TECHNICAL DATA SHEET

Liposomal PEA 70%

Liposomal Palmitoylethanolamide | PEA ≥ 70%

This Technical Data Sheet is issued by KEEP INGREDIENTS CO. LTD for the evaluation of the product described herein. The supplier and the customer undertake to maintain the CONFIDENTIAL information contained or enclosed in this document.

1. PRODUCT DESCRIPTION & INFORMATION

Product Description

Liposomal PEA 70% is a powder-form ingredient in which palmitoylethanolamide (PEA) is encapsulated in liposome vesicles formed by sunflower lecithin and phytosterol, prepared by an NLCs (nanostructured lipid carrier) and nanonization process. Under electron microscopy at 100 nm observation conditions, the liposome vesicles are well-defined, with intact shape and uniform distribution. The product is an off-white to light yellow powder with a natural, characteristic odour.

Product Information

Item	Information
Product name	Liposomal PEA 70%
Product form	Powder
Assay	PEA (palmitoylethanolamide) ≥ 70% (HPLC)
Appearance	Off-white to light yellow powder
Odour	Natural smell and characteristic
Particle size	Grain size 100-300 nm (TEM image)
Country of origin	China
Supplier	KEEP INGREDIENTS CO. LTD, Xi'an, Shaanxi, China
Shelf life	24 months



2. PRODUCT COMPOSITION

2.1 Composition

Component	Content
PEA (palmitoylethanolamide)	70%
Sunflower lecithin	20%
Phytosterol	8%
Silica	2%

The above composition is declared in the Product Composition Statement issued for this product.



3. PRODUCT SPECIFICATION

Item	Specification	Test Method
PEA (palmitoylethanolamide)	≥ 70%	HPLC
Appearance	Off-white to light yellow powder	Visual
Odour	Natural smell and characteristic	Organoleptic
Mesh size	100% pass 80 mesh	Mesh screen or equivalent
Grain size	100-300 nm	TEM image
Ash content	NMT 5.0%	Eur.Ph. 2.4.16
Loss on drying	NMT 5.0%	Eur.Ph. 2.8.17
Heavy metals (total)	NMT 20 ppm	ICP-MS or equivalent
Lead (Pb)	NMT 2 ppm	ICP-MS or equivalent
Cadmium (Cd)	NMT 1 ppm	ICP-MS or equivalent
Mercury (Hg)	NMT 0.1 ppm	ICP-MS or equivalent
Arsenic (As)	NMT 2 ppm	ICP-MS or equivalent
Total plate count	NMT 1,000 CFU/g	AOAC or equivalent
Yeast & mould	NMT 100 CFU/g	AOAC or equivalent
E. coli	Negative	AOAC or equivalent
Salmonella	Negative	AOAC or equivalent
Staphylococcus	Negative	AOAC or equivalent

Packing: sealed export-grade drum with double sealed plastic bags inside. Storage: store in a cool and dry place, keep away from strong light and heat.



4. PRODUCTION FLOW CHART

Liposomal PEA is produced by the following manufacturing process:

Step	Process
1	PEA
2	NLCs & Nanonization Treatment
3	Liposomal PEA
4	Sampling
5	Drying
6	Grinding & Blending
7	Finished Product

The flow chart is as declared in the Flow Chart of Liposomal PEA issued for this product. Process control and quality checks are performed at each stage in accordance with internal specifications.

5. CERTIFICATE OF ANALYSIS

Item	Information
Product name	Liposomal PEA 70%
Batch No.	KYLPEA2026072801
Batch quantity	2000 kg
Dosage form	Powder
Manufacturing date	2026.07.28
Expiry date	2028.07.27
Country of origin	China

Item	Specification	Result	Test Method
PEA (palmitoylethanolamide)	≥ 70%	Conform	HPLC
Appearance	Off-white to light yellow powder	Conform	Visual
Odour	Natural smell and characteristic	Conform	Organoleptic
Mesh size	100% pass 80 mesh	Conform	Mesh screen or equivalent
Grain size	100-300 nm	Conform	TEM image
Liposome identification	At 100 nm: vesicles well-defined, intact shape, uniform distribution	Conform	TEM image
Ash content	NMT 5.0%	3.52%	Eur.Ph. 2.4.16
Loss on drying	NMT 5.0%	3.87%	Eur.Ph. 2.8.17
Heavy metals (total)	NMT 20 ppm	Conform	ICP-MS or equivalent
Lead (Pb)	NMT 2 ppm	Conform	ICP-MS or equivalent
Cadmium (Cd)	NMT 1 ppm	Conform	ICP-MS or equivalent
Mercury (Hg)	NMT 0.1 ppm	Conform	ICP-MS or equivalent
Arsenic (As)	NMT 2 ppm	Conform	ICP-MS or equivalent
Total plate count	NMT 1,000 CFU/g	Conform	AOAC or equivalent
Yeast & mould	NMT 100 CFU/g	Conform	AOAC or equivalent
E. coli	Negative	Conform	AOAC or equivalent
Salmonella	Negative	Conform	AOAC or equivalent
Staphylococcus	Negative	Conform	AOAC or equivalent

Conclusion: The product conforms to specifications. Batch-specific certificates are issued for each production batch.



6. NUTRITIONAL INFORMATION

6.1 Nutritional Composition (per 100 g)

Item	Content	NRV %
Energy	380 kcal	18%
Protein	0.2 g	0.5%
Fat	36 g	59%
Carbohydrate	3 g	1%
Sodium	0 g	0%



7. PRODUCT STATEMENTS

7.1 Product Composition Statement

PRODUCT COMPOSITION

The product contains the following components: PEA (palmitoylethanolamide) 70%, sunflower lecithin 20%, phytosterol 8%, silica 2%.

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7.2 Country of Origin

COUNTRY OF ORIGIN

The product is produced and packaged in China. Country of origin: China.

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7.3 Liposomal Delivery Statement

LIPOSOMAL DELIVERY

The product is delivered in liposome-encapsulated form. Under transmission electron microscopy at 100 nm observation conditions, the liposome vesicles are well-defined, with intact shape and uniform distribution, confirming the integrity and homogeneity of the liposomal delivery system.

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8. STORAGE & TRANSPORT

Item	Information
Shelf life	24 months from the manufacturing date (batch expiry date shown on COA).
Storage	Store in a cool and dry place, keep away from strong light and heat.
Packing	Sealed export-grade drum with double sealed plastic bags inside.
Transport	Keep the package sealed and dry during transport; avoid exposure to strong light and heat.

Safety notes: This product is a food ingredient and is not a medicine. Keep out of reach of children.

KEEP INGREDIENTS CO. LTD

Authorized signature & company stamp

This Technical Data Sheet is issued by KEEP INGREDIENTS CO. LTD and is valid together with the supplied Certificate of Analysis. The information given is based on our knowledge of the product at the time of publication and is given in good faith; it does not exempt the user from applying the regulations governing the use, storage and labelling of the product in their own country.

