

PREMIER SPECIALTIES

Premier Specialties, Inc. 201 Egel Avenue, Middlesex, New Jersey 08846-2502



CURCUMIN EXTRACT

PRODUCT NAME

PREMIER CURCUMIN
EXTRACT

APPLICATION(S)

skin care
sun protection
anti-aging
hair care
clarifying

COMPOSITION (INCI)

Tetrahydrodiferuloyl-
methane (and) Tetra-
hydrodemethoxy-
diferuloylmethane
(and) Tetrahydro-
bisdemethoxy-
diferuloylmethane

ORIGIN

Plant

CAS NUMBERS

36062-04-1
149579-07-7
113482-94-3

USE LEVEL

3 -100%

PRODUCT CODE

Premier # 445725

PREMIER CURCUMIN EXTRACT

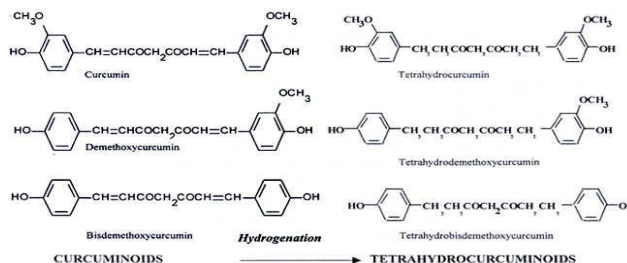
Curcuma longa or Turmeric, is a rhizomatous herbaceous perennial plant of the ginger family originally found in India and other parts of Asia. Turmeric, commonly used as a spice for cooking, has also been used in Ayurvedic practices for generations to treat a variety health conditions as it is believed to have anti-inflammatory, antioxidant, and perhaps even anticancer properties.

Curcumin is a biologically active substance extracted from the rhizomes of turmeric. It is composed of Tetrahydrocurcuminoids and other compounds which typically give it a brilliant yellow-orange color.

WHY PREMIER CURCUMIN EXTRACT?

Premier Curcumin Extract is a purified, curcumin extract, free of the yellow curcuminoids. This virtually colorless active is excellent for personal care applications as it provides potent antioxidant activity with better activity and pH stability than that of the parent curcuminoids.

Premier Curcumin Extract contains a minimum of 95% tetrahydrocurcuminoids, valued as the ultimate metabolites of the Curcuminoids in vivo.



Tetrahydrocurcuminoids are Derived from Curcuminoids

ACTIVITY OF CURCUMIN EXTRACT

Curcumin Extract provides anti-aging activity helping to protect against the effects of UV radiation and free radicals. Its noted antioxidant activity not only protects the skin, it also can be used in various emulsion systems to improve shelf life.

Several independent studies validated the significant antioxidant effects of the Tetrahydrocurcuminoids:

- ◆ Curcuminoids showed a greater inhibitory effect than curcumin on inhibition of the lipid peroxidation of erythrocyte membrane
- ◆ Curcuminoids were shown to protect normal human keratinocytes from hypoxanthine/xanthine oxidase injury in in vitro studies

The superior antioxidant properties of tetrahydrocurcuminoids, combined with the lack of yellow color, render this product useful in achromatic food and cosmetic applications that currently employ conventional synthetic antioxidants. Additionally, Tetrahydrocurcuminoids provide noted anti-inflammatory activity.

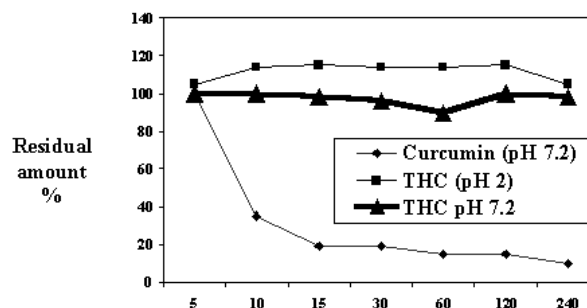
CURCUMIN EXTRACT



The in vivo behavior of a biologically active compound depends much on its stability at physiological pH levels.

In this context, the stability of Curcumin and Tetrahydrocurcuminoids (THC) at different pH values was studied.

Stability of THC at Physiological pH



THC was very stable in 0.1 M phosphate buffers of various pH values. Moreover, THC was more stable than curcumin in 0.1 M phosphate buffer, pH 7.2 (37°C).

TYPICAL PROPERTIES

Appearance	Crystalline powder
Color	Off white
Identification by IR Spectrum	Complies
Loss on Drying	Not more than 5.0%
Solubility	Soluble in acetone; in glacial acetic acid and slightly soluble in alcohol Insoluble in water
Ash Content	Not more than 1.0%
Melting Range	Between 85°C and 100°C
Heavy Metals	Not more than 20 ppm
Arsenic	Not more than 1 ppm
Lead	Not more than 10 ppm
Tapped Bulk Density	Between 0.40g/ml and 0.70 g/ml
Loose Bulk Density	Between 0.30g/ml and 0.60 g/ml
Sieve test (passes through)	
20 mesh	Not less than 100.0%
40 mesh	Not less than 80.0%
80 mesh	Not less than 70.0%
Assay	
Total Tetrahydrocurcuminoids Content	Not less than 95.0% on dried basis



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REFERENCES

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2. Pan, M.H. et al. (1999) Biotransformation of curcumin through reduction and glucuronidation in mice. Drug Metab. Dispos. 27(4):486-94.
3. Osawa, T. et al. (1995) Antioxidative activity of the tetrahydrocurcuminoids. Biosci. Biotechnol. Biochem. 59(9): 1609-12.
4. Rao, T.S., et al. (1982) Antiinflammatory activity of curcumin analogues. Ind J. Med.Res., 75, 574-578
5. Bont'e, F. et al. (1997) Protective effects of curcuminoids on epidermal skin cells under free oxygen radical stress. Planta Med. 63(3):265-266.

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