

MATERIAL SAFETY DATA SHEET
ACCORDING TO EC LEGISLATION 91/155/E EC

Date created: August 2002

Date revised: June 2005

1. Identification:

Commercial name: *Mandarin essential oil.*

Botanical Nomenclature: *Citrus nobilis*

INCI name: *Citrus nobilis.*

CAS number: 84929-38-4.

EINECS/ELINCS number: 284-521-0

2. Composition:

Main components: Limonene, γ -terpinene, β -pinene, α -pinene, Myrcene

Additives (e.g. carriers, preservatives, antioxidants): *Nil.*

3. Potential Health Hazards:

Inhalation: *None identified.*

Skin: *Concentrated liquid and vapours irritating to skin by prolonged exposure.*

Eyes: *Irritating to eyes with possible damage.*

Ingestion: *Harmful if swallowed.*

4. First aid:

Inhalation: *If discomfort is felt, remove person to a well ventilated area with plenty of fresh air.*

Skin: *Remove contaminated clothing. Wash affected area with plenty of soap and water.*

Eyes: *Flush immediately with plenty of cool water for 10 to 20 minutes. Seek medical advice from a Medical Doctor.*

Ingestion: *Seek immediate medical care.*

5. In case of fire:

Extinguishing Media: *Foam, Carbon dioxide.*

Do not use: *Water.*

Special precautions: *Wear breathing apparatus as toxic vapours may be released during fire.*

6. Spill and Leak Procedure:

Individual precautions: *Eliminate sources of ignition. Keep area well ventilated and isolate the spill.*

Environmental protection: *Prevent the liquid from entering the drains and sewers.*

Cleaning methods: *Soak up the spill using inert absorbents. For large spills use pumps.*

7. Handling and storage:

Store in a cool, dry and dark place in suitable containers (aluminium cans or lacquer lined steel drums).

Handle in a well ventilated area.

Keep away from sources of heat and ignition.

8. Personal Protection / Exposure control:

Respiratory protection: *Wear breathing apparatus when working in an area of high vapour concentration.*

Skin protection: *Use protective gloves. Wear protective clothing when possibility exists of contact.*

Eye protection: *Goggles should be worn.*
General precautions: *Use good industrial hygiene practise.*

9. Physiochemical properties:

Appearance:	<i>Yellow liquid</i>
Odour:	<i>Herbaceous, warm, sharp typical</i>
pH:	<i>Neutral</i>
Boiling point:	<i>Not available</i>
Flash point:	<i>52°C</i>
Autoignition Temperature:	<i>Not available</i>
Explosion Limits:	<i>Not available</i>
Vapour pressure (25°C):	<i>Not available</i>
Vapour Density:	<i>>1 (air=1)</i>
Specific Gravity (25°C):	<i>0.890 to 0.906</i>
Optical Rotation (25°C):	<i>+4° to +24°</i>
Refractive Index (25°C):	<i>1.4700 to 1.4750</i>
Solubility in water (20°):	<i>Negligible</i>
Partition Coefficient log P o/w:	<i>Not available</i>
Evaporation rate:	<i><1 (Butyl Acetate=1)</i>

10. Stability and Reactivity:

Chemical Stability: *Stable.*
Conditions to avoid: *Normally stable. Not reactive with water.*
Hazardous Decomposition Products: *Not available.*

11. Sensitisers:

Limonene 75%, Linalool 0.3%, total 75.3%

12. Toxicological Information:

According to RIFM- Monograph:
Acute Toxicity: *Oral LD₅₀: 2.2 g/kg in rats.*
 Dermal LD₅₀: 5 g/kg in rabbits.
Irritation: *Tested without irritation at 6%.*
Sensitisation: *Tested without sensitisation at 6%.*
Phototoxicity: *No phototoxic reaction reported.*

13. Ecotoxicological information:

Fish Toxicity: LCO/EC₅₀: *Not available.*
Bacteriotocity: ECO/EC₅₀: *Not available.*

14. Disposal Method:

Check Federal, State and Local Regulations.

15. Transport Information:

Non-hardous material transport in suitable containers

16. Regulatory Information

The British Essential Oil Association Chip Regulations – 2002

Hazard Symbols: Xn
Risk Phrases: R10,65
H/C %: 80
Safety Phrases: S62

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FOR AND ON BEHALF OF PHOENIX NATURAL PRODUCTS:

J.S. CHANA..... (MANAGING DIRECTOR)

DATE:.....