



- **Latin Name:** *Tagetes erecta*
- **Active Ingredient:** lutein
- **CAS No.:** 144-68-3
- **Test method:** TLC
- **Specifications:** 10:1 4:1

### **Product Description:**

#### **Basic infor**

Name : Marigold Extract

Other name: *Tagetes Erecta*

Source: *Tagetes Erecta* flower

Latin name: *Tagetes Erecta*

Ingredient: lutein/Zeaxanthin

Specification : 10:1 4:1

Test methods: TLC

CAS No.: 144-68-3

Molecular Formula: C<sub>40</sub>H<sub>56</sub>O<sub>2</sub>

Molecular Weight: :568.88

Appearance: brown yellow powder

#### **Ingredient lutein:**

Lutein ( from Latin luteus meaning "yellow") is a xanthophyll and one of 600 known naturally occurring carotenoids. Lutein is synthesized only by plants and like other xanthophylls is found in high quantities in green leafy vegetables such as spinach, kale and yellow carrots. In green plants, xanthophylls act to modulate light energy and serve as non-photochemical quenching agents to deal with triplet chlorophyll (an excited form of chlorophyll), which is overproduced at very high light levels, during photosynthesis. See xanthophyll cycle for this topic.

Lutein is obtained by animals directly or indirectly, from plants. Lutein is apparently[citation needed] employed by animals as an antioxidant and for blue light absorption. Lutein is found in egg yolks and animal fats. In addition to coloring yolks, lutein causes the yellow color of chicken skin and fat, and is used in chicken feed for this purpose. The human retina accumulates lutein and zeaxanthin. The latter predominates at the macula lutea while lutein predominates elsewhere in the retina. There, it may serve as a photoprotectant for the retina from the damaging effects of free radicals produced by blue light. Lutein is isomeric with zeaxanthin, differing only in the placement of one double bond.

## Function

Lutein (LUT), is one of the most important carotenoids having prominent antioxidant activity. However, its use is limited due to its poor solubility and instability under adverse conditions. LUT was microencapsulated with soluble polymers using spray drying to improve its solubility and bioavailability. Maltodextrin (polysaccharide base) and copovidone (polyvinyl pyrrolidone vinyl acetate based copolymer) were evaluated as hydrophilic carriers for encapsulation of LUT. Design of Experimentation (DOE) was utilized and microencapsulation process was optimized using full factorial design. Copovidone proved to be better carrier compared to maltodextrin and showed enhanced dissolution and antioxidant characteristics of LUT. Microencapsulated LUT powder was well characterized by dissolution study, DSC, XRD and SEM. This study can be used as a guideline for optimization of microencapsulation of similar bio-actives with polyvinyl pyrrolidone based hydrophilic carriers for improved solubility and subsequent bioavailability.

## Application:

Lutein has the characteristics, such as natural, nutrition and multifunction. It is extensively used in food, health products, cosmetics, pharmaceutical and feed additive.

- (1)Applied in food field, it is mainly used as food additives for colorant and nutrient.
- (2)Applied in pharmaceutical field, it is mainly used in vision care products to alleviate visual fatigue, reduce incidence of AMD, retinitis pigmentosa (RP), cataract, retinopathy, myopia, floaters, and glaucoma.
- (3)Applied in cosmetics, it is mainly used to whitening, anti-wrinkle and UV protection.
- (4)Applied in feed additive, it is mainly used in feed additive for laying hens and table poultry to improve the color of egg yolk and chicken. Make high commercial value fishes more attractive, such as salmon, trout and spectacular fish.

## what is marigold?

Tagetes is a genus of annual or perennial, mostly herbaceous plants in the sunflower family (Asteraceae or Compositae). It was described as a genus by Linnaeus in 1753.

The genus is native to North and South America, but some species have become naturalized around the world. One species, *T. minuta*, is considered a noxious invasive plant in some areas.

Tagetes species vary in size from 0.1 to 2.2 m tall. Most species have pinnate green leaves. Blooms naturally occur in golden, orange, yellow, and white colors, often with maroon highlights. Floral heads are typically (1-) to 4–6 cm diameter, generally with both ray florets and disc florets. In horticulture, they tend to be planted as annuals, although the perennial species are gaining popularity.

Depending on the species, Tagetes species grow well in almost any sort of soil. Most horticultural selections grow best in soil with good drainage.

--Marigold - Wikipedia, the free encyclopedia