



MONK FRUIT CORP.

**PRODUCT-SPECIFIC TECHNICAL INFORMATION
DOCUMENTS**

Monk Fruit Extract MFC-E13.5





1226 American Way
Libertyville, IL 60048
USA
Tel: +1 847 367 6665

59 Vickery St
Te Rapa, Hamilton 3200
New Zealand
Tel: +64 7 849 0593

5 Liangfeng Road, Yanshan,
Guilin, Guangxi 541006
People's Republic of China
Tel: +86 773 355 1033

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TECHNICAL DATA SHEET: MFC-E13.5

Last Update: 01-Jul-2020



Identity

Product name: Monk Fruit Extract

Product code: MFC-E13.5

Botanical name: *Siraitia grosvenorii*

Synonyms: Luo han guo extract

Country of Origin: China

Availability: Year-round

Plant part: Fruit

FDA GRAS: GRN556

INCI name: *Siraitia grosvenorii* Fruit Extract

Average bulk density: 0.3375 g/cm³

Key Facts

Natural	Yes
Organic compliant	Yes
GMO-free	Yes
Contains Allergens	No
BSE/TSE	No
Irradiated or Fumigated	No
Gluten Free	Yes
Complies with vegetarian and vegan diets	Yes
Food grade	Yes



Applications

Monk fruit can be used to reduce sugar in:

- Beverages
- Dairy
- Cereals
- Baked Goods
- Table-top sweeteners
- Packaged Foods
- Confectionary

Product Benefits

- 100% natural fruit extract with characteristic monk fruit flavor
- Fruit source gives clean label
- Can be blended with other caloric/non-caloric sweeteners
- pH and heat stable

Certifications

GMP	
HACCP	
ISO9001	
ISO22000	
FSSC 22000	
BRC	
Halal	
Kosher	
Non-GMO	

Compositional Analysis

Component	g/100g
Mogroside V	14.6
Other mogrosides	5.3
Protein	32.1
Other ¹	21.5
Total sugars	11
Sucrose	5.1
Glucose	3.2
Fructose	2.7
Lactose	0.0
Maltose	0.0
Lipid	0.0
Fiber	6.4
Ash	4.3
Moisture	4.8

1. Other includes minerals, melanoidins and flavonoids.



Sweetness Potency Guide – MFC-E13.5

Sugar Replaced (°Brix)	Use Level In (ppm)		
	Milk	pH 7	pH 3.2
0.00	0	0	0
0.50	52	78	130
1.00	104	156	259
1.50	156	259	389
2.00	233	389	544
2.50	337	519	700
3.00	441	674	881
3.50	544	830	1,063
4.00	700	1,011	1,296
4.50	856	1,219	1,530
5.00	1,011	1,426	1,763
5.50	1,193	1,659	2,048
6.00	1,400	1,919	2,333
6.50	1,633	2,178	2,644
7.00	1,867	2,437	2,981
7.50	2,152	2,748	3,344
8.00	2,437	3,033	3,733
8.50	2,722	3,370	4,122
9.00	3,059	3,707	4,563
9.50	3,396	4,044	5,030
10.00	3,785	4,407	5,496

Example: Use 176 milligrams of MFC-E13.5 to replace 5g of sugar in 100g of finished beverage with a pH of 3.2.





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PRODUCT SPECIFICATION

Product Name	Monk Fruit Extract	
Product Code	MFC-E13.5	
Manufactured by	Guilin GFS Monk Fruit Corp.	
Manufacturing Address	5 Liangfeng Road, Yanshan, Guilin, Guangxi 541006, People's Republic of China	
Country of Origin	People's Republic of China	
Item	Specification	Method
Process Data		
Plant Source	<i>Siraitia grosvenorii</i>	N/A
Plant Part Used	Fresh Fruit	N/A
Method of Extraction	Water Extract	N/A
Carrier	None	N/A
Organoleptic Data		
Appearance	Powder	GFS in-house method
Color	Yellow to white	GFS in-house method
Odor	Characteristic	GFS in-house method
Taste	Sweet	GFS in-house method
Chemical and Physical Characteristics		
Mogroside V	≥ 13.5 %	GFS in-house method
Ash Content	≤ 5.0 %	GB 5009.4-2016
Moisture	≤ 5.0 %	GB 5009.3-2016 2nd method
pH	≥ 4.0, ≤ 5.0	GFS in-house method
Particle Size	≥ 90% pass 80 mesh	GFS in-house method
Solubility	0.1% (w/v) completely dissolved in 50°C water	GFS in-house method
Heavy Metals		
Arsenic	≤ 0.5 mg/kg	GB 5009.11-2014
Lead	≤ 0.8 mg/kg	GB 5009.12-2017
Mercury	≤ 0.1 mg/kg	GB 5009.17-2014
Copper	≤ 20.0 mg/kg	GB 5009.13-2017
Cadmium	≤ 0.3 mg/kg	GB 5009.15-2014
Zinc	≤ 20.0 mg/kg	GB 5009.14-2017
Microbiology		



MonkFruit Corp.

The World's Leading Monk Fruit Company



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Total Plate Count (CFU/g)	n=5, c=0, m=10 ³	GB 4789.2-2016
Yeast & Mold	≤ 100 CFU/g	GB 4789.15-2016
Coliforms (CFU/g)	n=5, c=0, m=10	GB 4789.3-2016
E. coli	Negative in 25 g	AOAC No. 990.11
Enterobacteriaceae	< 10 CFU/g	GB 4789.41-2016
Staphylococcus aureus (CFU/g)	n=5, c=0, m=10	GB 4789.10-2016
Salmonella (in 25 g)	n=5, c=0, m=0	GB 4789.4-2016
Notes: n = number of samples c = maximum number of samples beyond m m = microbiological limit that separates good from marginally acceptable quality		

Shelf Life:	36 months from the date of manufacture
Storage & Transport Conditions:	Store and transport at ambient temperature away from direct sunlight in air-tight sealed container in cool, dry area
Packaging Materials:	Inner: Polyethylene bag; Outer: Aluminium foil bag; Paper drum
Packaging Details:	1 kg × 15 bags/drum; 15 kg × 1bag/drum

Updated by: Gilda Lie

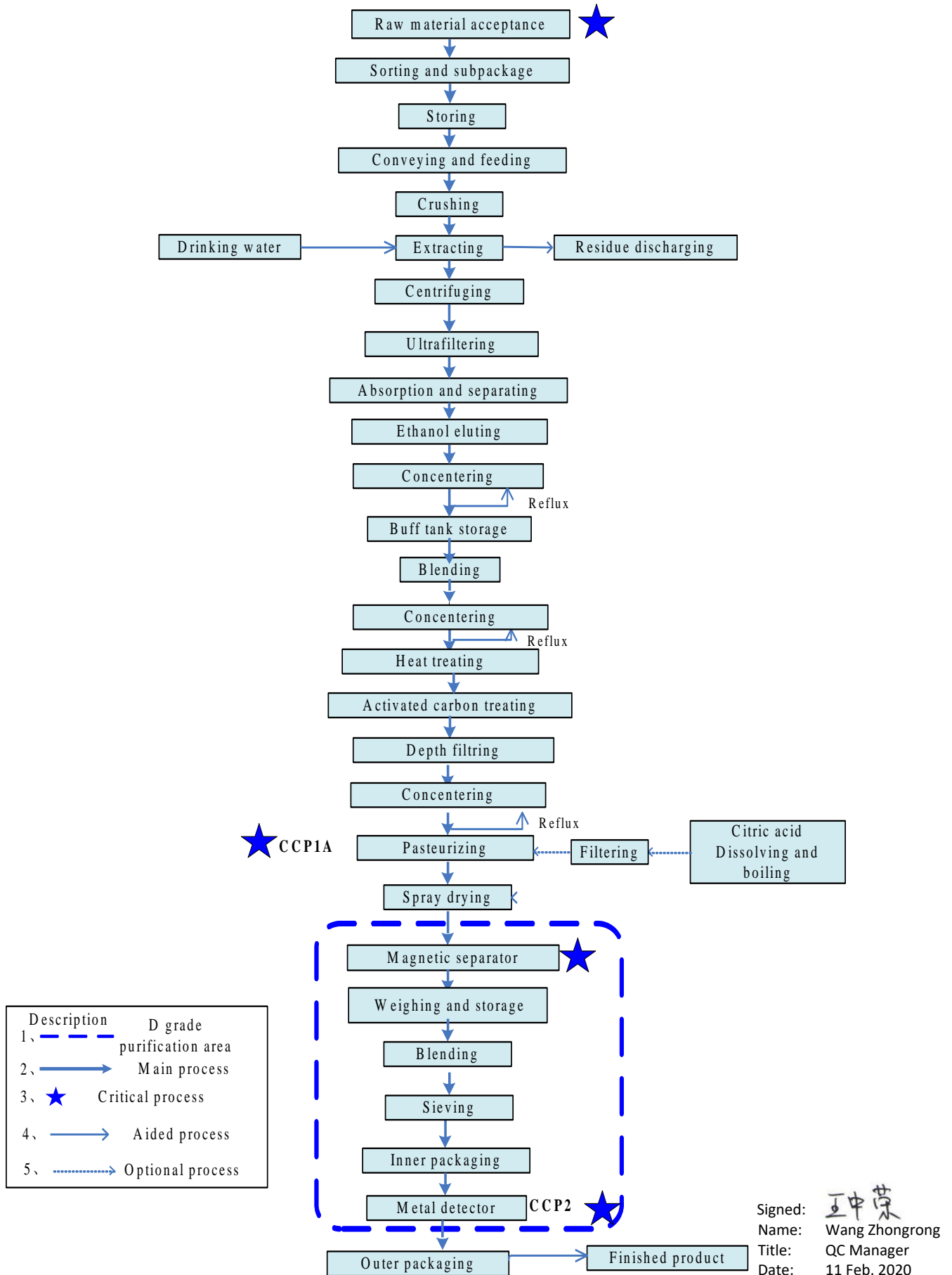
Date: Jun 15, 2020

Approved by: Zhongrong Wang

Date: Jun 15, 2020



Flow Chart of Monk Fruit Extract (MFC-E13.5)



Signed: 王中荣
 Name: Wang Zhongrong
 Title: QC Manager
 Date: 11 Feb. 2020



Nutrition Information – Monk Fruit Extract (MFC-E13.5)

Nutrition Information (per serve)

Nutrition Facts	
Serving Size	404 mg
Amount Per Serving	
Calories	0
	% Daily Value*
Total Fat 0g	0%
Saturated Fat 0g	0%
<i>Trans</i> Fat 0g	0%
Cholesterol 0mg	0%
Sodium 0mg	0%
Total Carbohydrate 0g	0%
Dietary Fibre 0g	0%
Total Sugars 0g	
Includes 0g Added Sugars	0%
Protein 0g	0%
Vitamin D 0mcg	0%
Calcium 0mg	0%
Iron 0mg	0%
Potassium 0mg	0%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutritional advice.





Nutrition Information – Monk Fruit Extract (MFC-E13.5)

Nutrition Information (per 100g)

Nutrition Facts	
Amount Per 100g	
Calories (kcal)	364
	% Daily Value*
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	0%
Cholesterol 0mg	0%
Sodium 59mg	3%
Total Carbohydrate 59g	21%
Dietary Fiber 6g	23%
Total Sugars 11g	
Added Sugars 0g	0%
Protein 32g	64%
Vitamin D 0mg	0%
Calcium 219mg	17%
Iron 18mg	98%
Potassium 2mg	0%
*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	

Notes to Nutrition Facts:

1. Total Carbohydrate is by subtraction.
2. Mogrosides are included in Total Carbohydrate.

Sincerely,

Dated: 03 November 2020

Camille Senioris

Camille Senioris

Vice President of Science, Quality and Regulatory Affairs





Process Description for Monk Fruit Extract (MFC-E13.5)

Product Details	MFC-E13.5
Plant Source	Monk Fruit (<i>Siraitia grosvenorii</i>)
Factory Address	5 Liangfeng Road, Yanshan, Guilin, Guangxi 541006 - China
Country of Origin	People's Republic of China

Monk Fruit Extract MFC-E13.5 is manufactured by Monk Fruit Corp at the facility listed above. The production process is as follows:

1. Fresh monk fruit is crushed then decocted in a counter current extractor at 80°C with deionised water. The supernatant (dilute juice) is passed through a centrifuge to remove large insoluble compounds and is then clarified by passing through a ceramic ultra-filtration membrane.
2. The clarified water-extracted juice from step 1 is passed through an adsorbent resin.
3. The monk fruit solids which are bound to the adsorbent resin at step 2 are eluted from the resin with a water-ethanol mixture.
4. The ethanol is removed from the water-ethanol mixture by nano-filtration and evaporation/distillation.
5. Solution from step 1 is mixed with solution from step 4 and impurities are removed from the mixture with an ion exchange resin.
6. The mixed solution from step 5 is sterilized and then spray dried at a temperature of 170°C. There is no carrier added.

Sincerely,

Dated: 03 November 2020

Camille Senioris

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