Mogroside V Product Specification Sheet

Mogroside V is a natural triterpene glycoside high-intensity sweetener extracted from **Siraitia Grosvenorii**, a traditional Chinese medicinal and edible homologous plant. As a food additive (sweetener), it is refined from fresh/dried monk fruit raw materials through extraction, purification, concentration and drying. It features **120-350 times the sweetness of sucrose**, zero calorie, zero GI, high stability and pure flavor. It meets the demands of sugar control, fat reduction, anti-caries and high-temperature processing, and is widely applied in food, beverage, health products, infant food, pharmaceutical and daily chemical industries.

Ⅰ. Basic Information

- Chinese Name：Luo Han Guo Sweet Glycoside (Monk Fruit Saponin, Monk Fruit Extract, Luo Han Guo Glycoside, Mogroside V)
- English Name：Lo-Han-Kuo Extract、Monk Fruit Extract、Mogroside V
- CAS No.：88901-36-4 (Mogroside V)
- INS No.：None
- CNS No.：19.015
- UN No.：None (Non-dangerous Goods)
- Product Type：Food Additive (Natural High-intensity Sweetener), Functional Sweet Ingredient, Medicinal and Edible Homologous Extract
- Executive Standards：GB 1886.77-2016、GB 2760-2024、US FDA GRAS (GRN 706)、European Union、JECFA、FCC
- Production Process：

  Using fresh/dried monk fruit as raw material, the high-purity powder is prepared via screening, crushing, water boiling/solvent extraction, separation and clarification, macroporous resin adsorption and purification, ion exchange, concentration, sterilization and spray drying.

Ⅱ. Appearance & Characteristics

1. Appearance Property：

White, light yellow to light brown powder, no visible impurities to the naked eye, good fluidity; low hygroscopicity and not easy to agglomerate.

2. Odor & Taste：

Almost odorless or with slight characteristic delicate fragrance of monk fruit; pure, rich and long-lasting sweetness, close to sucrose taste, no after-bitterness, no metallic taste
and no peculiar odor.

3. Solubility：

Easily soluble in water (higher solubility in hot water), soluble in dilute ethanol; aqueous solution is clear and transparent without precipitation or turbidity.

4. Sweetness Characteristic：

120-350 times sweeter than sucrose (increases with the purity of Mogroside V content). The sweet taste takes effect

slightly slowly with a long aftertaste. Compound blending with sucrose, erythritol, sucralose etc. can optimize sweet sensation and mask peculiar flavors.

5. Calorie Value:

≈0 kcal/g (hardly absorbed or metabolized for energy by human body), genuine zero calorie, suitable for zero-calorie, energy-controlled and fat-loss groups.

6. GI Value:

≈0, zero glycemic index. It is not absorbed by the small intestine, its metabolism does not rely on insulin and will not raise blood glucose, suitable for diabetic, sugar-controlled and low-sugar diet groups.

7. Stability:

High temperature resistance (≤180℃), acid and alkali resistance (pH 3.0-11.0), stable chemical property. It does not cause Maillard browning and will not react with protein, amino acids and vitamins, adapting to strict processes such as high-temperature sterilization, baking, acidic beverages and hard candy boiling.

8. Hygroscopicity & Moisturizing Property:

Crystalline/high-purity products have low hygroscopicity, superior to most sugar alcohols; with mild moisturizing property, it can maintain stable product texture.

III. Physical and Chemical Indexes (Food Grade, Calculated on Dry Basis)

- Mogroside V Content: ≥20%、25%、30%、40%、50%、60%、80%、90%、95% (multiple specifications optional)
- Moisture: ≤6.0%
- Ash Content: ≤2.0%
- pH (1% Aqueous Solution): 5.0-7.0
- Heavy Metals (Calculated as Pb): ≤1.0 mg/kg
- Total Arsenic (Calculated as As): ≤1.0 mg/kg
- Microorganism:

・Total Plate Count ≤10^3 CFU/g
・Molds and Yeasts ≤10^2 CFU/g
・Coliforms Negative / 10g
・Salmonella Negative / 25g

IV. Nutritional and Functional Characteristics

- Zero Calorie & Zero GI:

  No energy supply and no blood sugar rise, safe for diabetics, obese and sugar-controlled populations.
- Anti-caries & Oral Care:

  Not fermented by oral bacteria to produce acid, non-cariogenic and inhibits dental plaque, suitable for sugar-free food and oral care products.
- High-intensity Natural Sweetness:

  Derived from medicinal and edible homologous plants, 100% natural source with clean label, conforming to healthy consumption trends.

- Excellent Processing Stability:

  Resistant to high and low temperature, acid and alkali, no browning and no chemical reaction, compatible with all food processing technologies.

- Flavor Synergy and Enhancement:

  Masks astringency, bitterness and peculiar odors, enhances fruit flavor, milk flavor and spicy flavor, and improves overall flavor coordination.

- High Safety and Tolerance:

  LD_{50} > 10g/kg (oral administration in mice). GRAS certified and applicable to infant food with no side effects at conventional doses.

V. Application Fields

Beverages

Sugar-free/low-sugar beverages, carbonated drinks, fruit juice, tea drinks, coffee, solid beverages, sports drinks, functional drinks (zero-calorie sweetening and flavor stabilization)

Food

Baked goods, candy and chocolate, chewing gum, jelly and pudding, jam, preserved fruit, dairy products, ice cream, table sugar, sugar substitute sachets (high-intensity sugar reduction and zero-calorie calorie control)

Health Products & Pharmaceuticals

Sugar-controlling health products, tablet/capsule excipients, oral liquid, throat lozenges, traditional Chinese medicine preparations (bitterness masking, sweetening and stabilization)

Infant Food

Formula food, complementary food, snacks (FDA GRAS certified, safe and zero burden)

Daily Chemicals & Oral Care

Toothpaste, mouthwash, skin care products (anti-caries, mild, hypoallergenic and stable system)

Feed Additives

Pet food, livestock and poultry feed (improves palatability, hypoallergenic, safe, zero sugar and weight control)

VI. Core Advantages

- 100% Natural Medicinal and Edible Homology:

  Derived from specialty Chinese monk fruit, non-artificially synthesized, clean label, natural and healthy with long-term edible safety record.

- Genuine Zero Calorie & Zero GI:

  Not absorbed, metabolized or blood sugar elevated by human body, the first choice for sugar control and fat loss, superior to most sugar alcohols and synthetic sweeteners.

- High-intensity Sweetness & Cost Optimization:

  120-350 times sweeter than sucrose with extremely low dosage and significant cost reduction; sucrose substitution ratio can reach over 90%.

- Pure Sweet Taste & No Unfavorable Flavor:

  No after-bitterness, no metallic taste and no peculiar odor, the sweet taste is close to sucrose with strong

compound compatibility.

- Full Process Stability & No Browning:

  High temperature and acid-base resistant, no reaction with ingredients, perfectly compatible with baking, high-temperature sterilization and acidic food.

- Wide Safety Range & Infant Applicable:

  Certified by FDA GRAS and Chinese national standards, usable in infant food with high tolerance and gastrointestinal friendliness.

- Full Coverage of Multi-field and Multi-function:

  Integrates multiple functions including high-intensity sweetening, flavor improvement, texture stabilization, odor masking and zero-calorie sugar control, covering food, beverage, health products, pharmaceutical, daily chemical and feed industries.

Ⅶ. Quality Assurance

- Complete COA (Certificate of Analysis) provided for each batch, including full-item detection of sensory, physical and chemical, content, microorganism and heavy metals with true and traceable data.
- The production system strictly complies with HACCP、ISO 22000、FSSC 22000 and GMP, implementing clean production and quality control throughout the whole process.
- Authoritative certifications such as Non-GMO, Halal, Kosher, FDA GRAS, GB 1886.77-2016 and JECFA are available.
- Raw materials traceable to organic/green planting bases, whole-process quality control with high batch stability, meeting dual standards of food grade and health product grade.

Nutritional Composition Table of Mogroside V

Nutritional Composition Table (Per 100g, High-purity Powder Type)

Item Per 100g Nutrient Reference Value % (NRV%)

Energy ≤17 kJ (4 kcal) 0%

Protein 0g 0%

Fat 0g 0%

Carbohydrates ≥98.0g 33%

— Among which: Mogroside V ≥20.0%~95.0% (Subject to specifications) —

Dietary Fiber 0g 0%

Sodium 0mg 0%

Labeling Specification

1. Nutritional Composition Labeling: Strictly follow the above table format in compliance with GB 28050-2025; energy calculated at ≤0.4 kJ/g with compliant NRV% calculation.
2. Warning Labeling: Marked in a prominent position (font size ≥ 1/2 of product name): Excessive consumption may cause gastrointestinal discomfort; caution for people with sensitive intestines.
3. Compliance Statement Labeling: This product complies with GB 1886.77-2016 and GB 2760-2024, and can be appropriately used as a food additive (sweetener) according to production requirements.
4. Product Name Labeling: Mark both Chinese name Monk Fruit Sweet Glycoside and English name Monk Fruit Extract / Mogroside V, clearly indicate **content specification (e.g. V20%, V50%)** and appearance form (powder).
5. Claim Specification: Allowed to mark zero calorie, zero GI, natural, anti-caries, high-intensity sweetener, sugar control compatible and clean label; medical efficacy claims (such as blood sugar lowering, disease treatment, weight loss and anti-inflammation) are prohibited.

Key Notes

1. NRV% Calculation: In accordance with GB 28050-2025: Energy NRV=8400 kJ, Carbohydrate NRV=300 g; the energy coefficient of Mogroside V ≈0 kJ/g.
2. Carbohydrate Labeling Logic: Mogroside V belongs to natural glycoside carbohydrates and is included in total carbohydrates; with zero GI property, labels can compliantly mark sugar-free, low-sugar, zero-calorie and sugar control compatibility.
3. Metabolic Characteristics: Hardly absorbed by the small intestine and mildly fermented in the large intestine, with better tolerance than most sugar alcohols and safe without side effects at conventional doses.
4. Export Labeling: Supplementary compliance logos for overseas markets (such as FDA GRAS, European Union, JECFA, Halal, Kosher certification).
5. Customized Specifications: Multiple purity specifications from V20% to 95% are available, supporting customized purification, debittering, decolorization and carrier compounding (blended with erythritol, maltodextrin, etc.).