

CERTIFICATE OF ANALYSIS

PRODUCT MANDARIN OIL, GREEN

BATCH NUMBER 4477603

BEST BEFORE DATE August 2025

TEST	UNIT	RESULTS
APPEARENCE		CLEAR MOBILE LIQUID
COLOR		DARK GREEN
ODOR		FRUITY, CITRIC, SWEET
DENSITY 20	(g/ml)	0.850
REFRACTIVE IND.20		1.4760
GC ANALYSIS		PROFILE SIMILAR TO STANDARD
ALDEHYDE		0.7% (as DECANAL)



To whom it may concern

ALLERGENS CERTIFICATE

Product: MANDARIN OIL, GREEN

To our knowledge from the currently existing information in our files received from our suppliers, we certify that the above-mentioned product does not contain any of the following materials*:

- Cereals containing gluten (i.e. wheat, rye, barley, oats, spelt, kamut or their hybridised strains) and products thereof
- Crustaceans and products thereof
- Eggs and products thereof
- Fish and products thereof
- Peanuts and products thereof
- Soybeans and products thereof
- Milk and products thereof (including lactose)
- Nuts (i.e. almonds (Amygdalus communis L.), hazelnuts (Corylus avellana), walnuts (Juglans regia), cashews (Anacardium occidentale), pecan nuts (Carya illinoiesis (Wangenh.) K. Koch), Brazil nuts (Bertholletia excelsa), pistachio nuts (Pistacia vera), macadamia nuts and Queensland nuts (Macadamia ternifolia) and products thereof
- Celery and products thereof
- Mustard and products thereof
- Sesame seeds and products thereof
- Sulphur dioxide and sulphites at concentrations of more than 10 mg/kg or 10 mg/L expressed as SO2
- Lupin and products thereof
- Molluscs and products thereof

*According to Regulation (EU) 1169/2011 of 25 October 2011 on the provision of food information to consumers.

The information contained herein is to the best of our knowledge reliable. However, it should be noted that it is the responsibility of the manufacturer of the material containing this flavouring ingredient to identify and comply with all relevant legal requirements.

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FRAGRANCE ALLERGENS

Product name: MANDARIN OIL, GREEN

ngredient	Total content (w/w)
Amyl cinnamic alcohol (CAS 101-85-9)	Not Detected
Amyl cinnamic aldehyde (CAS 122-40-7)	Not Detected
Anisyl alcohol (CAS 105-13-5)	Not Detected
Benzyl alcohol (CAS 100-51-6)	Not Detected
Benzyl benzoate (CAS 120-51-4)	Not Detected
Benzyl cinnamate (CAS 103-41-3)	Not Detected
Benzyl salicylate (CAS 118-58-1)	Not Detected
Cinnamic alcohol (CAS 104-54-1)	Not Detected
Cinnamic aldehyde (CAS 104-55-2)	Not Detected
Citral (CAS 5392-40-5)	< 0,1%
Citronellol (CAS 106-22-9)	Not Detected
Coumarin (CAS 91-64-5)	Not Detected
Eugenol (CAS 97-53-0)	Not Detected
Farnesol (CAS 4602-84-0)	Not Detected
Geraniol (CAS 106-24-1)	Not Detected
Hexylcinnamic aldehyde (CAS 101-86-0)	Not Detected
Hydroxycitronellal (CAS 107-75-5)	Not Detected
Hydroxymethylpentylcyclohexene carboxaldehyde (Lyral) (CAS 31906-04-4)	Not Detected
isoeugenol (CAS 97-54-1)	Not Detected
D-Limonene (CAS 5989-27-5)	< 75,0%
Linalool (CAS 78-70-6)	< 0,5%
2-methyl-3-(4-(1,1-dimethyl ethyl) phenyl)propanal (Lilial) (CAS 80-54-6)	Not Detected
Methyl heptine carbonate (CAS 111-12-6)	Not Detected
Gamma-methylionone (iso-alfa-Methylionone) (3-methyl-4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-3-buten-2-one) (CAS 127-51-5)	Not Detected
Treemoss (Evernia furfuracea) (CAS 90028-67-4)	Not Detected
Oakmoss (Evernia prunastri)(CAS 90028-68-5)	Not Detected

Detection limit: 10 ppm

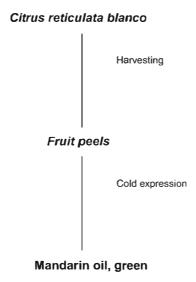
This list comprises references 45, 67 and 69 to 92 in Annex III to Regulation (EO) 1223/2009 (the Cosmetics Regulation).

Version date: 9 March 2009



Flowchart of the Production Process

Product: MANDARIN OIL, GREEN



Information provided by our supplier(s) and/or according to literature data



GMO CERTIFICATE

Product: MANDARIN OIL, GREEN

This is to certify that to the best of our knowledge the above-mentioned product

- · does not contain
- · does not consist of
- · is not derived from
- · is not produced with the help of

genetically modified organisms (GMO) or derivative ingredients as per EU Directive 2001/18/EC.

Foods containing this product are not subject to the labelling requirements of EU Regulations 1829/2003/EC and 1830/2003/EC.

This material complies with article 9 of Regulation (EC) 834/2007 regarding the prohibition on the use of GMOs in organic production.

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IFRA CONFORMITY CERTIFICATE

Product: MANDARIN OIL, GREEN

We certify that the above-mentioned product is in compliance with the Standards of the International Fragrance Associaton (IFRA) up to and including the 49th Amendment to the IFRA Standards (published January 2020), provided it is used in the following categories at a maximum concentration level of ⁽¹⁾:

Category 1	6%	(2)	Category 7A	6%	(2)
Category 2	6%		Category 7B	6%	
Category 3	6%		Category 8	6%	
Category 4	6%		Category 9	6%	
Category 5A	6%		Category 10A	6%	
Category 5B	6%		Category 10B	6%	
Category 5C	6%		Category 11A	6%	
Category 5D	6%		Category 11B	6%	
Category 6	6%		Category 12	6%	

⁽¹⁾ the concentration of a fragrance ingredient should not exceed the usual concentration of the fragrance compound in the _____ finished product.

Please note this certificate does not include food status conformity check. A separate document, wich may be available depending on the product, is needed for such purpose.

Contains the following substances restricted by IFRA standards:

METHYL N-METHYLANTHRANILATE	< 0.6%
CITRAL	< 0,1%
BERGAPTEN (MARKER FOR FUROCOUMARINS)	< 0,025%
CITRONELLAL	< 0,1%

and complies with the latest IFRA specification.

Note: Methyl N-methylanthranilate has been identified for having the potential of forming nitrosamines in nitrosating systems. Adequate protective measures may be considered.

Note: The bergaptene (5-methoxypsoralene) content has not been determined. Therefore, it has been considered the typical level of bergaptene in the product according to the IFRA standard "Citrus oils and other furocoumarin containing essential oils".

This certificate provides restrictions for use of the specified product based only on those materials rectricted by IFRA Standards for the toxicity endpoint(s) described in each Standard. It does not provide certification of a comprehensive safety assessment of all product constituents.

Version Date: 11 May 2020

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IFRA would recommend that any material used to impart perfume or flavour in products intended for human ingestion should consist of ingredients that are in compliance with appropriate regulations for foods and food flavourings in the countries of planned distribution and, where these are lacking, with the recommendations laid down in the Code of Practice of IOFI (International Organisation of the Flavour Industry).



MANDARIN OIL, GREEN

Print Date: 07-10-2020 Revision date: 21-02-2020 Version: 3.3/CLP/EN

Page: 1 / 6

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

1.1. Identification of the substance/mixture

MANDARIN OIL, GREEN Trade name:

MANDARIN OIL Substance name: CAS Number: 84929-38-4 CE Number: 284-521-0 **REACH Registration number:** 01-2120074120-72

1.2. Relevant identified uses of the substance or mixture and uses advised against

Raw material for the manufacture of fragrances and/or flavourings.

1.3. Details of the supplier of the safety data sheet

Company: Madar Corporation Limited

Address: 19 - 20 Sandleheath Industrial Estate

Fordingbridge SP6 1PA

Telephone: Fax: 01425 655 555

E-mail: technical@madarcorporation.co.uk

1.4. Emergency telephone number

SECTION 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Flammable Liquids - Category 3 - H226 Skin Irritant - Category 2 - H315 Skin sensitizer - Category 1 - H317 Aspiration hazard - Category 1 - H304

Hazardous to the aquatic environment, long-term (chronic) - Category 2 - H411

2.2. Label Elements

Hazard pictograms:







Signal Word:

Danger

Hazard statements:

H226 - Flammable liquid and vapour.

H304 - May be fatal if swallowed and enters airways.

H315 - Causes skin irritation.

H317 - May cause an allergic skin reaction.

H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements:

P210 - Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 – Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310+P331 – IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

P302+P352+P333+P313 – IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

Suplemental Hazard Information:

Contains LIMONENE, ALPHA-PINENE, BETA-PINENE. May produce an allergic reaction.

2.3. Other hazards

No Information available



MANDARIN OIL, GREEN

Print Date: 07-10-2020 Revision date: 21-02-2020 Version: 3.3/CLP/EN

Page: 2 / 6

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Chemical name: MANDARIN OIL CAS number: 84929-38-4 EC number: 284-521-0

Hazardous constituents:

Chemical Name	% (w/w)	CAS No EC No	Classification according to Regulation 1272/2008
LIMONENE	≥50	138-86-3 205-341-0	Flam. Liq. 3 - H226 Skin Irrit. 2 - H315 Skin Sens. 1B - H317 Asp. Tox. 1 - H304 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410
GAMMA-TERPINENE	≥10;<25	99-85-4 202-794-6	Flam. Liq. 3 - H226 Repr. 2 - H361 Asp. Tox. 1 - H304
ALPHA-PINENE	≥1; <10	80-56-8 201-291-9	Flam. Liq. 3 - H226 Acute Tox. 4 (oral) - H302 Skin Irrit. 2 - H315 Skin Sens. 1B - H317 Asp. Tox. 1 - H304 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410
MYRCENE	≥1; <10	123-35-3 204-622-5	Flam. Liq. 3 - H226 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Asp. Tox. 1 - H304 Aquatic Acute 1 - H400 Aquatic Chronic 2 - H411
BETA-PINENE	≥1; <10	127-91-3 204-872-5	Flam. Liq. 3 - H226 Skin Irrit. 2 - H315 Skin Sens. 1B - H317 Asp. Tox. 1 - H304 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

See the full text of the hazard statements in section 16.

3.2. Mixtures

Not applicable.

SECTION 4. FIRST-AID MEASURES

4.1. Description of necessary first aid measures

Ingestion: Rinse mouth with water. Obtain medical advice.

Keep at rest. Do not induce vomiting.

Eye contact: In case of contact with eyes, rinse immediately with plenty of water for at least 15 minutes and seek medical advice.

Inhalation: Remove person to fresh air and keep at rest.

Seekimmediate medical advice.

Skin contact: Take off immediately all contaminated clothing.

Thoroughly wash affected skin with soap and water. Seek medical attention if symptoms persist.

4.2. Most important symptoms and effects, both acute and delayed

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

No information available.



MANDARIN OIL, GREEN

SECTION 5. FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Water spray, carbon dioxide, dry chemical powder or appropriate foam. For safety reasons do not use full water jet.

5.2. Special hazards arising from the substance or mixture

Known or Anticipated Hazardous Products of Combustion: Emits toxic fumes under fire conditions.

5.3. Advice for firefighters

High temperatures can lead to high pressures inside closed containers.

Avoid inhalation of vapors that are created. Use appropriate respiratory protection.

Do not allow spillage of fire to be poured into drains or watercourses.

Wear self-contained breathing apparatus and protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate surronding areas. Ensure adequate ventilation. Keep unnecessary and unprotected personnel from entering. Do not breathe vapor/spray. Avoid contact with skin and eyes. Information regarding personal protective measures: see section 8.

6.2. Environmental precautions

To avoid possible contamination of the environment, do not discharge into any drains, surfacewaters or groundwaters.

6.3. Methods and materials for containment and cleaning up

Cover with an inert, inorganic, non-combustible absorbent material (e.g. dry-lime, sand, soda ash).

Place in covered containers using non-sparking tools and transport outdoors.

Avoid open flames or sources of ignition (e.g. pilot lights on gas hot water heater).

Ventilate area and wash spill site after material pickup is complete.

6.4. Reference to other sections

Information regarding exposure controls, personal protection and disposal considerations can be found in sections 8 and 13.

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Do not store or handle this material near food or drinking water. Do not smoke.

Avoid contact with the eyes, skin and clothing. Wear protective clothing and use glasses.

Observe the rules of safety and hygiene at work.

Keep in the original container or an alternative made from a compatible material.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed and preferably full containers in a cool, dry and ventilated area, protected from light.

Keep away from sources of ignition (e.g. hot surfaces, sparks, flame and static discharges).

Keep away from incompatible materials (see section 10).

7.3. Specific end use(s)

No information available.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1. Control parameters

Components with occupational exposure limits:

None known.

8.2. Exposure controls

Appropriate engineering controls: Measures should be taken to prevent materials from being splashed into the body.

Provide adequate ventilation, according to the conditions of use. Use a mechanical exhaust if required.

Eye/Face protection: Chemical safety goggles are recommended. Wash contaminated goggles before reuse. Hand Protection: Chemical-resistant gloves are recommended. Wash contaminated gloves before reuse.

Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks

involved.

Respiratory Protection: In case of insufficient ventilation, use suitable respiratory equipment.

Environmental exposure controls: Emissions from ventilation or process equipment should be checked to ensure they comply with environmental

protection legislation.

In some cases, filters or engineering modifications to the process equipment will be necessary to reduce emissions to

acceptable levels.



MANDARIN OIL, GREEN

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance: Liquid

Colour:
Conforms to standard
Odour:
Conforms to standard
Odour theshold:
PH:
Not determined
Meltingpoint/freezing point:
Boling point/boiling range (°C):
Flash point:

Conforms to standard
Not determined
Not determined
Not determined
Flash point:

A6 °C

Evaporation rate: Not determined Not determined Flammability: Lower flammability/Explosive limit: Not determined Upper flammability/Explosive limit: Not determined Vapour pressure: Not determined Vapour Density: Not determined 0,84-0,86 g/mL (20°C) Density: Relative density: 0,84-0,86 (20°C) INSOLUBLE IN WATER Water solubility: SOLUBLE IN ETHANOL Solubility in other solvents: Partition coefficient n-octanol/water: Not determined Auto-ignition temperature: Not determined Decomposition temperature: Not determined Not determined Viscosity, dynamic: Viscosity, kinematic: Not determined Explosive properties: Not determined Oxidising properties: Not determined

9.2. Additional information

No information available.

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

10.2. Chemical stability

The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.

10.4. Conditions to Avoid

Conditions to Avoid: Excessive heat, flame or other ignition sources.

10.5. Incompatible materials

Avoid contact with strong acids and bases and oxidizing agents.

10.6. Hazardous decomposition products

During combustion may form carbon monoxide and unidentified organic compounds.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity	Based on the data available, the criteria for classification are not met.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/irritation	Based on the data available, the criteria for classification are not met.
Respiratory or skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Based on the data available, the criteria for classification are not met.
Carcinogenicity	Based on the data available, the criteria for classification are not met.
Reproductive toxicity	Based on the data available, the criteria for classification are not met.
STOT-single exposure	Based on the data available, the criteria for classification are not met.
STOT-repeated exposure	Based on the data available, the criteria for classification are not met.



SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH)

MANDARIN OIL, GREEN

Revision date: 21-02-2020 Version: 3.3/CLP/EN Print Date: 07-10-2020 Page: 5 / 6

Aspiration hazard

May be fatal if swallowed and enters airways.

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity

Assessment:

Toxic to aquatic life with long lasting effects.

Experimental/calculated data:

No information available.

12.2. Degradability

No information available.

12.3. Bioaccumulative potential

No information available.

12.4. Soil mobility

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects

See also sections 6, 7, 13 and 15

Do not allow to get into waste water or waterways.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Dispose of in accordance with national and local environmental regulations.

SECTION 14: TRANSPORT INFORMATION

	ADR/RID/ADN	IMDG	IATA-ICAO
14.1. UN Number	UN1169	UN1169	UN1169
14.2. UN Proper Shipping Name	EXTRACTS, AROMATIC, LIQUID	EXTRACTS, AROMATIC, LIQUID (LIMONENE)	EXTRACTS, AROMATIC, LIQUID
14.3. Transport Hazard Class(es)	3	3	3
14.4. Packing Group	III	III	113
14.5. Environmental hazards	Yes	Yes	Yes
Additional information			

14.6 Special precautions for user

None known

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

No information available

15.2. Chemical safety assessment

No information available

SECTION 16: OTHER INFORMATION

Full text of the R-phrases, hazard statements and precautionary statements mentioned in section 3:

H226 – Flammable liquid and vapour.

H302 - Harmful if swallowed.

H304 - May be fatal if swallowed and enters airways.

H215 – Causes skin irritation.

H3i7 - May cause an allergic skin reaction.

H319 - Causes serious eye irritation.

H361 – Suspected of damaging fertility or the unborn child.

H400 - Very toxic to aquatic life.



MANDARIN OIL, GREEN

H410 – Very toxic to aquatic life with long lasting effects. H411 – Toxic to aquatic life with long lasting effects.

The information included in this safety data sheet is based on the available data at the moment this document is issued. It is meant to be a description of safety requirements for our product and does not stand for a guarantee of its properties. The user is responsible for taking all necessary steps leading to compliance with local rules and legislation.



SPECIFICATION SHEET

VERSION 4,00 **VERSION DATE** 04/06/18 **PRINT DATE** 07/10/20

PRODUCT MANDARIN OIL, GREEN

APPLICATIONS Raw material for industrial use intended for the manufacture of flavours and/or fragrances.

IUPAC NAME MANDARIN GREEN OIL
PLANT OF ORIGIN Citrus reticulata blanco

PART OF THE PLANT FRUIT PEEL

SYNONYMS

CAS 84929-38-4
CAS 2 8008-31-9
EINECS 284-521-0

FEMA 2657

TARIFF NUMBER 3301192000

KOSHER CERTIFICATE AVAILABLE ON REQUEST

REACH REGISTRATION NO. 01-2120074120-72

SPECIFICATIONS

ASPECT AT 20° C

COLOUR

ODOUR

TASTE

DENSITY A 20° C (g / mi)

CLEAR MOBILE LIQUID

GREEN TO DARK GREEN

FRUITY, CITRIC, SWEET

CHARACTERISTIC

0,840 - 0,860

DENSITY 25/25

REFRACTIVE INDEX nD20 1,4650 - 1,4850

REFRACTIVE INDEX nD25

OPTICAL ROTATION (°) 60,00 / 80,00

BOILING POINT (°C)
MELTING POINT (°C)

FLASH POINT (°C) 46,00

ASSAY (% GC) ALDEHYDE (AS DECANAL)> 0.4

ACID VALUE (mg KOH/g)

SOLUBILITY INSOLUBLE IN WATER
VAPOUR PRESSURE NOT DETERMINED
OTHER SOLUBILITIES SOLUBLE IN ETHANOL

OTHER TECHNICAL DATA

STABILITY AND STORAGE

KEEP IN TIGHTLY CLOSED CONTAINER IN A COOL AND DRY PLACE, PROTECTED FROM LIGHT. WHEN STORED FOR MORE THAN 24 MONTHS, QUALITY SHOULD BE CHECKED BEFORE USE.

OPTIMAL STORAGE TEMPERATURE: 0/10°C. PURGE HEADSPACE WITH NITROGEN.

WE BELIEVE THE ABOVE INFORMATION TO BE CORRECT BUT WE DO NOT PRESENT IT AS ALL INCLUSIVE AND AS SUCH SHOULD BE USED AS A GUIDE. IT IS THE SOLE RESPONSIBILITY OF THE RECEIVER OF OUR PRODUCT TO COMPLY WITH EXISTING REGULATIONS AND INSTRUCTIONS.

THIS PRODUCT HAS NOT BEEN FILTERED DUE TO TECHNOLOGICAL REASONS, WE RECOMMEND NOT TO USE IT UNLESS FILTERED WHEN USED AS A RAW MATERIAL IN FOOD INTENDED FOR FINAL CONSUMERS.



VEGAN / VEGETARIAN DECLARATION

Prod	luct: MANDARIN OIL, GREEN
	nereby inform that, to the best of our knowledge, the above-mentioned material is suitable for the wing diets:
X	Vegan Does not contain any ingredient of animal origin (mammalian, poultry, fish, crustacean, mollusc) or animal derivatives (dairy, egg and bee products) including additives and processing aids.
	Vegetarian Does not contain any ingredient of animal origin (mammalian, poultry, fish, crustacean, mollusc) or dairy and egg products, including additives and processing aids. Bee products (e.g. honey, bees wax) are acceptable.
	Ovo-Lacto Vegetarian Does not contain any ingredient of animal origin (mammalian, poultry, fish, crustacean, mollusc), including additives and processing aids. Dairy, egg and bee products (e.g. honey, bees wax) are acceptable.
'Anir	mal' refers to the entire animal kingdom, i.e. vertebrates and multicellular invertebrates.

The information contained herein is to the best of our knowledge reliable. However, it should be noted that it is the responsibility of the manufacturer of the material containing this ingredient to identify and comply with all relevant legal requirements.

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