



MATERIAL SAFETY DATA SHEET

1. Identification of Substance/Preparation & Company

PRODUCT NAME: Mandarin Oil, Red
PRODUCT CODE: MANDA
SUPPLIER: Green Valley Aromatherapy Ltd.,
4988 North Island Hwy, Courtenay, BC CANADA V9N 9H9
Emergency Tel No: (250) 334-4836. Contact Person: Kelly Lees

2. Composition / Information on Ingredients

DEFINITION/BOTANICAL ORIGIN: The volatile oil obtained by expression of the peels of mandarin oranges, the fruit of *Citrus reticulata*.

H-No:	CAS No: 84929-38-4	Status: natural
CoE No:	FEMA:	Additives: none
FDA:	IFRA: see section 16	Application: Aromatherapy, skin care etc.
RIFM: monograph	EINECS: 284-521-0	
INCI name: <i>Citrus reticulata</i>		FCC: official (expressed)
		RTECS:

3. Hazards Identification

Concentrated product. Do not ingest, use good housekeeping procedures when handling.

4. First-Aid Measures

INHALATION: Remove from exposure site to fresh air. Keep at rest. Obtain medical attention.

EYE CONTACT: Rinse immediately with plenty of water for at least 15 minutes. Contact a doctor if symptoms persist.

SKIN CONTACT: Remove contaminated clothes. Wash thoroughly with soap & water, flush with plenty of water. If irritation persists, seek medical advice.

INGESTION: Rinse out mouth with water. Seek medical advice **immediately**.

OTHER: When assessing action take Risk & Safety Phrases into account (Section 15).

5. Fire Fighting Measures

EXTINGUISHING MEDIA: Use CO², Dry Powder or Foam type Extinguishers, spraying extinguishing media to base of flames. Do not use direct water jet on burning material.

SPECIAL MEASURES: Avoid vapour inhalation. Keep away from sources of ignition. Do not smoke. Wear positive pressure self-contained breathing apparatus & protective clothing.

EXTINGUISHING PROCEDURES: Closed containers may build up pressure when exposed to heat and should be cooled with water spray.

6. Accidental Release Measures

PERSONAL PRECAUTIONS: Avoid inhalation & direct contact with skin & eyes. Use individual protective equipment (safety glasses, waterproof-boots, suitable protective clothing) in case of major spillages.

ENVIRONMENT PRECAUTIONS: Keep away from drains, soils, surface & ground waters.

CLEAN UP METHODS Remove all potential ignition sources. Contain spilled material. Cover with an inert or

FOR SPILLAGES: non-combustible inorganic absorbent material, sweep up and remove to an approved disposal container. Observe municipal, federal and local disposal regulations.

7. Handling & Storage

PRECAUTIONS IN HANDLING: Apply good manufacturing practice & industrial hygiene practices, ensuring proper ventilation. Observe good personal hygiene. Do not eat, drink or smoke whilst handling.

STORAGE CONDITIONS: Store in tightly closed original container, in a cool, dry & ventilated area away from heat sources & protected from light. Keep air contact to a minimum.

FIRE PROTECTION: Keep away from ignition sources & naked flames. Take precautions to avoid static discharges in working area.

8. Exposure Controls/Personal Protection

RESPIRATORY PROTECTION: Avoid breathing product vapour. Apply local ventilation where possible.

VENTILATION: Ensure good ventilation of working area.

HAND PROTECTION: Avoid all skin contact. Use chemically resistant gloves if required.

EYE PROTECTION: Use safety glasses.

WORK / HYGIENE PRACTICES: Wash hands with soap & water after handling.

9. Physical & Chemical Properties

COLOUR: Reddish-orange

APPEARANCE: Mobile liquid

ODOUR: Characteristic of the peel of the fruit

FLASH POINT °C: 48

SPECIFIC GRAVITY @ 20°C: 0.844 – 0.854

OPTICAL ROTATION @ 20°C:

REFRACTIVE INDEX @ 20°C: 1.468 – 1.478

SOLUBILITY IN 75% ETHANOL @ 20°C:

SOLUBILITY IN VEGETABLE OILS: Soluble

SOLUBILITY IN WATER: Insoluble

Typical Analysis by GLC/GCMS:

CONSTITUENT	PERCENTAGE
Alpha-Pineene	0.64%
Linalol	9.46%
Isomenthone	2.14%
Nerol + Citronellol	42.18%
Geraniol	15.88%
Citronellyle Formiate	7.9%
Geranyl Formiate	2.6%
Guaiadiene	1.98%

10. Stability & Reactivity

REACTIVITY:	It presents no significant reactivity hazards, by itself or in contact with water. Avoid contact with strong acids, alkali or oxidizing agents.
DECOMPOSITION:	Liable to cause smoke & acrid fumes during combustion: carbon monoxide, carbon dioxide and other non-identified organic compounds may be formed.

11. Toxicological Information

Kligman (1974) found that an 8% solution of mandarin oil caused no irritation or skin sensitization to humans (report to RIFM)
It was also found to be relatively non-toxic (LD50 orl rat >5g/Kg) See FCT 1992 (30 suppl.) P.69

12. Ecological Information

BIODEGRADABILITY:	Data not available
PRECAUTIONS:	Prevent surface contamination of soil, ground & surface water.

13. Disposal Considerations

Avoid disposing to drainage systems and into the environment. Seek expert advice.

14. Transport Regulations

ROAD (ADR/RID):	Class 3 Item 31/c RID No 301; ADR RN N/2301
AIR (IATA/ICAO):	Class 3 Packing Group III
SEA (IMDG):	3345 Class 3
CHIP:	See section 15

15. Regulatory Information According to Directive 88/379/EEC

HAZARDS:	n/a
SYMBOLS:	n/a
RISK PHRASES:	R10 Flammable liquid
SAFETY PHRASES:	S16 Keep away from sources of ignition, No Smoking.

16. Other Information

Cosmetics Directive 7th Amendment: Restrictions may apply. A source of Limonene listed as a sensitiser. Check maximum usage levels for skin care products.

PACKAGING:	TYPE	SUITABILITY
	Glass	Yes
	Lacquer lined steel/tin	Yes
	Aluminums	Yes
	HPPE	No
	F/HDPE	Yes
	Other Plastic	No

SHELF LIFE

Minimum 12 months when stored within advised conditions. Re-test after 12 months then every 3 months, up to a maximum of 36 months.

Q.C REQUIREMENTS

In-line with general product specification. Always satisfy suitability for specific application.

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