



The Sweet Secret of Monk Fruit Extract

❖ What is monk fruit?

Monk fruit, also known as Luo Han Guo, is a small gourd that has been cultivated for centuries in the mist-shrouded mountains of Southern China. Revered for its sweetness without the calories, monk fruit holds a rich history as a natural sweetener with functional benefits in traditional Chinese medicine.

❖ Why is monk fruit sweet?

Monk fruit is naturally sweet due to its unique group of compounds known as mogrosides, particularly **mogroside V**. When isolated through a purification process, these compounds are primarily responsible for the intense sweetness of monk fruit extract. Mogrosides are non-nutritive sweeteners that have been found to be several hundred times sweeter than sucrose (table sugar).

❖ How does monk fruit extract differ from other sweeteners?

Monk fruit extract differs from other sweeteners (e.g. table sugar or sucrose, high fructose syrup, artificial sweeteners, etc.) in the following ways:

- Naturally sourced: unlike many artificial sweeteners, monk fruit extract is sourced from the naturally sweet monk fruit.
- High intensity sweetness: monk fruit extract is ~200 fold sweeter than sugar. So a very small dosage is needed when replacing sugar in the formula.
- Zero calories: despite its remarkable sweetness, monk fruit extract does not contribute calories due to the fact that the mogrosides in monk fruit are not metabolized in the same way as sugar.
- Zero glycemic index: as mogrosides are metabolized in a different way from sugar and carbs, monk fruit extract does not impact on blood sugar levels and is a diabetic-friendly alternative sweetener.
- Antioxidant properties: beyond sweetness, monk fruit is rich in flavonoids known to have antioxidant properties, contributing to overall health and well-being.

❖ How is monk fruit extract made?

The process of making monk fruit extract involves several key steps. First, the ripe monk fruit is harvested and crushed. The juice is extracted with water, followed by a filtration step to remove the solid. The liquid then undergoes a chromatographic isolation process to purify the sweet components (mogrosides). Finally, the liquid extract is concentrated and dried into a powder form for ease of use in various food applications.



❖ **How is monk fruit extract graded?**

Monk fruit extract is graded based on its mogroside content, particularly mogroside V, the primary sweetening compound. The grading scale is determined by the percentage of mogroside V in the extract. Higher grades indicate a more concentrated and pure/clean sweetness. Common grades range from 10% to 40% mogroside V, with highly concentrated varieties reaching 50% or more. Higher-grade extracts are often preferred by food manufacturers for their ability to deliver sweetness with minimal impact on product formulation, such as bulking agents or unwanted flavors. The grading system allows manufacturers to choose extracts for their specific applications.

❖ **What is the regulatory status of monk fruit extract?**

Monk fruit extract is generally recognized as safe (GRAS) by regulatory authorities, including the U.S. Food and Drug Administration (FDA) and other international agencies. It has been approved for use as a sweetener in various food and beverage products. It's essential for manufacturers to comply with local regulations and adhere to acceptable usage levels for monk fruit extract in their specific applications.

❖ **What food applications is monk fruit extract good for?**

Monk fruit extract is often used as a natural sweetener in products labeled “sugar-free”, “no added sugar”, or “low-calorie”, providing a sweetening alternative without the calories and glycemic index associated with traditional sugars. Its versatility makes it a great choice for various applications in the food and beverage industry, including RTM/RTD beverages, confectionery and desserts, bakery products, dairy and frozen desserts, snack foods, and culinary condiments, among others.

❖ **How do I know if monk fruit extract is compatible with my formulation?**

Monk fruit extract demonstrates outstanding water solubility and remains stable under heat and light against degradation. With a neutral pH on its own, it seamlessly integrates into formulations across a broad pH spectrum, accommodating both acidic and basic conditions. The remarkable stability and adaptability of monk fruit extract make it a versatile sweetening solution suitable for a diverse range of formulations and processing conditions.

❖ **How much monk fruit extract shall I use to replace sugar?**

Monk fruit extract is significantly sweeter (~200 fold) than sugar, so a small amount can go a long way. A general guideline is to start with a smaller quantity of monk fruit extract, taste the product, and adjust as needed. Keep in mind that monk fruit extract may have a slightly different taste profile than sugar, so finding the right balance is key. It's advisable to conduct small-scale trials during your product development phase to determine the optimal amount of monk fruit extract for your specific formulation and to ensure that the desired sweetness level is achieved without any undesirable aftertaste.