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## Subchronic toxicity study of peppermint oil in rats

Per Spindler and Charlotte Madsen

*Institute of Toxicology, National Food Agency, Soeborg (Denmark)*

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### SUMMARY

Peppermint oil was given p.o. to four groups of 28 rats at dosage levels of 0, 10, 40, and 100 mg/kg body wt. per day for 90 days. At the highest dose histopathological changes consisting of cyst-like spaces scattered in the white matter of cerebellum were seen. No other signs of encephalopathy were observed. Nephropathy was seen in the male rats in the highest dose group. A no-observed-adverse-effect level of 40 mg/kg body wt. per day was determined.

### INTRODUCTION

Peppermint oil includes the oils from *Mentha piperita* and *Mentha arvensis*. The oil, a colourless to pale yellow liquid with a strong, penetrating odour, is obtained by steam distillation of the flowering plant. The chemical contents of the oil vary depending on the source. However, the main constituents are identical in all oil varieties, but the relative ratios vary. Constituents include menthol, menthone, iso-menthone, limonene, cineole, pulegone, and a plethora of other chemical constituents.

The essential oil is extensively used in flavouring candies, bitter chocolates, tobacco, toothpastes and other products. JECFA established in 1976 an acceptable daily intake of 0.2 mg/kg body wt. per day. The pharmaceutical and medical properties are utilized in several ways: flavouring ill-tasting medicines, as a carminative, local antiseptic, and anaesthetic in pharyngitis. It is also used for symptomatic treatment of irritable bowel syndrome [1–3].

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*Correspondence to:* Dr. Charlotte Madsen, Institute of Toxicology, National Food Agency, 19 Moerkhoej Bygade, DK-2860 Soeborg, Denmark.