

Lutein Oil (Marigold Extract)

10% Free Lutein · Food / Nutraceutical Grade

Batch No.: LT-20261024

Mfg: 2026-10-24 · Exp: 2028-10-23

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY

Product Name	Lutein Oil (Marigold Extract)
Synonyms	Marigold Oleoresin Oil; Lutein 10% Free Form; Tagetes erecta Extract in Vegetable Oil
CAS Number	127-40-2 (Lutein)
EINECS / EC No.	204-840-0 (Lutein)
Chemical Family	Carotenoid / Xanthophyll (Fat-Soluble) in edible vegetable carrier oil
Recommended Use	Food, dietary supplement and nutraceutical ingredient (colorant & antioxidant)
Restrictions on Use	For food / nutraceutical applications only; use per product specification and local regulations
Supplier	Jiangsu Khonor Chemicals Co., Limited
Address	Rm 1902 Easey Comm Bldg, 253-261, Hennessy Rd, Wanchai, Hong Kong

2. HAZARDS IDENTIFICATION

GHS Classification (as supplied): Not classified as a hazardous substance or mixture under the Globally Harmonized System (GHS) criteria for a food-grade edible oil product.

- Physical hazards: Not classified (combustible edible oil; not flammable under normal handling).
- Health hazards: Not classified. No GHS hazard pictogram, signal word or hazard statement required.
- Environmental hazards: Not classified.
- HMIS / NFPA (informational): Health 0 · Flammability 1 · Reactivity 0 (typical for food-grade vegetable oil).
- This product is a natural food ingredient and is not considered dangerous goods.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Content	CAS No.
Lutein (free, from Tagetes erecta)	≥ 10.0 %	127-40-2
Zeaxanthin	≤ 10 % of total carotenoids	144-68-3
Edible vegetable carrier oil (e.g. corn / sunflower oil)	Balance	—

Ingredient	Content	CAS No.
Natural tocopherols (antioxidant)	Trace	—

None of the ingredients is classified as hazardous. All components are food-grade.

4. FIRST-AID MEASURES

Route	Immediate Measures
Inhalation	Not applicable under normal handling. If airborne mist from heating is inhaled and irritation occurs, move to fresh air.
Eye Contact	Rinse cautiously with clean water for at least 15 minutes. If irritation persists, consult a physician.
Skin Contact	Wash affected area with mild soap and water.
Ingestion	Edible ingredient; if unusually large quantity ingested and discomfort occurs, seek medical advice and show this document.

Most important symptoms/effects: No significant acute effects expected at normal food-use concentrations.

5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media: carbon dioxide (CO₂), dry chemical powder, alcohol-resistant foam, water spray.
- Unsuitable media: direct water jet (may spread burning oil).
- Specific hazards: combustible oil; not classified as flammable liquid. Heating may generate typical combustion products (CO, CO₂).
- Protective equipment for firefighters: self-contained breathing apparatus and full protective clothing when fighting fires.
- Flash point: not determined; typically > 150 °C for vegetable-oil-based lutein.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions: avoid slipping on spilled oil; wear suitable gloves when handling large quantities.
- Environmental precautions: prevent bulk spill from entering drains, watercourses or soil.
- Containment & clean-up: contain spill with inert absorbent (sand, diatomaceous earth or oil-absorbent pads); collect and dispose of in a suitable container per local regulations.
- This is a food-grade oil; small spills may be wiped up with absorbent cloth and disposed of as non-hazardous waste.

7. HANDLING AND STORAGE

- Handling: observe good manufacturing practice (GMP) and food-hygiene requirements; keep containers closed when not in use; avoid contamination with moisture or foreign matter.
- Storage: store in a cool (below 25 °C), dry, well-ventilated area; protect from direct sunlight and heat sources.
- Keep away from strong oxidizing agents.
- Shelf life: 24 months from manufacture date when stored properly under recommended conditions (per batch LT-20261024: valid until 2028-10-23).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Occupational exposure limits: none established (food-grade edible oil).
- Engineering controls: standard food-industry ventilation; local exhaust when processing heated material.
- Respiratory protection: not required under normal use.
- Hand protection: protective (nitrile) gloves recommended when handling in bulk or heated form.
- Eye protection: safety glasses/goggles recommended when processing.
- Hygiene: wash hands after handling; comply with food-handling hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Dark red viscous oil
Odour	Characteristic mild vegetable-oil odour
pH	Not applicable (oil phase)
Melting / Freezing Point	Not determined (viscous oil)
Boiling Point	Not applicable (decomposes before boiling)
Flash Point	Not determined; typically > 150 °C
Density (20 °C)	approx. 0.91 – 0.96 g/cm ³
Solubility	Soluble in edible oils and organic solvents; practically insoluble in water
Vapour Pressure	Negligible
Viscosity	Viscous liquid
Auto-ignition Temperature	Not determined
Evaporation Rate	Not applicable
Partition Coefficient (log Pow)	Not determined (lipophilic)
Moisture Content	≤ 0.5 % (typical: 0.28 %)
Acid Value	≤ 15 mg KOH/g (typical: 4.8 mg KOH/g)
Peroxide Value	≤ 20 meq/kg (typical: 6.5 meq/kg)

10. STABILITY AND REACTIVITY

- Reactivity: not reactive under normal conditions of use.
- Chemical stability: stable under recommended storage conditions.
- Conditions to avoid: prolonged exposure to high temperature, direct sunlight / UV light, and moisture.
- Incompatible materials: strong oxidizing agents.
- Hazardous decomposition products: none under normal use; thermal decomposition produces typical combustion products (CO, CO₂).
- Hazardous polymerisation: will not occur.

11. TOXICOLOGICAL INFORMATION

- Acute oral toxicity: expected to be very low. Lutein is a naturally occurring carotenoid widely used in food and dietary supplements.
- Skin / eye irritation: low irritation potential expected for the edible-oil formulation.
- Sensitisation: no evidence of skin/respiratory sensitisation for food-grade lutein.

- Carcinogenicity / mutagenicity / reproductive toxicity: no classification warranted for this food-grade ingredient.
- Routes of exposure: ingestion (intended use); skin/eye contact possible during industrial handling.
- This document is informational; safety of the finished food product is governed by applicable food regulations.

12. ECOLOGICAL INFORMATION

- Ecotoxicity: no significant acute ecotoxicity expected for a natural plant-oil extract.
- Persistence & degradability: readily biodegradable (vegetable-oil-derived material).
- Bioaccumulation: low concern.
- Other adverse effects: avoid bulk release to waterways, drains or soil.

13. DISPOSAL CONSIDERATIONS

- Dispose of product and contaminated packaging in accordance with local, regional and national regulations.
- Food-grade oil residues are generally non-hazardous; may be handled as general industrial/food waste where permitted.
- Do not discharge into drains, surface water or groundwater.

14. TRANSPORT INFORMATION

Regulation	Classification
UN Number	Not regulated
UN Proper Shipping Name	Not applicable
Transport Hazard Class	None
Packing Group	None
Marine Pollutant	No
IMDG / IATA-DGR / ADR / RID	Not classified as dangerous goods for transport

15. REGULATORY INFORMATION

- GHS: not classified as hazardous; no signal word, pictogram or hazard statement required.
- Food use: lutein (as marigold extract) is a permitted food colourant and dietary ingredient in many jurisdictions (e.g. US FDA, EU food additive, China GB 2760 as applicable).
- This product is intended for food / nutraceutical applications and must comply with all applicable food-safety regulations of the destination market.
- For detailed regulatory status, consult local competent authorities; contact the supplier for certificates (COA, GMO-free, allergen and heavy-metal data as available).

16. OTHER INFORMATION

Certificate of Analysis Summary (Batch LT-20261024) — Lutein Oil (10% free lutein):

Test Item	Specification	Result	Conclusion
Appearance	Orange-red to dark red viscous oil	Dark red viscous oil	Complies

Test Item	Specification	Result	Conclusion
Total Lutein Content (HPLC)	≥ 10.0 %	10.6 %	Complies
Zeaxanthin Content	≤ 10 % of total carotenoids	6.2 %	Complies
Acid Value	≤ 15 mg KOH/g	4.8 mg KOH/g	Complies
Peroxide Value	≤ 20 meq/kg	6.5 meq/kg	Complies
Moisture	≤ 0.5 %	0.28 %	Complies
Lead (Pb)	≤ 1.0 ppm	0.30 ppm	Complies
Arsenic (As)	≤ 1.0 ppm	0.25 ppm	Complies
Mercury (Hg)	≤ 0.1 ppm	< 0.1 ppm	Complies
Cadmium (Cd)	≤ 1.0 ppm	< 0.1 ppm	Complies
Total Aerobic Count	≤ 1000 CFU/g	120 CFU/g	Complies
Yeast & Mold	≤ 100 CFU/g	15 CFU/g	Complies
E. coli	Negative	Negative	Complies
Salmonella	Negative	Negative	Complies
Staphylococcus aureus	Negative	Negative	Complies

Full Certificate of Analysis issued by the manufacturer is available upon request.

Abbreviations & References

- GHS = Globally Harmonized System of Classification and Labelling of Chemicals (UN, current revised edition).
- HPLC = High-Performance Liquid Chromatography; UV-Vis = Ultraviolet–Visible spectrophotometry.
- CFU = Colony-Forming Units; meq/kg = milliequivalents per kilogram; ppm = parts per million.
- CAS = Chemical Abstracts Service registry number.

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