KEEP INGREDIENTS CO. LTD

No. 2019, Unit 1, Building 10, Yuexiucheng Phase 1, Guodu Xuefu Street, Chang'an District, Xi'an, Shaanxi, 710119, China

TECHNICAL DATA SHEET

Dioscorea Nipponica Extract (20% Protodioscin)

1. PRODUCT DESCRIPTION

Dioscorea nipponica extract is a standardized botanical extract obtained from the root of Dioscorea nipponica Makino, standardized to a protodioscin content of not less than 20% (HPLC). The product is supplied as a fine powder with a characteristic odour and taste. It is intended for use as a food, nutrition, cosmetic and pharmaceutical ingredient.

2. PRODUCT INFORMATION

Item	Information
Product name	Dioscorea Nipponica Extract
Active ingredient	Protodioscin ≥ 20% (HPLC)
Botanical source	Dioscorea nipponica Makino
Part used	Root
Appearance	Fine powder
Colour	Brown
Odour & taste	Characteristic
Sterilization method	Heat || Non-irradiation / ETO
Solvents used	Water / Ethanol
Country of origin	China
Supplier	KEEP INGREDIENTS CO. LTD, Xi'an, Shaanxi, China
Shelf life	36 months

3. PRODUCT SPECIFICATION

Item	Specification	Test method
Assay (protodioscin)	≥ 20%	HPLC
Identification	Correspondent to the reference standard	HPTLC
Appearance	Fine powder	Visual
Colour	Yellow brown	Visual
Odour	Characteristic	Organoleptic
Taste	Characteristic	Organoleptic
Sieve (80 mesh)	≥ 80%	80 mesh screen
Loss on drying	≤ 5.0%	ChP 2020, 3 h / 105 °C
Ash	≤ 5.0%	5 h / 525 °C
Bulk density	30 – 70 g/100 mL	—

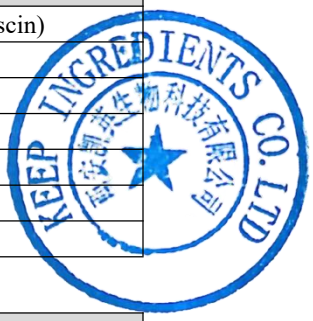


Item	Specification	Test method
Heavy metals	≤ 10.0 ppm	ICP-MS
Arsenic (As)	≤ 2.0 ppm	ICP-MS
Lead (Pb)	≤ 1.0 ppm	ICP-MS
Mercury (Hg)	≤ 0.1 ppm	ICP-MS
Cadmium (Cd)	≤ 0.1 ppm	ICP-MS

Item	Specification	Test method
Total plate count	< 10,000 CFU/g	AOAC
Yeast & mould	< 1,000 CFU/g	AOAC
E. coli	Negative	AOAC
Salmonella	Negative	AOAC

4. CERTIFICATE OF ANALYSIS

Field	Detail
Product name	Dioscorea nipponica Extract (20% Protodioscin)
Batch No.	KYDNE2026060301
Quantity	200 kg
Manufacture date	Jun. 03, 2026
Report date	Jun. 10, 2026
Expiry date	Jun. 02, 2029
Country of origin	China



Item	Specification	Result	Test method
Assay (protodioscin, %)	≥ 20.0	22.15	HPLC
Identification	Correspondence to the reference	Conform	HPTLC
Appearance	Fine powder	Conform	Visual
Colour	Brown	Conform	Visual
Odour	Characteristic	Conform	Organoleptic
Taste	Characteristic	Conform	Organoleptic
Sieve (80 mesh, %)	≥ 80	92	80 mesh screen
Bulk density (g/100 mL)	30 – 70	58.02	—
Loss on drying (%)	≤ 5.0	1.3	ChP 2020, 3 h / 105 °C
Ash (%)	≤ 5.0	3.6	5 h / 525 °C
Heavy metals (ppm)	≤ 10.0	Conform	ICP-MS
Arsenic (As, ppm)	≤ 2.0	Conform	ICP-MS
Lead (Pb, ppm)	≤ 1.0	Conform	ICP-MS
Mercury (Hg, ppm)	≤ 0.1	Conform	ICP-MS
Cadmium (Cd, ppm)	≤ 0.1	Conform	ICP-MS
Total plate count (CFU/g)	< 10,000	< 100	AOAC
Yeast & mould (CFU/g)	< 1,000	< 10	AOAC
E. coli	Negative	Not detected	AOAC
Salmonella	Negative	Not detected	AOAC

5. COMPOSITION

Ingredient	Percentage (w/w)
Dioscorea nipponica extract	78%
Fiber	NMT 5%

Ingredient	Percentage (w/w)
Water	NMT 5%
Ash	12%

6. PRODUCTION PROCESS

The following production flow is transcribed from the supplied HACCP process flow chart for protodioscin (Dioscorea nipponica extract). CCP1 (extraction) and CCP2 (drying) are the critical control points.

Step	Operation
1	Raw material (Dioscorea nipponica)
2	Cold maceration, 60 min
3	Extraction (CCP1): 80% ethanol, heated to a slight boil after cold maceration, extracted 3 times (3 h each)
4	Concentration: recovery of ethanol, concentrate to no alcohol odour, relative density 1.05 – 1.1 g/mL
5	Column adsorption on D101 resin (resin : raw material = 1 : 2), dynamic adsorption 240 min
6	Elution: softened water; 7% ethanol 1 BV; 70% ethanol 3 BV
7	Concentration of eluate (≤ 75 °C, relative density 1.1 – 1.12 g/mL)
8	Drying (CCP2)
9	Pulverizing
10	Mixing, inner packaging and outer packaging

7. STATEMENTS AND COMPLIANCE

- **Non-GMO**: the product is confirmed as Non-GMO.
- **Allergen**: the product does not contain the listed allergens (including gluten, wheat, soybean, peanut and tree nuts, milk or dairy products, eggs, crustaceans, fish, sesame, mustard, etc.); ethanol is used as a solvent in the extraction process.
- **Country of origin**: the country of origin of the product is China.
- **Hazard**: the product is stable under normal conditions, is not hazardous for transport (DOT and IATA), and has HMIS/NFPA health, flammability and reactivity ratings of 0. It is incompatible with strong oxidizing agents; hazardous decomposition products are carbon monoxide and carbon dioxide.

8. STORAGE AND TRANSPORTATION

- Shelf life: 36 months;
- Storage: store in tight, light-resistant containers, avoid exposure to direct sunlight, moisture and excessive heat; the MSDS additionally recommends long-term storage of 3 years below 0 °C.
- Packing: 25 kg net, polyethylene bag with cardboard drum.
- Transport: not hazardous for transport (DOT; IATA non-hazardous).

