

CERTIFICATE OF ANALYSIS

Product Name	TURMERIC OIL	Botanical Name	<i>Curcuma Longa L</i>
Batch Number	4375601		
Best Before	October 2022	Production Method :	Steam distillation
		Country of Origin	India

Parameter	Specification	Result	Method
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Physical and Analytical Parameters

Appearance	Free flowing liquid	Complies	Visual
Colour	Pale yellow to orange yellow	Complies	Visual
Odour	A warm note of Turmeric	Complies	Organoleptic
Specific gravity @ 25 ⁰ C	0.871 to 0.960	0.9391	FCC
Refractive Index @ 20 ⁰ C	1.475 to 1.520	1.507	FCC
Optical rotation	-22 ⁰ to +50 ⁰	+30 ⁰	FCC

Heavy Metal Analysis

Total Heavy Metals	< 10 ppm	Complies	ICP - MS
Arsenic	< 1 ppm	Complies	ICP – MS
Lead	< 3 ppm	Complies	ICP – MS
Mercury	< 0.1 ppm	Complies	ICP – MS
Cadmium	< 1 ppm	Complies	ICP - MS

Warning : The product is irritant, avoid contact with skin and eyes.

Storage : Do not store in close proximity to heat, sparks, open flames, strong acids, and strong bases. To minimise product degradation, avoid prolonged exposure of the material to air. Keep container tightly closed when not in use. Mix well before use.

Shelf life: Not more than 3 Years, when stored as recommended above.

ALLERGENS DECLARATION

Product Name	TURMERIC ROOT OIL

Directive 2000/13/EC regarding labelling, presentation and advertising of Foodstuffs, Article 6(3a), 10 & 11, and Annex 111a, as amended by Directive 2007-68-EC, establishes a list of food ingredients which must be indicated on the label of foodstuffs as they are likely to cause adverse reactions in susceptible individuals.

MAJOR ALLERGENS CHECKLIST

COMPONENT	PRESENT IN THE PRODUCT	PRESENT IN THE SOURCE	PRESENT IN SAME LINE	PRESENT IN SAME PLANT
Cereals containing gluten (i.e. Wheat, rye, barley, oats, spelt, kamut or their hybridised strains and products thereof, except, a) wheat based glucose syrups including dextrose b) Wheat based maltodextrins c) glucose syrups based on barley d) cereals used for making distillates or ethyl alcohol of agricultural origin for spirit drinks and other alcoholic beverages.	Nil	Nil	Nil	Nil
Crustaceans and products thereof	Nil	Nil	Nil	Nil
EGGS and products thereof	Nil	Nil	Nil	Nil
FISH and products thereof except:- a) fish gelatine used as a carrier for vitamin or carotenoid preparations b) fish gelatine or isinglass used as fixing agent in beer and wine.	Nil	Nil	Nil	Nil
Peanuts and products thereof	Nil	Nil	Nil	Nil
Soybeans and products thereof, except a) fully refined soybean oil and fat b) natural mixed tocopherols (E306) natural D-alpha tocopherol, natural D-alpha tocopherol acetate, natural D-alpha tocopherol succinate from soybean sources c) vegetable oils derived phytosterols and phytostrol esters from soybean sources d) plant stanol ester produced from vegetable oil sterols from soybean sources	Nil	Nil	Nil	Nil
MILK and products thereof (including lactose), except a) whey used for making distillates or ethyl alcohol of agricultural origin for spirit drinks and other alcoholic beverages b) Lactitol	Nil	Nil	Nil	Nil
Nuts i.e. almonds (<i>Amygdalus communis L</i>), hazelnuts (<i>Corylus avellana</i>), walnuts, (<i>juglands regia</i>), cashews (<i>Anacardium occidentale</i>), pecan nuts (<i>Carya illinoises (Wangenh) K. Koch</i>), Brazil nuts (<i>Bertholletia excela</i>), pistachio nuts (<i>Pistacia vera</i>), macadamia nuts and Queensland nuts (<i>Macadamia ternifolia</i>), and products thereof, except a) nuts used for making distillates or ethyl alcohol of agricultural origin for spirit drinks and other alcoholic beverages.	Nil	Nil	Nil	Nil

Celery and Products thereof	Nil	Nil	Nil	Nil
Mustard and products thereof	Nil	Nil	Nil	Nil
Sesame seeds and products thereof	Nil	Nil	Nil	Nil
Sulphur dioxide and sulphites at concentrations of more than 10 mg/kg or 10mg/litre as SO ₂	Nil	Nil	Nil	Nil
Lupin and products thereof	Nil	Nil	Nil	Nil
Molluscs and products thereof	Nil	Nil	Nil	Nil

PREVENTION OF CROSS CONTAMINATION

Method

Working spaces and the equipments are cleaned and the goods are stored under standard conditions

The above is based on the main allergens referred to in the following: -

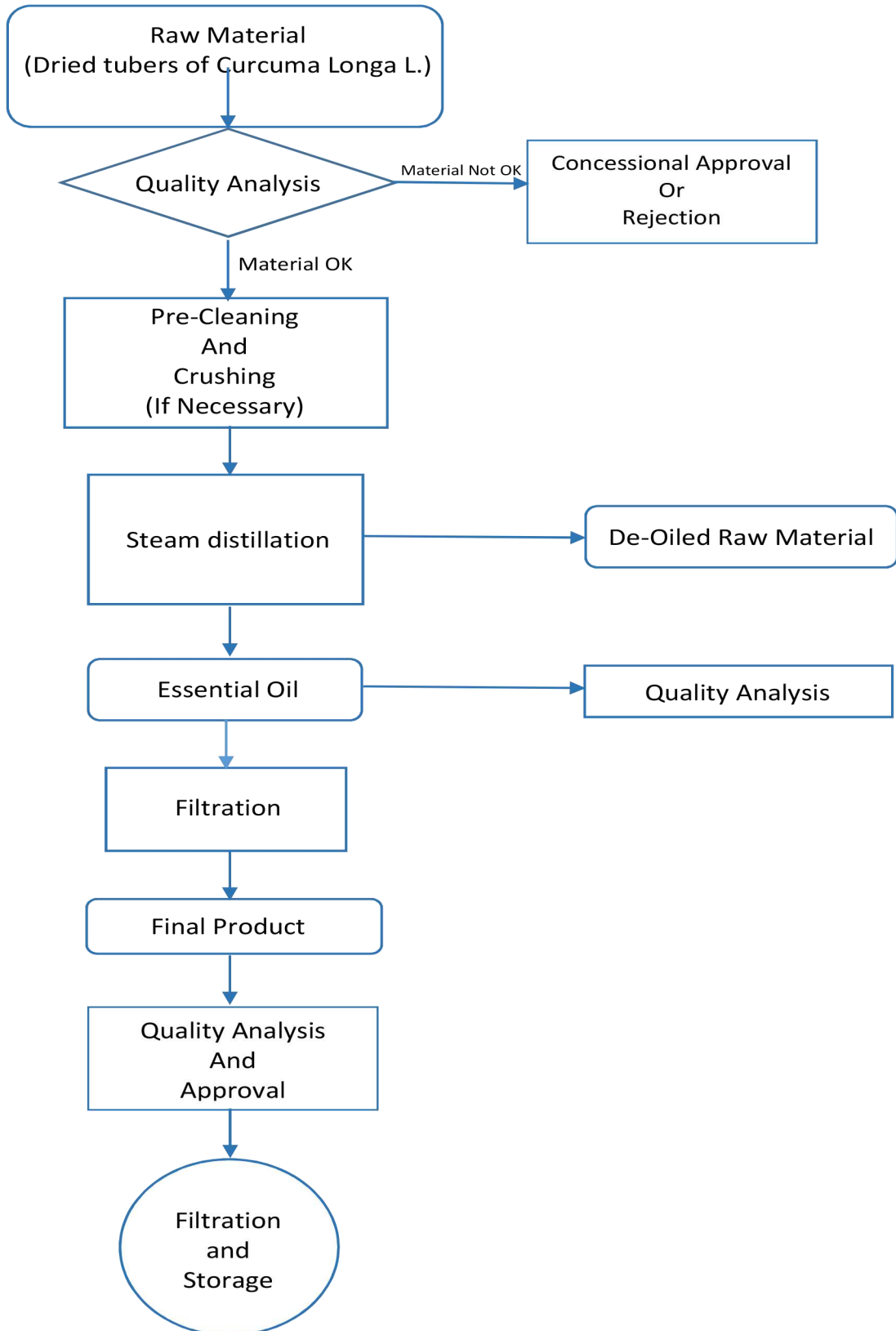
FDA: The Food Allergen Labelling and Consumer Protection Act of 2004(August 2004) (Title II of Public Law 108-282) effective from 1st Jan 2006.

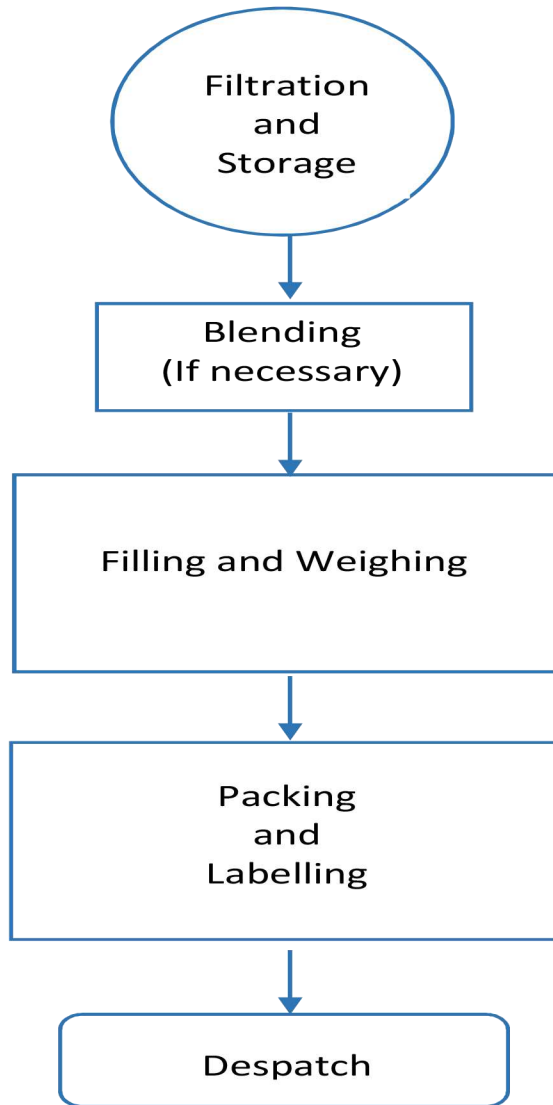
Annex IIIa, of the Council Directive (EC) No 2003/89 of the 10th November 2003, amending Directive 2000/13/EC as regards indication of the ingredients present in foodstuffs. Further amended by Council Directive 2007/68/EC of the 27th November 2007

Codex Alimentarius: General Standard for the labelling of pre-packaged foods, Codex Standard 1-1985 (Rev 1-1991)

We hereby Declare that the information provided above is True to the best of our knowledge and hence the aforementioned Product does not Contain elements that cause Adverse reactions in Susceptible Individuals as per the references provided in the respective Columns.

PROCESS FLOWCHART FOR TURMERIC ROOT OIL





GENETICALLY MODIFIED ORGANISMS – STATEMENT

This is to certify that the below mentioned product supplied by MADAR Corporation Limited

Product:- **TURMERIC ROOT OIL**

- a)** Does not contain or derived from species which have been approved and released as GMO according to European Union Directive 90/220/EEC.
- b)** Does not contain any genetically modified protein or DNA
- c)** Not produced from possible genetically modified material. Also no genetically modified organisms like enzymes, micro-organisms, growing substrates, additives, processing aids etc. are used in connection with the production of this product or any of its ingredients or components.

IFRA 48TH AMENDMENT CONFIRMATION

PRODUCT NAME : **TURMERIC ROOT OIL**
CAS NUMBER : **8024-37-1**
FEMA NUMBER : **3085**
CHEMICAL NAME : **Curcuma Longa L**

We hereby declare that the above material supplied by MADAR Corporation Limited confirms to the following requirements:

- The product is manufactured as per IFRA code of practices.
- The product is neither restricted nor prohibited by IFRA for use in Fragrances.
- Product is manufactured in keeping intention of the fragrance use.
- The product confirms to IFRA 48th amendment.

SPECIFICATION SHEET / MATERIAL SAFETY DATA SHEET

SPECIFICATION SHEET

Product : **TURMERIC ROOT OIL**
CAS # : 8024-37-1

TEST	REQUIREMENT	RESULTS
Appearance	Free flowing transparent liquid	Conforms
Colour	Pale yellow to orange yellow	Conforms
Odour	A warm note of Turmeric	Conforms
Specific gravity @ 25 ^o C	Between 0.900 and 0.940	Conforms
Refractive Index at 20 ^o C	Between 1.480 and 1.510	Conforms
Optical rotation	Between -22 and +30 ^o	Conforms
Heavy Metal	Less than 5ppm	Conforms
Microbial	Not Applicable	NA

QUALITY CONTROL:

1. The product is subjected to all the required analysis to conform the internal specification (As detailed above).
2. The product is subjected gas chromatographic analysis to find out the percentage of Specific components, GC profile and impurities.
3. The product is subjected to careful organoleptic examination.

STANDARDS:

Oil confirms to internal specifications (As detailed above).
Specific purpose blends can also be supplied on request.

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION

Product Name	: Turmeric Root oil
Category of product	: Essential oil
Description	: The product is Natural and is obtained by the Steam Distillation dried tubers of <i>Curcuma Longa L</i>
Cas Number	: 8024-37-1
Physical state	: Liquid
Colour	: Pale yellow to Orange yellow
Odour	: A warm note of Turmeric
Company	: MADAR Corporation Limited 19 - 20 Sandleheath Industrial Estate, Fordingbridge, Hampshire, SP6 1PA Phone: 01425 655555 Email: technical@madarcorporation.co.uk

2. COMPOSITION

<u>CAS NO</u>	<u>MAJOR INGREDIENTS</u>
99-83-2	Phellandrene
532-65-0	Turmerone

----- EC Classifications-----

SYMBOL(S)

Xi > Irritant

RISK PHRASES

R10 > Flammable
R36 > Irritating to eyes
R38 > Irritating to skin
R22 > Harmful if swallowed

SAFETY PHRASES

S16 > Keep away from sources of ignition - No smoking
S24 > Avoid contact with skin
S25 > Avoid contact with eyes



3. HAZARDS IDENTIFICATION

Risk Summary

Flammable, Harmful if swallowed.

It is irritating to eyes and skin.

4. FIRST AID MEASURES

Eye Contact

Flush with water for at least 15 minutes. If irritation develops, get medical attention

Skin contact

Remove contaminated clothing. Wash affected area with plenty of soap water. If irritation develops, get medical attention.

Inhalation

Seek fresh air immediately. If breathing is difficult, get medical attention.

Ingestion

Drink lot of water to dilute substance. Get medical attention.

5. FIRE FIGHTING MEASURES

Means to Extinguish

Carbon dioxide, dry chemical, foam. If water must be used, use as a spray only.

Unusual Fire/ Explosion Hazards

Flammable liquid. Avoid heat, sparks and open flames. Non explosive.

6. ACCIDENTAL RELEASE MEASURES

Personal precaution

Specifically given in section 8.

Environmental precautions

Do not discharge into streams, ponds or Public waters.

Cleanup Procedures

Small spills should be adsorbed by dirt, sand or other adsorbent. Large spills may be diked and pumped into closed containers for recovery or disposal.



7. HANDLING AND STORAGE

Handling

Wear safety glasses, rubber gloves and apron when handling.

Storage

Do not store in close proximity to heat, sparks, open flames, strong acids, and strong bases. To minimise product degradation, avoid prolonged exposure of the material to air. Keep container tightly closed when not in use.

Shelf life

Not more than 3 years, when stored as recommended above.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

EXPOSURE CONTROLS:

Ventilation

Mechanical exhaust may be needed in confined and warm areas.

Safety Station

An eyewash and safety shower should be readily available.

Contaminated Equipment

Clean contaminated equipment with soap and water.

PERSONAL PROTECTION EQUIPMENT:

Eye Protection

As a precaution, wear safety glasses or goggles.

Hand protection

Wear standard industrial type rubber gloves.

Skin Protection

A rubber apron is recommended when handling large quantities of this material.

Respiratory protection

A respirator is not normally required. If vapor concentration is high use a organic vapour respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Volatile clear mobile liquid
Colour	: Pale yellow to Orange yellow
Odour	: A warm note of Turmeric
Boiling point	: Not determined
Vapour pressure	: Not determined
Flash point	: 208°C
Oxidising properties	: Not determined
Explosive properties	: Not explosive
Flammability limits	: Not determined
Specific gravity @ 25°C	: Between 0.900 and 0.940
Refractive Index at 20°C	: Between 1.480 and 1.510
Optical rotation	: Between -22° and +30°
Solubility in water (Weight %)	: < 0.5

10. STABILITY AND REACTIVITY

Conditions to Avoid

Prolonged or excessive heat and/or exposure to air may cause decomposition or oxidation of the material.

Materials to avoid

Contact with Chemicals may decompose the ingredients present in it. If possible avoid contact with all kinds of Chemical.

11. TOXICOLOGICAL INFORMATION

Not Available

12. ECOLOGICAL INFORMATION

Not Available

13. DISPOSAL CONSIDERATION

In event of spillage, the oil can be contained by sand or soil and absorbed by paper from which the oil will evaporate.



14. TRANSPORT INFORMATION

The oil can be safely stored or transported in sound metal drums or bottles at ambient temperatures. Store in full sealed containers, keep cool and protect from light to preserve quality, preferred container for long term storage - stainless steel or glass.

AIR FREIGHTS:

Air freights are done in conformance to latest IATA/ICAO regulations with the name and address of the notifying party on the cartons

15. REGULATORY INFORMATION

REGULATORY STATUS

The product is listed in CAS

CAS# 8024-37-1

The product is registered in FDA, Fema, FCC and in the council of Europe.

FDA NO # 182.10

Fema NO # 3085

Council of Europe NO# 163n

16. OTHER INFORMATION

REFERENCES

1. The Essential oils by Gunther Volume IV
2. Wealth Asia disk 2.2(Publication of CSIR, India)
3. Essential oils 1976- 1978 by Dr. Brain M Lawrence
4. Food Chemical codex
5. Source Book of Flavours by Gary Reineccius
6. Flavour Technology by Heath.

USES: The oil widely used as flavoring of spicy food products and to lesser extent, in perfumes of heavy oriental character

Computer edited Certificate - valid without signature



VEGAN & VEGETARIAN STATEMENT

To Whom It May Concern,

Product - Curcuma Aromatica Oil

The above mentioned product manufactured and supplied by MADAR Corporation Limited, comply with a vegan or vegetarian diet. They contain no animal ingredients or animal by-products, use no animal ingredients or by-products in the manufacturing process, and are not tested on animals.

Therefore it is suitable for vegan and vegetarians.