TECHNICAL DATA SHEET

Lycopene (10%)

Tomato (Natural) Source | Lycopene ≥ 10.0% (HPLC) | Food Grade

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

Lycopene is the main active carotenoid of tomato, a natural red pigment with strong antioxidant activity. This product is a natural lycopene powder extracted from tomato (Solanum lycopersicum L.), standardised to a lycopene content of 10% by HPLC. It is a dark red powder with a characteristic odour and taste, and is suitable as an ingredient for dietary supplements, nutrition fortification, food colouration and beverages.

Product Information

Item	Information
Product name	Lycopene (10%)
Product form	Dark red powder
Source	Natural tomato (Solanum lycopersicum L.)
Assay	Lycopene ≥ 10.0% (HPLC)
CAS No.	502-65-8
Molecular formula	$C_{40}H_{56}$
Grade	Food grade
Cold water solubility	Complies
Solubility	Easily soluble in ethyl acetate and n-hexane; partially soluble in ethanol and acetone; insoluble in water
Country of origin	China
Supplier	KEEP INGREDIENTS CO. LTD, Xi'an, Shaanxi, China
Shelf life	24 months when properly stored



2. PRODUCT SPECIFICATION

Item	Specification	Test Method
Appearance	Dark red powder	Visual
Odour	Characteristic	Organoleptic
Taste	Characteristic	Organoleptic
Lycopene content	≥ 10.0%	HPLC
Loss on drying	≤ 5.0%	USP
Ash	≤ 10.0%	USP
Cold water soluble	Complies	—
Total heavy metals	≤ 20 ppm	ICP
Lead (Pb)	≤ 3 ppm	ICP
Arsenic (As)	≤ 2 ppm	ICP
Cadmium (Cd)	≤ 1 ppm	ICP
Mercury (Hg)	≤ 0.1 ppm	ICP
Total plate count	≤ 10,000 CFU/g	AOAC
Yeast & mould	≤ 100 CFU/g	AOAC
Tolerant gram negative	≤ 100 CFU/g	AOAC
E. coli	≤ 30 MPN/g	AOAC
Salmonella	Not detected per 25 g	AOAC
Staphylococcus aureus	Not detected per 25 g	AOAC

Conclusion: the product complies with the USP standards.
Storage: store in a cool and dry place, keep away from strong light and heat.
Shelf life: 24 months when properly stored.
Attention: after opening, use it immediately; if not, pack it in vacuum.



3. CERTIFICATE OF ANALYSIS

Item	Information
Product name	Lycopene Powder
Batch No.	KYLYC2026091801
Specification	10% HPLC
Batch quantity	500 kg
Manufacturing date	2026.09.18
Analysis date	2026.09.22
Expiry date	2028.09.17

Item	Specification	Result	Test Method
Appearance	Dark red powder	Complies	Visual
Odour	Characteristic	Complies	Organoleptic
Taste	Characteristic	Complies	Organoleptic
Lycopene content (HPLC)	≥ 10.0%	10.12%	HPLC
Loss on drying	≤ 5.0%	3.87%	USP
Ash	≤ 10.0%	2.32%	USP
Cold water soluble	Complies	Complies	—
Total heavy metals	≤ 20 ppm	Complies	ICP
Lead (Pb)	≤ 3 ppm	Complies	ICP
Arsenic (As)	≤ 2 ppm	Complies	ICP
Cadmium (Cd)	≤ 1 ppm	Complies	ICP
Mercury (Hg)	≤ 0.1 ppm	Complies	ICP
Total plate count	≤ 10,000 CFU/g	Complies	AOAC
Yeast & mould	≤ 100 CFU/g	Complies	AOAC
Tolerant gram negative	≤ 100 CFU/g	Complies	AOAC
E. coli	≤ 30 MPN/g	Complies	AOAC
Salmonella	Not detected per 25 g	Negative	AOAC
Staphylococcus aureus	Not detected per 25 g	Negative	AOAC

Conclusion: complies with the USP standards.
Storage: store in a cool and dry place, keep away from strong light and heat.
Shelf life: 24 months when properly stored.
Attention: after opening, use immediately; if not, pack in vacuum.



4. STABILITY DATA

4.1 Accelerated Stability Study

An accelerated stability study was carried out on 10% lycopene powder packed in an aluminium foil bag, stored at 75% relative humidity and 40°C. The lycopene content was monitored over six months.

Time point	Loss on drying (%)	Content - UV (%)	Content - HPLC (%)	λ max (nm)
0 months	5.34	10.50	10.23	453.8
15 days	5.75	10.51	10.27	453.8
1 month	5.49	10.50	10.30	452.9
2 months	5.48	10.46	10.30	453.1
3 months	5.39	10.52	10.19	452.8
6 months	5.21	10.41	10.21	453.1

Conclusion: when the sample was stored in an aluminium foil bag at 75% relative humidity and 40°C for six months, the lycopene content (HPLC) decreased by only 0.09% (from 10.23% to 10.21%). This packaging ensures product quality under the tested conditions.



5. APPLICATIONS & REGULATORY GUIDANCE

5.1 Application Fields

Lycopene is widely used in the food, cosmetics and dietary supplement industries:

Application	Typical use
UV / skin-protective products	Protection of the skin against UV-induced damage
Lycopene functional products	Functional food and beverage ingredient
Carotenoid complex products	Component in carotenoid blends
Colouration	Natural red food colourant

5.2 Application & Dosage Guidance

Application	Dosage
Dietary supplements; nutrition fortification; food colourant; fruit/vegetable juice and sports beverages	25 mg/kg

Recommended daily intake: 36-50 mg of pure lycopene per day. Customers should verify the applicable food-use regulations and permitted dosage in their own country before use.

6. PRODUCT STATEMENTS

6.1 Non-Irradiation / Non-Ionized Statement

NON-IRRADIATION / NON-IONIZED

We hereby certify that the product has not been sterilized by ionizing radiation at any point during the entire manufacturing process and therefore is in full compliance with the relevant legislated regulations, Directives 1999/2/EC & 1999/3/EC, concerning foods and food ingredients treated with ionizing radiation.

KEEP INGREDIENTS CO. LTD

Quality Assurance | KEEP INGREDIENTS CO. LTD

6.2 BSE/TSE Statement

BSE / TSE

Lycopene is a plant-derived product (from tomato). It contains no material of animal or ruminant origin and no material derived from, or exposed to, ruminants affected by or under quarantine for transmissible spongiform encephalopathy (TSE) / bovine spongiform encephalopathy (BSE). No material derived from specified risk materials (SRM) is used, and the product poses no BSE/TSE risk.

KEEP INGREDIENTS CO. LTD

Quality Assurance | KEEP INGREDIENTS CO. LTD

6.3 Country of Origin

COUNTRY OF ORIGIN

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

KEEP INGREDIENTS CO. LTD

Quality Assurance | KEEP INGREDIENTS CO. LTD

6.4 Expected Usage

EXPECTED USAGE

The expected usage of this product is its incorporation as a natural functional and colourant ingredient in dietary supplements, food and beverages, and cosmetics, subject to the application and dosage guidance set out in Section 5 and to the regulations of the country of use.

KEEP INGREDIENTS CO. LTD

Quality Assurance | KEEP INGREDIENTS CO. LTD

7. HANDLING, STORAGE & TRANSPORT

Item	Information
Storage	Store in sealed, cool and dry conditions, away from sunlight and high temperature. Lycopene is sensitive to light, oxygen and high temperature.
Handling	Keep the package sealed after opening; minimize exposure to air and light. After opening, use immediately; if not, pack in vacuum.
Transport	Keep dry and away from direct sunlight; avoid high temperature and humidity.
Shelf life	24 months under standard storage conditions.

Safety notes: This product is a food raw material and not a medicine. No side effects of lycopene have been reported to date; it is suitable for long-term dietary use. 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. A Material Safety Data Sheet (MSDS) is available upon request.

