax

INCI Name: Helianthus Annuus Seed Wax

CAS: 68937-99-5

Synonyms: Helianthus Annuus Seed Wax, Helianthus Annuus (Sunflower) Seed Wax, Sunflower Seed Wax, Sunflower Wax

Chemical Class: Mixture

Functional Category: Skin Conditioning Agent ~ Occlusive, Viscosity Modifier, Antioxidant

Description: Sunflower wax is obtained by extracting oil from sunflower seeds through mechanical pressing. After extraction, the oil undergoes a refining process to remove impurities such as free fatty acids, phospholipids, pigments, and unwanted odors. The degumming process removes phospholipids. Free fatty acids are then eliminated by neutralization with an alkaline solution, creating soaps that are removed. Bleaching is achieved by adding adsorbents like activated clay to remove pigments and other impurities affecting the oil's color. Finally, deodorization removes odors and residual free fatty acids through vacuum distillation at high temperatures. After refining, the sunflower oil undergoes hydrogenation. Hydrogenation is a process that converts unsaturated fatty acids in the oil into saturated or partially saturated fatty acids. This process occurs in the presence of a catalyst, usually nickel, and hydrogen under elevated pressure and temperature. The goal of hydrogenation is to convert the oil from a liquid to a solid state at room temperature. After hydrogenation, the wax is cooled and filtered to remove any remaining catalysts and other impurities. During this cooling, the waxes transition from a liquid to a solid state. Once the waxes solidify, the oil is filtered to remove the wax components. These separated waxes undergo additional purification processes to achieve the desired purity and quality, including further filtration, washing, and drying. The final product is purified sunflower wax, which appears as hard, brittle pieces or flakes.

Chemical-Physical Properties: Chemically, sunflower wax consists of long-chain fatty alcohols, esters, and fatty acids. Primary components include C20 to C32 fatty alcohols

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and esters, contributing to its solid, waxy nature. The structure of sunflower wax is characterized by high melting points and long hydrocarbon chains, providing stability and firmness. Physically, sunflower wax appears as a hard, brittle material at room temperature. It has a high melting point, typically around 75-80°C, making it suitable for various cosmetic formulations requiring stability at higher temperatures. The wax is insoluble in water but can dissolve in organic solvents such as alcohols and oils. It has a smooth, glossy texture when melted, making it useful in lip balms, creams, and other personal care products.

Benefits:

- ***Emollient Properties:*** Sunflower wax is an excellent emollient. It helps soften and hydrate the skin. When applied, it forms a thin layer that prevents skin dehydration. This is particularly beneficial for products intended for dry and sensitive skin, such as lip balms, creams, and lotions.
- ***Texture Improvement:*** Adding sunflower wax to formulations enhances the texture of cosmetic products. The wax gives products a creamy, smooth consistency that is easy to apply and pleasant to touch. This makes the wax ideal for use in lip balms, sticks, and skin care creams.
- ***Stability and High Melting Point:*** Sunflower wax has a high melting point, usually around 75-80°C, making it stable at higher temperatures. This is important for products that may be exposed to heat, such as lip balms and creams carried in bags or pockets. The high melting point prevents melting and spoilage at higher temperatures.
- ***Natural Ingredient:*** Sunflower wax is natural, making it attractive to consumers who prefer natural and eco-friendly products. It contains no synthetic additives or preservatives, reducing the risk of irritation and allergic reactions.
- ***Film-Forming Properties:*** Sunflower wax forms a protective film on the skin's surface, helping protect against external factors like wind and cold. This "film-forming" effect is especially useful in products designed to protect the skin, such as protective lip balms and hand creams.
- ***Formulation Stability Improvement:*** Adding wax can help stabilize emulsions. This improves the longevity and quality of cosmetic formulations, ensuring products remain homogenized and effective over time.
- ***Viscosity Increase:*** Sunflower wax increases the viscosity of cosmetic products, useful for formulations requiring thicker textures, such as creams and lotions. Higher viscosity allows better control during application and better product adherence.

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• ***Compatibility with Other Ingredients:*** Sunflower wax is compatible with many ingredients used in cosmetics, including oils, butters, and emulsifiers. This makes it a versatile ingredient for various formulations.

Usage: In the production of lip balms, sunflower wax is melted together with other ingredients like oils, butters, and other waxes. It is used at concentrations of 5% to 10%, helping create a firm yet smooth texture that is easy to apply and provides long-lasting hydration and protection. These concentrations allow the balm to retain its shape and stability while providing a pleasant feel on the lips. In creams and lotions, sunflower wax is added to the melting phase along with other fatty components. In these formulations, it is used at lower concentrations, from 1% to 3%, to improve emulsion stability and increase viscosity without excessive thickening. This helps creams and lotions maintain a pleasant texture and ease of application while providing a protective layer on the skin for optimal hydration and protection. In hair care products like styling creams or balms, sunflower wax is used at concentrations of 2% to 5%. These concentrations allow products to give hair shine without a greasy feel, making hair easier to style and giving it a healthy appearance. When making soaps, sunflower wax is added as an additive to improve the texture and firmness of the soap. It is used at concentrations of 1% to 5%, helping the soap retain its shape and extending its durability, adding a slight sheen and smooth surface. The wax helps soaps last longer and appear more aesthetically pleasing. In all these formulations, sunflower wax is added during the melting and mixing phase with other fat phase ingredients at the appropriate temperature, usually between 70°C and 80°C. Once all ingredients are completely melted and combined, the mixture is cooled and poured into suitable molds or containers for the final product. This process ensures that the wax evenly distributes its benefits throughout the formulation, improving texture, stability, and protective properties. Using sunflower wax in various cosmetic products requires precise measurement and concentration adjustments to achieve the desired results regarding quality and performance of the final product. Moreover, proper use of wax contributes to product consistency and stability, making them more effective and pleasant to use.

Animal Testing: The substance has not been tested on animals

GMO: Non-GMO