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

Liposomal Curcumin 70% - only Sunflower lecithin carrier

1. PRODUCT DESCRIPTION

Liposomal Curcumin is a curcumin product delivered in a phospholipid liposomal carrier. It is supplied as a yellow fine powder with a characteristic odor. The active marker is curcumin, specified at ≥ 70% by HPLC; the plant origin is Curcuma longa L.

2. PRODUCT INFORMATION

Item	Information
Product name	Liposomal Curcumin (70%)
Active marker	Curcumin
Assay (curcumin)	≥ 70% (HPLC)
Plant origin	Curcuma longa L
Liposomal carrier	Phospholipids
CAS No. (curcumin)	458-37-7
Molecular formula (curcumin)	$C_{21}H_{20}O_6$
Molecular weight (curcumin)	368.380
Form (per SDS)	Yellow fine powder; characteristic odor; water content ≤ 5.0%
Country of origin	China
Supplier	KEEP INGREDIENTS CO. LTD, Xi'an, Shaanxi, China

3. PRODUCT SPECIFICATION

Item	Specification	Method
Appearance	Yellow powder	Visual
Odor	Characteristic	Sense
Assay (curcumin)	≥ 70%	HPLC
Entrapment rate	≥ 80%	CP2020<9014>
Mesh size	100% pass 80 mesh	CP2020<0982>
Loss on drying	≤ 5.0%	GB 5009.3
Ash content	≤ 5.0%	GB 5009.4
Heavy metal	≤ 20.0 mg/kg	GB 5009.78
Lead (Pb)	≤ 2.0 mg/kg	GB 5009.12
Arsenic (As)	≤ 2.0 mg/kg	GB 5009.11
Cadmium (Cd)	≤ 1.0 mg/kg	GB 5009.15
Mercury (Hg)	≤ 0.1 mg/kg	GB 5009.17
Total plate count	≤ 1,000 CFU/g	GB 4789.2

Item	Specification	Method
Yeast & Mold	≤ 100 CFU/g	GB 4789.15
E. coli	Negative	GB 4789.38
Salmonella	Negative	GB 4789.4
Staphylococcus aureus	Negative	GB 4789.10

4. CERTIFICATE OF ANALYSIS

Field	Detail
Product name	Liposomal Curcumin
Specification	70%
Batch No.	KYLC2026052201
Batch size	120 kg
Manufacture date	May 22, 2026
Report date	May 29, 2026
Expiry date	May 21, 2028
Plant origin	Curcuma longa L
Liposomal carrier	Phospholipids

Item	Specification	Result	Method
Appearance	Yellow powder	Conforms	Visual
Odor	Characteristic	Conforms	Sense
Assay (curcumin)	≥ 70%	70.41%	HPLC
Entrapment rate	≥ 80%	83.55%	CP2025<9014>
Mesh size	≥ 95% pass 80 mesh	100% pass 80 mesh	CP2025<0982>
Loss on drying	≤ 5.0%	1.87%	GB 5009.3
Ash content	≤ 5.0%	1.75%	GB 5009.4
Heavy metal	≤ 20.0 mg/kg	0.23 mg/kg	GB 5009.78
Lead (Pb)	≤ 2.0 mg/kg	0.09 mg/kg	GB 5009.12
Arsenic (As)	≤ 2.0 mg/kg	ND (0.005 mg/kg)	GB 5009.11
Cadmium (Cd)	≤ 1.0 mg/kg	ND (0.005 mg/kg)	GB 5009.15
Mercury (Hg)	≤ 0.1 mg/kg	ND (0.003 mg/kg)	GB 5009.17
Total plate count	≤ 1,000 CFU/g	< 10 CFU/g	GB 4789.2
Yeast & Mold	≤ 100 CFU/g	< 10 CFU/g	GB 4789.15
Coliforms	Negative	Not found	GB 4789.3
Salmonella	Negative	Not found	GB 4789.4

Conclusion: this batch of products meets the standard requirements.

5. COMPOSITION

Component	Content per 1 g	Content (per SDS)	CAS No.
Curcumin	700 mg	70%	458-37-7
Phospholipid	300 mg	30%	123456-35-0

6. LIPOSOMAL VESICLE MORPHOLOGY (TEM)

The following liposomal test report and transmission electron microscopy (TEM) micrograph are transcribed from the supplied liposomal test report. The tested sample (batch SX20250612) differs from the COA batch SX20260522.

Table 3 — Liposomal test report information

Item	Detail

Item	Detail
Sample	Liposomal Curcumin <70%>
Tested batch No.	SX20250612
Sample status	Yellow powder
Instrument	Transmission Electron Microscope (TEM), HITACHI HT 7800
Test mode	Negative staining
Enlargement factor	30.0 k
Test date	June 14, 2025
Report date	June 15, 2025

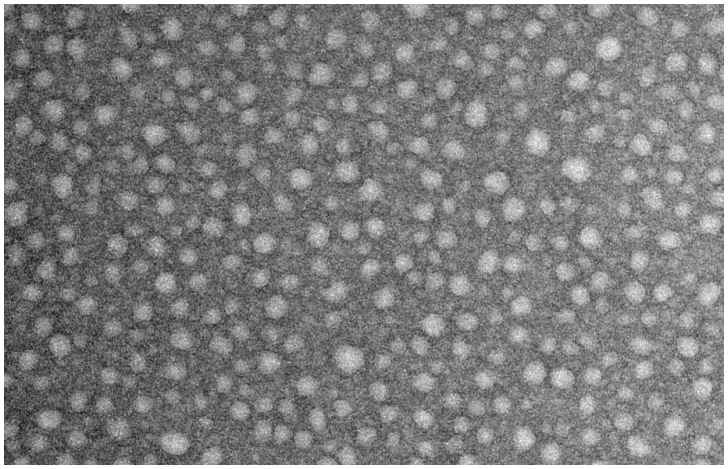


Figure 1 — TEM micrograph of liposomal vesicles (negative staining, 30.0 k)

Conclusion (per report): this batch of Liposomal Curcumin has a clear vesicle structure, complete shape and dense distribution, meeting the quality requirements.

7. SAFETY AND COMPLIANCE

The following declarations are transcribed from the supplied material safety data sheet.

- GHS classification: not a dangerous substance or mixture; dangerous components: none.
- Stability: no decomposition if used according to specifications; no dangerous reactions known.
- Toxicology: acute toxicity, primary irritant effect, skin and respiratory tract data not available; no irritant effect on the eye; no sensitizing effects known; when used and handled according to specifications, the product has no harmful effects according to available experience.
- Personal protection: impermeable clothing; particulate-filtering respirator; gloves; safety glasses with side shields; avoid contact with skin and eyes.
- First aid: after inhalation supply fresh air and consult a doctor in case of complaints; after skin contact rinse with soap and plenty of water; after eye contact rinse the eyes with water.
- Extinguishing media: water mist, alcohol-resistant foam, dry powder or carbon dioxide; wear a self-contained breathing apparatus if necessary.
- Accidental release: do not allow the product to enter the sewer; pick up mechanically, avoiding causing a stir.
- Transportation: non-dangerous goods under RID/ADR (European road), IMDG (international sea) and ICAO/IATA (international air) regulations.

8. PACKAGING, STORAGE AND SHELF LIFE

- Packaging: 1 kg/bag; 25 kg/fibre drum, double-layer plastic film packaging.
- Storage: store in a cool, dry place and avoid light below 25 °C; keep away from strong light and heat; metal containers are not used.
- Shelf life: two years in original packaging under suitable storage conditions.
- Disposal: send to a waste water treatment plant for regular disposal; dispose of packaging in compliance with official regulations.
- Transportation: non-dangerous goods (RID/ADR, IMDG, ICAO/IATA).

