The European Agency for the Evaluation of Medicinal Products
Veterinary Medicines Evaluation Unit

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COMMITTEE FOR VETERINARY MEDICINAL PRODUCTS

EUCALYPTI AETHEROLEUM

SUMMARY REPORT

1. *Eucalypti aetheroleum* is obtained by steam distillation of twigs and leaves of *Eucalyptus globulus* Labill. and other Eucalyptus species. The oil is purified by saponification and fractionated distillation. It contains 1,8-cineol (80 to 90%). Cineol is also called eucalyptol. Also present are *p*-cymene (2.7%), a-pinene 2.6%, limonene 0.5%, gerianol, and camphene.

2. *Eucalypti aetheroleum* is contained in six veterinary medicinal products in concentrations ranging from 0.02 to 100%. These are used topically for treatment of inflammations, for disinfection of the udder and for rinsing of the vagina and cervix. Orally it is used against cough, throat inflammations, bronchial catarrh and fever. The highest daily oral dose employed is about 40 g of the oil for large animals. All food producing animals are target species.

   In human medicine *Eucalypti aetheroleum* is used against the symptoms of common cold, asthma and fever. The average oral dose is 0.3 to 0.6 g of *Eucalypti aetheroleum*; 3 to 20 drops of the *Eucalypti aetheroleum*, 1 to 3 times a day on a piece of sugar or added to hot or cold drinks. The *Eucalypti aetheroleum* is also a constituent of lozenges, which are sucked during the treatment of cold. For inhalation the *Eucalypti aetheroleum* is mixed with hot water and the vapours are inhaled.

   Eucalypti aetheroleum is also used as a spice and for flavouring of foods, in particular sweets.

3. *Eucalypti aetheroleum* has antibacterial and antifungal activity, it causes inhibition of cyclooxygenase, and has cough-inhibiting effect.

4. The summary information provided states that *Eucalypti aetheroleum* is rapidly absorbed from the stomach and gut. Excretion is mainly by breathing.

5. The oral LD_{50} for the oil is 3.32 g/kg bw in mice. The LD_{50} for rats is given as 4.44 g/kg bw (route of administration not stated, probably oral). The oral LD_{50} for cineol is 2.48 g/kg bw for rats, for rabbits the dermal LD_{50} is higher than 5 g/kg bw and for mice the intramuscular LD_{50} is 100 mg/kg bw.

6. No information on repeated dose toxicity of *Eucalypti aetheroleum* has been provided.

7. The available summary information reported that no embryo- or foetotoxicity resulted from 135 mg *Eucalypti aetheroleum*/kg bw given on day 6 to 15 of pregnancy in mice. There are no reports on teratogenicity.

8. No information on mutagenicity and carcinogenicity has been provided.

9. Undiluted *Eucalypti aetheroleum* applied to the skin of mice gave no adverse effects. No skin reactions were observed in humans from application of a 10% solution of *Eucalypti aetheroleum* in paraffin. In a patch-test for 24 hours on 20 volunteers no effects of undiluted *Eucalypti aetheroleum* were observed.

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10. Poisoning with serious symptoms is described for doses of 10 to 20 ml in adults and 5 ml in a child 2½ years old. None of the cases was fatal, even 120 to 220 ml did not kill one person. Fatal cases are, however, described in adults for doses as low as 5 ml. Doses higher than 30 ml usually appear to cause death.

11. *Eucalypti aetheroleum* is used for food flavouring and is listed by the Council of Europe as a natural source of food flavouring, category N2. This category indicates that *Eucalypti aetheroleum* can be added to foodstuffs in small quantities, with a possible limitation of an active principle in the final product. The Council of Europe accepts 15 mg/kg of eucalyptol (1,8-cineol) as a permissible concentration of artificial flavouring substance in food. The oil and 1,8-cineol have status as "Generally Recognised As Safe" in the USA and both are approved for use in food.

Conclusions and recommendation

Having considered the criteria laid down by the Committee for the inclusion of substances in Annex II of Council Regulation (EEC) No. 2377/90 and in particular that:

- the acute toxicity of *Eucalypti aetheroleum* is low,
- *Eucalypti aetheroleum* is approved as a spice and for seasoning of food, and is also contained in lozenges, and may be considered a normal component of the human diet,
- *Eucalypti aetheroleum* is used only for occasional treatment of individual animals,
- animals are unlikely to be sent for slaughter immediately after treatment;

the Committee concludes that there is no need to establish an MRL for *Eucalypti aetheroleum* and recommends its inclusion in Annex II of Council Regulation (EEC) No. 2377/90 in accordance with the following table:

Pharmacologically active Substance(s)	Animal species	Other provisions
Eucalypti aetheroleum	All food producing species	