

Product Technical Dossier

Product	Lutein 20% Powder
CCL Product Code	P12064

Specification Details

	Specification
Identification	Positive
Assay	Lutein (HPLC) Min 20% Total carotenoids (UV) Min 22% Zeaxanthin (HPLC) Min 1%
Appearance	Fine Powder
Colour	Orange-yellow to orange-red(**)
Aroma	Characteristic
Flavour	Characteristic

(**) Please note the colour of this natural material could be subject to slight change due to many factors such as seasonal variations.

Sieve Analysis % passed	Min 95% Pass 80 Mesh
Loss on Drying	Max 5%
Ash	Max 5%
Bulk Density	0.30~0.75g/ml
Residual Solvents	Meets EU limits

Microbiological Limits

Total Viable Count	Max 1,000cfu/g
Yeasts & Moulds	Max 100cfu/g
E. Coli	Negative/10g
Salmonella	Negative/25g
Staphylococcus aureus	Negative/10g
Coliforms	Negative/10g

Heavy Metal Limits

Total Heavy metals	Max 10ppm
Lead (Pb)	Max 1ppm
Cadmium (Cd)	Max 1ppm
Mercury (Hg)	Max 0.1ppm
Arsenic (As)	Max 1ppm

Product Code: P12064

Version: 9

Page 1 of 8


**Committed to meeting quality standards. BRC Food Safety . FEMAS . FSMA . Informed Manufacturer. Soil Association
Organic . Halal . Kosher .**

For a full range of our accreditations visit www.cambridgecommodities.com/quality-accreditations/certificates



+44 (0) 1353667258 | www.cambridgecommodities.com | enquiries@cambridgecommodities.com

Additional Technical Information

Raw Material Full Botanical / Chemical Name	Tagetes erecta L.
Part Used	Flower
The material is Food Grade	Yes
Ratio of Material	Approx 250~200:1
Solvent used	Hexane, ethanol
Cultivated / Wild	Cultivated
Harvest Method	Manual
Harvest Period	July to November
Harvest Stage (age of the plant)	One year
Country of Origin	China
Country of Manufacture	China
Solubility in Alcohol	Insoluble
Solubility in Water	Insoluble
Average Molecular weight	568.88
Molecular Formula	C ₄₀ H ₅₆ O ₂
Molecular Structure (image)	
CAS Number	127-40-2
Shelf Life from Date of Manufacture	Min 2 years
Pharmacopeia Standard Used	USP / CP
Suitable for Vegetarians?	Yes
Suitable for Vegans?	Yes
Storage Conditions	This material is to be stored in a tightly sealed bag/container and to be kept in a cool place away from moisture and direct sunlight.

Composition Origin, Function and Percentages

Ingredients	Function	% composition	Source
Marigold flower extract	Active ingredient	25~30%	Tagetes erecta L.
Maltodextrin	Carrier	70~75%	Corn

Product Code: P12064

Version: 9

Page 2 of 8

Committed to meeting quality standards. BRC Food Safety . FEMAS . FSMA . Informed Manufacturer. Soil Association Organic . Halal . Kosher .

For a full range of our accreditations visit www.cambridgecommodities.com/quality-accreditations/certificates



+44 (0) 1353667258 | www.cambridgecommodities.com | enquiries@cambridgecommodities.com

Nutritional Data

Test	Value per 100g
Energy kJ / Kcal	1276kJ/300Kcal
Fat (g)	0.08
-Of which Saturates (g)	<0.04
Carbohydrate (g)	74.56
-Of which Sugars (g)	14.24
Protein (g)	0.32
Salt (g)	0.02

Please note that surveillance testing may mean that not all the parameters stated on this specification are tested for every batch.

The allergen information is supplied by the manufacturer, we have not tested for each individual allergen to ensure they are not present. The information given is based on a documented risk assessment and is accurate to the best of our knowledge. If you intend to make a voluntary "free from" claim on your pack, additional testing may need to be carried out. For technical and labelling guidance, you should always speak to the competent authority for the market or member state in which the final products are placed.

Product Code: P12064

Version: 9

Page 3 of 8

**Committed to meeting quality standards. BRC Food Safety . FEMAS . FSMA . Informed Manufacturer. Soil Association
 Organic . Halal . Kosher .**

For a full range of our accreditations visit www.cambridgecommodities.com/quality-accreditations/certificates



+44 (0) 1353667258 | www.cambridgecommodities.com | enquiries@cambridgecommodities.com

Allergens	Product Contains YES/NO	Listed Item on Site at Manufacturer YES/NO	Where applicable, is there risk of cross-contamination? YES/NO or N/A
Peanuts and Peanut Derivatives (including possible cross contamination)	No	No	N/A
Nut and Nut Derivatives <i>Almond (Amygdalus communis L.), Hazelnut (Corylus avellana), Walnut (Juglans regia), Cashew (Anacardium occidentale), Pecan nut (Carya illinoensis (Wangenh.) K. Koch), Brazil nut (Bertholletia excelsa), Pistachio nut (Pistacia vera), Macadamia nut and Queensland nut (Macadamia ternifolia)</i>	No	No	N/A
Sesame Seeds and Sesame Seed Derivatives	No	Yes	No
Milk and Milk Derivatives (including lactose)	No	No	N/A
Egg and Egg Derivatives	No	No	N/A
Cereals and Derivatives containing OR POTENTIALLY CONTAMINATED WITH Gluten <i>(wheat, wheatgrass, furo, freekeh, spelt, kamut, rye, oats, barley, barleygrass)</i>	No	No	N/A
Soya and Soya Derivatives	No	Yes	No
Lupin and Lupin Derivatives	No	No	N/A
Mustard and Mustard Derivatives	No	No	N/A
Celery or Celery Derivatives (including Celeriac)	No	No	N/A
Fish and Fish Derivatives	No	No	N/A
Molluscs and their Derivatives	No	No	N/A
Crustaceans and their Derivatives	No	No	N/A
Sulphur Dioxide and Sulphites (E220, E228) at levels > 10mg/kg or 10mg/litre	No	No	N/A

Additives / Contaminants / Dietary Requirements / Intolerances	Product Contains YES/NO	Listed Item on Site at Manufacturer YES/NO	Where applicable, is there risk of cross-contamination? YES/NO or N/A
Additives / E Numbers	No	No	N/A
Antioxidants	No	No	N/A
Ethylene Oxide	No	No	N/A
Gelatine	No	No	N/A
Flavourings (Artificial / Nature Identical / Natural / Smoked)	No	No	N/A
Maize / Corn and any Derivatives	Yes	Yes	Maltodextrin
Legumes / Pulses	No	No	N/A
Rice and Rice Derivatives	No	No	N/A
Added Salt	No	No	N/A
Added Sugar / artificial or natural sweeteners	No	No	N/A
Aspartame	No	No	N/A
BHA / BHT (E320 / E321)	No	No	N/A
Caffeine	No	No	N/A
Colours (Artificial / Nature Identical / Natural / Smoked)	No	Yes	No
Dextrose	No	No	N/A
other Seeds and Seed Derivatives (Poppy Seeds, Cotton Seeds, Sunflower Seeds)	No	No	N/A
Kiwi fruit	No	No	N/A
Polyols (sugar alcohols)	No	No	N/A
Grapefruit	No	No	N/A
Sorbic Acid (E200, E203)	No	No	N/A
Any other Preservatives	No	No	N/A
Ethanol	Yes	Yes	Used in process
Honey	No	No	N/A
Lactose	No	No	N/A
Yeast and Yeast Derivatives	No	No	N/A
All Animal Products (Beef, Pork, Poultry or other) and Derivatives (which may include growth/yield hormones, antibiotics etc.)	No	No	N/A
Bovine Products or Derivatives (which may include growth/yield hormones, antibiotics etc.)	No	No	N/A

Product Code: P12064

Version: 9

Page 4 of 8

**Committed to meeting quality standards. BRC Food Safety . FEMAS . FSMA . Informed Manufacturer. Soil Association
Organic . Halal . Kosher .**

For a full range of our accreditations visit www.cambridgecommodities.com/quality-accreditations/certificates



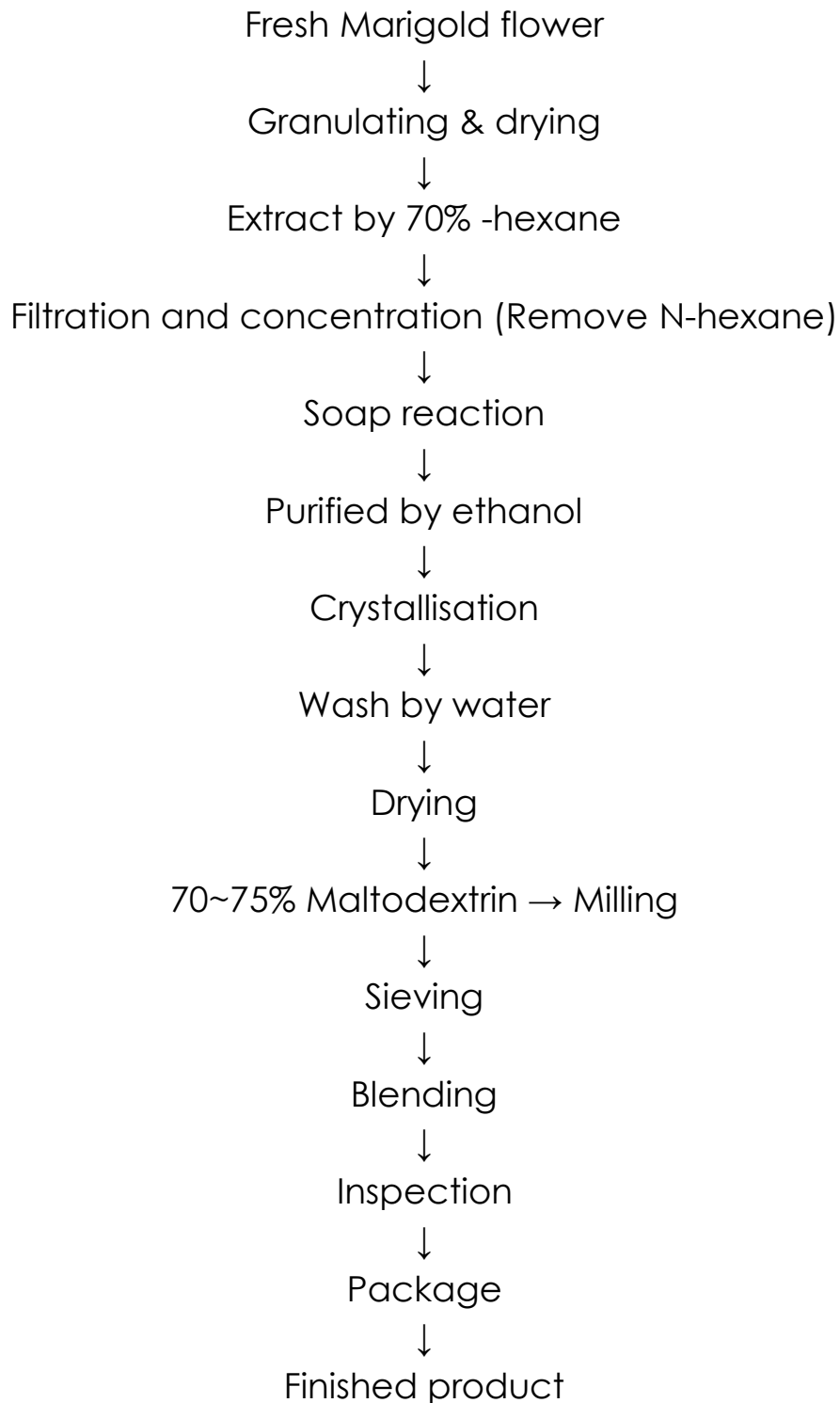
+44 (0) 1353667258 | www.cambridgecommodities.com | enquiries@cambridgecommodities.com

Statements

<p>Confirmation of BSE / TSE Status This is to certify that this product complies with all relevant current UK and EU Legislative requirements in regard to Transmissible Spongiform Encephalopathies (TSE) and Bovine Spongiform Encephalopathy (BSE) for human food, and so is free of TSE/BSE.</p>	Yes
<p>This is also to certify that, during the course of their manufacture, the above-mentioned product did not come into contact with any materials, which could be derived from TSE/BSE risk materials.</p>	Yes
<p>Confirmation of GM Status This is to certify that this product is not manufactured from GM raw materials and is therefore not subject to labelling under current regulations.</p>	Yes
<p>Confirmation of Non-Irradiation Status This is to certify that this product, whole or in part, has not been subjected to Ionising Radiation as per European Directives.</p>	Yes
<p>Confirmation of Nandrolone Status This is to certify that this product, whole or in part, has not come into contact with Nandrolone or any of its precursors in any way.</p>	Yes
<p>Confirmation of IOC Product Status This is to certify that this product, whole or in part, has not come into contact with any product/s, which is banned by the IOC (International Olympics Committee) and or WADA.</p>	Yes
<p>Confirmation of Animal Testing Status This is to certify that all the products sold by Cambridge Commodities have not been tested on animals in any part of its manufacture in accordance with current regulations.</p>	Yes
<p>Confirmation of Pesticides Status This is to certify that the above-mentioned product complies with the EU max residue limits (MRLs) on pesticides.</p>	Yes
<p>Confirmation of Nanoparticles Status This is to certify that unless otherwise stated, the above-mentioned product is free of nanoparticles. Commission Recommendation, defines as follows: "Nanomaterial" means a natural, incidental or manufactured material containing particles, in an unbound state or as an aggregate or as an agglomerate and where, for 50 % or more of the particles in the number size distribution, one or more external dimensions is in the size range 1 nm - 100 nm".</p>	Yes
<p>Packaging Status We hereby certify that the packaging used in the above-mentioned material conforms to EU regulations and subsequent amendments on food grade packaging</p>	Yes
<p>Confirmation of PAH status This is to certify that the above-mentioned product complies with the max PAH limits set by the EU regulations</p>	Yes



Product Flow Chart



Product Code: P12064

Version: 9

Page 6 of 8

**Committed to meeting quality standards. BRC Food Safety . FEMAS . FSMA . Informed Manufacturer. Soil Association
Organic . Halal . Kosher .**

For a full range of our accreditations visit www.cambridgecommodities.com/quality-accreditations/certificates



+44 (0) 1353667258 | www.cambridgecommodities.com | enquiries@cambridgecommodities.com

To download this product's material safety data sheet, please click [here](#) and search for the Cambridge Commodities product code. If there is no MSDS available, please follow the on-screen instructions to request one.

The Information provided in this document is subject to change and the batch specific certificate of analysis should always be referenced.

To be used as per local legislation.

Change History

Version	Change	Customer Notification required Yes / No
1	First Issue	N/A
2	Shelf Life updated to Minimum 2 Years from 2 Years. Colour Variation statement added and Format Updated	No
3	The below parameters have been added to the specification: <ul style="list-style-type: none"> • Lutein, Total Carotenoids and Zeaxanthin assay • Identification: Positive by TLC • Chemical name: Beta, epsilon-Carotene-3, 3'-Diol, (3R, 3'R, 6'S) • Flow chart diagram • Statement "Complies to French Arrêté 26 September 2016 list of substances authorized in food supplements". • Cadmium and Arsenic levels changed from Max 2 ppm to Max 1ppm 	No
4	<ul style="list-style-type: none"> • Changed mercury specification from max 0.5ppm to max 0.1ppm • Change sieve analysis specification from 100% pass 80 mesh to min 95% pass 80 mesh • Removed specification for specific gravity 	Yes



5	<p>General reformat Added supplementary technical information Update flow chart Soya on the allergen table has changed from 'no' to 'yes' for listed at site at manufacture, there is no risk of cross-contamination. Changes:</p> <ul style="list-style-type: none"> • Colour from Orange/yellow/reddish orange to Orange/Reddish Orange • Solubility in alcohol from partly soluble to insoluble • Cas number from 84776-23-8 to 127-40-2 (for Lutein) • Ratio from 150:1 to approx. 200:1 • Lead from max 2ppm to max 1ppm • Solvents used from ethanol 75% to 70% N-hexane & 30% water + 70%Ethanol & 30% water • Maltodextrin on composition table from 70% to 70-75% 	Yes
6	Amended sieve result to read min instead of erroneous Max	Yes
7	<p>1. Changed bulk density specification from '0.40~0.75g/ml' to '0.30-0.75g/ml'</p> <p>2. Removed tapped density specification</p> <p>3. Sesame & colours confirmed to be on site at manufacturer but with no risk of cross contamination</p> <p>4. Added Nutritional Data</p>	Yes
8	<p>Changed Colour from Orange/Reddish Orange (**), Ratio of material from Fresh flower to Lutein 80% powder: Approx. 200:1 to Fresh flower to Lutein 80% powder: Approx. 200-1000, Solvent used from 70% N-hexane & 30% water + 70% Ethanol & 30% water to Hexane, ethanol & Molecular Structure (image)</p>	Yes
9	<p>Updated ratio of material in additional technical information from "Fresh flower to Lutein 80% powder: Approx 200-1000" to "Approx 250~200:11"</p>	Yes

Document Approval

Originator	Approver
 Mel Lee Quality Administrator <small>10/02/2023 14:28</small>	 Cecilia Anzani Senior Quality Specialist <small>10/02/2023 14:48</small>

Product Code: P12064

Version: 9

Page 8 of 8

Committed to meeting quality standards. BRC Food Safety . FEMAS . FSMA . Informed Manufacturer. Soil Association
 Organic . Halal . Kosher .

For a full range of our accreditations visit www.cambridgecommodities.com/quality-accreditations/certificates



+44 (0) 1353667258 | www.cambridgecommodities.com | enquiries@cambridgecommodities.com