



SAFETY DATA SHEET
Complies with Directive 2001/58/EC

ISSUE DATE 2 April 2008

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1. Identification of the substance

Citriodiol™
Oil of Lemon Eucalyptus (Eucalyptus citriodora)
Extract of Lemon Eucalyptus

1.2. Use of the substance

Insect repellent

1.3. Company identification

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2. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

Ingredient	EINECS nr.	CAS nr.	Symbols	R-phrases	Concentration
Citriodiol, mixture containing >64% of	255-953-7	42822-86-6	Xi	R36	100%

cis- and trans-p-
menthane-3,8-diol,
prepared from
Eucalyptus citriodora
oil

Minor components of Citriodiol:

isopulegol 201-940-6 89-79-2

citronellol 203-375-0 106-22-9

Other names for p-menthane-3,8-diol:

IUPAC name: 2-(1-Hydroxy-1-methyl-ethyl)-5-methyl-cyclohexanol

CAS name: Cyclohexanemethanol, 2-hydroxy, $\alpha,\alpha,4$ -trimethyl-

3. HAZARDS IDENTIFICATION

Irritating to eyes

4. FIRST AID MEASURES

Inhalation	Not applicable
Ingestion	Observation under medical supervision
Skin contact	None
Eye contact	Wash with copious water.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media	Dry powder, foam, carbon dioxide
Unsuitable extinguishing media	Water jet (Citriodiol is insoluble in water)
Combustion/decomposition products	Nil hazardous
Special hazards/instructions	None

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Use gloves and goggles for major spills
Environmental precautions	Nil (Citriodiol is readily biodegradable)
Cleanup method	Contain; soak up in absorbent material such as sand

7. HANDLING AND STORAGE

Personal precautions	Use gloves for repeated exposure. Use eye goggles if splashing likely
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8. EXPOSURE CONTROL / PERSONAL PROTECTION

Note: Engineering controls should always be considered before personal protection is necessary

Exposure limits None known

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Very viscous liquid containing white crystals
Colour	Pale yellow
Odour	Faint citrus
pH (30% suspension in water)	typically 8.6
Melting point (°C)	Not applicable
Flash point (°C)	92
Auto ignition temperature (°C)	>200
Oxidising properties	None
Vapour pressure (room temperature)	4.65 Pa at 25 °C
Solubility (water)	157 mg/lit at 25 °C
Solubility (solvent)	n-hexane: >250 g/l, 20 °C acetone: >250 g/l, 20 °C
Boiling point (°C)	267 °C at 103630 Pa
Density (25 °C)	0.946
Viscosity (cP at ambient temperature)	230
log P _{ow}	2.42

10. STABILITY AND REACTIVITY

Conditions to avoid	Extreme heat
Materials to avoid	Strong oxidising agents
Decomposition products	None identified

11. TOXICOLOGICAL INFORMATION

LD ₅₀ (oral/rat)	>2 g/Kg
Effects	Unsteady gait, coma

12. ECOLOGICAL INFORMATION

Environmental effects	None known
Degradability	Readily biodegradable (OECD Guideline

Bioaccumulative potential	No 301F)
Mammalian toxicity	Not known, but probably low
Non-mammalian toxicity	Low
Aquatic toxicity	None known
	None known

13. DISPOSAL CONSIDERATIONS

Bury or incinerate according to local Authority Regulations

14. TRANSPORT INFORMATION

Hazard class	Not classified as hazardous
UN Number	Not applicable
Primary hazard	Not applicable
Secondary hazard	Not applicable
Packing group	Not applicable

15. REGULATORY INFORMATION

Supply label symbol(s)	Xi
Risk phrases	R36 - Irritating to eyes
Safety phrases	S25 - Avoid eye contact

16. OTHER INFORMATION

Full text of R phrases at heading 2: R36 - Irritating to eyes.

Bibliography and sources of the data:

Acute oral toxicity test in the rat: Safepharm Laboratories. (March 1994)
 Acute eye irritation test in the rabbit: Safepharm Laboratories. (March 1994)
 Extract of Lemon Eucalyptus: Physical and Chemical Characteristics Data Volume
 (Wisconsin Pharmacal Company 30 July 1998)
 Citriodiol PMD 133: Assessment of ready biodegradability; manometric
 respirometry test. (Safepharm Laboratories report June 2002)

This safety data sheet has been produced in accordance with Directive 67/548/EEC and amendments, Directive 1999/45/EC and Directive 2001/58/EC.

The data provided in this sheet are based on current knowledge and experience.