MONK FRUIT EXTRACT
(LUO HAN GUO)

CHENGDU NOKETE BIO-TECH CO., LTD.
Monk Fruit (Luo Han Guo) refers to the fruit of Siraitia grosvenorii, formerly called Momordica grosvenorii, a member of the Curcubitaceae. It has been used as a medicinal herb for treating cough and sore throat and is popularly considered, in southern China, to be a longevity aid. Monk Fruit has more recently been developed into a non-caloric sweetener to compete with other herbal sweeteners such stevioside from the unrelated Stevia leaf.

**Introduction of Monk Fruit**

**Characteristics:**

Luohanguo is collected as a round green fruit that turns brown upon drying. The sweet taste of luohanguo comes primarily from mogrosides, a group of terpene glycosides, present at the level of about 1% of the fleshy part of the fruit. Both the fresh and dried fruits are extracted to yield a powder that is 80% or more mogrosides. The mogrosides have been numbered, 1-5, and the main component is called mogroside-5, previously known as esgoside (see chemical structure diagram below). Other, similar compounds from luohanguo have been labeled siamenoside and neomogroside. The mixed mogrosides are estimated to be about 300 times as sweet as sugar by weight, so that the 80% extracts are nearly 250 times sweeter than sugar; pure mogrosides 4 and 5 may be 400 times as sweet as sugar by weight.

The fruit is seldom used fresh anyway, due to the problems of storing it; further, the raw fruit has unattractive flavors and a tendency to easily form off-flavors by fermentation; also, its pectin eventually gels. So, it is common to dry the fruits for any further use, and this is how they appear in Chinese herb shops. The fruits are slowly dried in ovens; the drying process preserves the fruit and removes most of the objectionable flavor of the fresh fruit, which is associated with volatile components.
Monk Fruit is primarily grown in southern China, mainly in Guangxi Province, with most of the product from the mountains of Guilin. The steep mountains provide shade and they are frequently surrounded by mists that further protect against excessive sun, yet the temperature in this southern province is warm. The wild plant is rare, thus luohanguo has been cultivated in the region for many years. There are descriptions of its cultivation in the area dating back to 1813.

Dried fruit may be bought in the city markets. The outer surface of the dried fruit is round and smooth, dusty yellow-brown or dusty green-brown. It is covered with fine, soft hair. The fruit is covered by a hard but thin shell. Inside is a partly dry, flexible substance containing the juice, as well as a large number of seeds. The skin, juicy part, and seeds all have a good sweet flavor. Its nature is cool, and it has no poison. The fruit helps relieve sunstroke, moistens the lungs, eliminates phlegm, stops cough, and promotes bowel movements.
1. Background:

Monk fruit sweetener is made from extract derived from dried fruit. The extract is 150-250 times sweeter than table sugar, has zero calories and carbs, and does not raise blood glucose levels.

Most nonnutritive sweeteners can cause side effects like gas, bloating, or allergic reactions. And some artificial sweeteners like Equal and Splenda are controversial. In the case of monk fruit sweeteners, there are no known side effects.

Leading global health authorities such as the European Food Safety Authority (EFSA), FAO/WHO Joint Expert Committee on Food Additives (JECFA), U.S. Food and Drug Administration (FDA), Food Standards Australia New Zealand (FSANZ) and Health Canada have found low and no-calorie sweeteners to be safe. Monk fruit extract has been recognized as Generally Recognized as Safe (GRAS) by the FDA for use in foods and beverages since 2010.

2. Brief Introduction:

Product Name: Monk Fruit Extract
Alternate names: Luo Han Guo, Momordica grosvenori
Botanical Source: *Siraitia grosvenorii*
Part of plant used: Fruit
Appearance: Light yellow powder or White powder
Active Ingredient: Mogroside V
CAS number: 88901-36-4
Molecular Formula: C_{60}H_{102}O_{29}
Molecular Weight: 1287.44

3. Specifications We Offer:

- Mogrosides: 80% (UV)
- Mogroside V: 20-65% (HPLC)

4. Recommend Dosage:

15 to 30 grams, or 1 to 2 pieces of the entire fruit, in decoction.

5. Packaging: Low-density polyethylene bag with cardboard drum outside, 20kgs per drum.

6. Storage: Store at cool and dry place. Avoid from strong light and heat.

7. Shelf Life: 24 months when properly stored.
1. Safe for Diabetes
Monk fruit gets its sweetness from natural compounds called mogrosides. It’s generally safe for those with diabetes because it doesn’t increase blood sugars. Even so, foods and drinks sweetened with monk fruit (as well as some monk fruit sweet-ener blends) may include added sugars and other ingredients that increase carb and calorie counts or affect insulin sensitivity. Don’t assume all monk fruit products are carb- and sugar-free.

2. Promotes Weight Loss
Monk fruit has no calories, carbs, or fat, so it may be a great option for anyone watching their waistline. You can save substantial calories and carbs by simply substituting monk fruit sweetener for table sugar throughout your day. Again, make sure you consume monk fruit products that don’t include added sugars. And save treats made with monk fruit for special occasions because many still include diet-busting ingredients like chocolate or butter.

3. Anti-inflammatory Properties
According to a 2011 study, monk fruit has been used in TCM for centuries to make hot drinks that relieve sore throats and reduce phlegm. The fruit’s mogrosides are said to be anti-inflammatory, and may help prevent cancer and keep blood sugar levels stable.
Monk Fruit Used in Market

There are plenty of companies have already used stevia extract in their finished products: Starbucks, Splenda, Dole, LUMA, Chobani etc.