

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

Date created: August 2002

Date revised: June 2005

**1. Identification:**

Commercial name: *Bergamot essential oil.*  
Botanical Nomenclature: *Citrus bergamia.*  
INCI name: *Citrus Aurantium var. bergamia.*  
CAS number: 8007-75-8  
EINECS CAS number: 89957-91-5.  
EEC Number: 289-612-9.

**2. Composition:**

Main components: *Linalyl acetate, linalool, limonene,  $\beta$ -pinene, g-terpinene.*  
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>Clear, yellowish</i>
Odour:	<i>Fresh, fruity, lemony</i>
pH:	<i>Neutral</i>
Boiling point:	<i>Not available</i>
Flash point:	<i>+53°C – 57°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>&gt;1 (air=1)</i>
Specific Gravity (20°C):	<i>0.87 – 0.88</i>
Optical Rotation (20°C):	<i>+8° - 24°</i>
Refractive Index (20°C):	<i>1.46 – 1.47</i>
Solubility in water (20°):	<i>Negligible</i>
Partition Coefficient log P o/w:	<i>Not available</i>
Evaporation rate:	<i>&lt;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**

Citral 0.7%,Limonene 45%, Linalool 15%, total 60.7%

### **12. Toxicological Information:**

According to RIFM- Monograph:

Acute Toxicity: *Oral LD<sub>50</sub>: 10 g/kg in rats.*

*Dermal LD<sub>50</sub>: 20 g/kg in rabbits.*

Irritation: *Tested without irritation at 4%.*

Sensitisation: *Tested without sensitisation at 4%.*

Phototoxicity: *Use should be limited to 20% as the expressed oil causes phototoxic reaction in sunlight.*

### **13. Ecotoxicological information:**

Fish Toxicity: LCO/EC<sub>50</sub>: *Not available.*

Bacteriotocity: ECO/EC<sub>50</sub>: *Not available.*

### **14. Disposal Method:**

*Check Federal, State and Local Regulations.*

### **15. Transport Information:**

*UN Number 1993: Proper shipping name: Flammable Liquid N.O.S.*

*Hazard Class: 3.3 Packing group: III*

*Transport Safety: Air (ATA/ICAO)*

*2/PAX309/CA310/III*

*Sea (IMDG-Code): 3.3/III*

*Rail (RID): 3.31c*

*Road (ADR): 3.31c*

**16. Regulatory Information**

**The British Essential Oil Association Chip Regulations – 2002**

Hazard Symbols: Xn  
Risk Phrases: R10, 65  
H/C %: 55  
Safety Phrases: S62

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FOR AND ON BEHALF OF PHOENIX NATURAL PRODUCTS:

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

DATE:.....