

TECHNICAL DATA SHEET

Lutein Oil (Marigold Extract)

Item	Specification
Product Name	Lutein Oil
Synonyms	Lutein (from <i>Tagetes erecta</i>); Xanthophyll; 3,3'-Dihydroxy- β,β -carotene
CAS No.	127-40-2
EINECS No.	204-840-0
Molecular Formula	$C_{40}H_{56}O_2$
Molecular Weight	568.87
Source	Extracted from marigold flowers (<i>Tagetes erecta</i>)
Physical Form	Orange-red / golden viscous oil (suspended in edible vegetable oil)
Typical Concentration	5.0% / 10.0% / 20.0% free lutein

1. Physical & Chemical Properties

Property	Specification
Appearance	Orange-red to dark red viscous oil
Odor	Slight characteristic odor
Solubility	Soluble / dispersible in oils, fats and organic solvents; insoluble in water
Total Lutein Content (HPLC)	5.0 – 20.0% (as specified per batch)
Acid Value	≤ 15 mg KOH/g
Peroxide Value	≤ 20 meq/kg
Moisture	$\leq 0.5\%$

2. Applications

- Dietary supplements: eye health (macular pigment), antioxidant support.
- Functional food & beverage, fortified nutrition.
- Cosmetics and personal care: skin care formulations.
- Poultry pigmentation (as feed additive where applicable).

Remark: *Highly sensitive to light, heat and oxygen — protect at all stages. Store in dark sealed containers under inert atmosphere.*

3. Storage & Packaging

Item	Detail
Storage Conditions	Tightly sealed, protected from light and oxygen, stored refrigerated ($< 10\text{ }^{\circ}\text{C}$) or cool, dry place
Shelf Life	24 months under recommended storage conditions
Packaging	1 kg / 5 kg / 10 kg aluminium bag or food-grade plastic container with liner, purged with nitrogen

4. Handling Precautions

- May stain; handle with care and use protective gloves.
- Warm gently before use if the oil is viscous; do not overheat.

- Protect from direct sunlight, oxygen and high temperature.
- Keep container closed after use.

— *End of Technical Data Sheet* —