# TECHNICAL DATA SHEET

## Liposomal Calcium Citrate 80% (18% Ca)

**Liposomal Calcium Citrate | Calcium Citrate ≥ 80% | Calcium ≥ 18% |**

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 Calcium Citrate 80% is a powder-form calcium citrate ingredient in which calcium citrate is encapsulated in liposomal vesicles formed by sunflower lecithin and phytosterol, prepared by an NLCs (nanostructured lipid carrier) and nanonization process. Under electron microscopy at 100nm observation conditions, the liposomal 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 Calcium Citrate 80% (18% Ca) |
| **Product form** | Powder |
| **Assay** | Calcium citrate ≥ 80%; Calcium ≥ 18% (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 (based on batch expiry date) |



# 2. PRODUCT COMPOSITION

## 2.1 Composition

| Component | Content |
|---|---|
| **Calcium citrate** | 80% |
| **Sunflower lecithin** | 10% |
| **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 |
|---|---|---|
| **Calcium citrate** | ≥ 80% | HPLC |
| **Calcium (Ca)** | ≥ 18% | 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 Calcium Citrate is produced by the following manufacturing process:

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

The flow chart is as declared in the Flow Chart of Liposomal Calcium Citrate 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 Calcium Citrate 80% (18% Ca) |
| **Batch No.** | KYLCC2026010301 |
| **Batch quantity** | 900 kg |
| **Dosage form** | Powder |
| **Manufacturing date** | Jan 03, 2026 |
| **Expiry date** | Jan 02, 2028 |
| **Country of origin** | China |

| Item | Specification | Result | Test Method |
|---|---|---|---|
| **Calcium citrate** | ≥ 80% | Conform | HPLC |
| **Calcium (Ca)** | ≥ 18% | 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% | 3.62% | Eur.Ph. 2.4.16 |
| **Loss on drying** | NMT 5.0% | 3.78% | 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% |

Nutrition reference value (NRV) is expressed as declared on the adopted Nutritional List of Liposomal Calcium Citrate (per 100 g).



# 7. PRODUCT STATEMENTS

## 7.1 Product Composition Statement

### PRODUCT COMPOSITION

The product contains the following components: calcium citrate 80%, sunflower lecithin 10%, 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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## 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.