

## TECHNICAL DATA SHEET

**Product Name:** White Jojoba Beads (40/60)

**INCI Name:** Hydrogenated Jojoba Oil

**CAS:** 92457-12-0

**Synonyms:** Hydrogenated jojoba oil, jojoba wax beads, jojoba wax pearls, hydrogenated jojoba wax, jojoba exfoliating beads

**Chemical Classification:** Hydrogenated vegetable wax (esters of long-chain fatty acids and fatty alcohols)

**Functional Category:** Mechanical exfoliant, skin conditioning agent

**Description:** Hydrogenated jojoba oil in the form of white beads is a solid, waxy cosmetic raw material of plant origin, obtained by controlled hydrogenation of jojoba oil. This process converts the liquid oil into a stable solid form while preserving its chemical affinity with the skin's natural lipids. The beads are spherical and uniformly sized, providing controlled and gentle mechanical action without sharp edges that could irritate the skin. The white color has a purely aesthetic function and does not affect the safety or performance of the ingredient. In cosmetic formulations, this ingredient is primarily used as a mild mechanical exfoliant. During massage on the skin, the beads remove surface impurities and dead skin cells without compromising the skin barrier. Unlike mineral or synthetic abrasives, hydrogenated jojoba beads do not break into sharp fragments but retain their shape, making them suitable even for sensitive skin types. After rinsing, the skin feels smooth, soft, and visually more even. In addition to the exfoliating effect, hydrogenated jojoba oil also acts as a skin conditioning agent. Its lipid structure enhances skin softness and reduces dryness that may occur after cleansing or exfoliation. Due to its compatibility with skin lipids, it does not clog pores and integrates well into facial and body care formulations, including products intended for sensitive areas, such as the area around the eyes, when used in appropriate particle size and concentration. This ingredient is stable over a wide temperature and pH range typical for cosmetic products and does not react with other formulation components. Due to its plant origin and favorable safety profile, it is widely used in naturally oriented and dermatologically formulated products requiring effective yet gentle exfoliation and high comfort during use.

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**Physicochemical Properties:** The melting point of jojoba beads ranges between 67 and 71 °C, with an average around 70 °C. During formulation, it is important to maintain process temperatures below 70 °C to preserve their solid, spherical structure. Under properly controlled temperatures, the beads remain stable and do not soften or deform during production or storage. This thermal stability allows safe incorporation into emulsions and other cosmetic systems. It is recommended to add them during the cooling phase or at temperatures below the recommended limit. This ensures that the beads retain their exfoliating function and uniform performance in the final formulation. The particle size is precisely controlled and represents a key property of this ingredient. The beads are medium-sized, with a diameter approximately between 250 and 425 microns. This size allows them to be perceptible on the skin without causing a harsh or aggressive effect. The exfoliation is even and predictable, without discomfort during massage.

### Benefits:

- Gently remove dead skin cells without scratching.
- Provide a uniform and controlled exfoliation effect.
- Smooth spherical surface reduces the risk of irritation.
- Suitable for regular use on face and body.
- Do not clog pores and do not leave a heavy skin feel.
- Improve skin smoothness and softness after rinsing.
- Maintain their shape during use, ensuring consistent performance.
- Stable color contributes to an attractive product appearance.
- Provide a pleasant massage experience without a harsh effect.

**Method of Use:** Jojoba beads are incorporated into formulations in the final stage of production. They are added after the emulsion is formed, during the cooling phase, at temperatures below 70 °C to preserve their structure. Before addition, they should be evenly dispersed into the base with gentle mixing to ensure uniform distribution without damaging the beads. In facial cleansing and mild exfoliating products, they are typically used at concentrations of 0.5–2%, providing a subtle exfoliating effect suitable for regular use. In body scrubs, higher concentrations of 2–5% are commonly used for a more pronounced mechanical effect. In shower gels, soaps, and rinse-off products, they are generally used at 1–3%, depending on the desired exfoliation intensity.

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Due to their smooth surface and good tolerability, they can also be used in formulations intended for sensitive areas, such as the area around the eyes, at the lowest recommended concentrations. Proper selection of concentration and formulation base ensures controlled exfoliation and a stable, safe, and pleasant final product.

**Comparative Advantages:** White jojoba beads with a 40/60 mesh size represent smaller exfoliating particles, approximately 250–425 µm in diameter. Compared to larger 20/40 mesh particles, this size provides an optimal balance between effective removal of dead skin cells and skin gentleness. The finer granulation enables smoother and more uniform mechanical exfoliation, making them particularly suitable for facial formulations. It also improves the sensory experience during application, delivering a smoother and more even feel.

**Natural or Synthetic Origin:** Hydrogenated jojoba oil is considered a natural cosmetic ingredient. The base raw material is natural jojoba oil, while hydrogenation modifies its physical state from liquid to solid without altering its fundamental lipid structure. Therefore, it is regarded as a natural derivative with controlled and consistent properties.

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