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# Evaluation of toxicity in infusions of *Artemisia absinthium* of Greek flora and determination of *α*- and *β*- thujone in them

**Maria K Kokkini**
Agricultural University of Athens, Greece

*Artemisia absinthium* (wormwood) is a common herb most known for its use as an ingredient of the famous alcoholic drink, the absinthe. Due to the psychoactive compound found in wormwood, called thujone, absinthe was considered a toxic beverage and thus was banned in many countries for many years. Nowadays, *Artemisia absinthium* is used in many food and drink products. For this reason, the objective of this study is to determinate the concentration of α- and *β*- thujone, as well as to estimate the toxicity of its' herb's infusions. Four different samples of wormwood were studied, three of them were samples of known botanical name and geographical origin (from different regions of Greece) whilst the fourth sample was an unknown commercial sample obtained from the local flea market. The infusions were prepared by adding 2 g of dried wormwood to 200 mL of hot water. For the reception of the volatile compounds of the infusions, 150 ml diethyl ether was added in total. All the receipts were realized in triplicate. The toxicity was estimated by using the Microtox Acute Toxicity Test, performing the 81.9% Basic Test. The volatile constituents of the herbal infusions were analysed by gas chromatography combined with mass spectrometry (GC-MS). The EC20 toxicity values varied from 5.35% to 12.27% for the four samples, with the lowest values obtained by the unknown sample. Only two of them contained thujone, while each concentration in these two samples presented significant difference. This fact shows a wide chemical variation in thujone content in wormwood cultivated in Greece. Finally, the results from both the toxicity and the concentration of thujone, are in alliance with the current existing safety limits, as far as the daily consumption of wormwood infusions is concerned.

## Biography

Maria K Kokkini has studied Biotechnology in the Agricultural University of Athens, Greece and currently pursuing MSc in the Department of Food Science and Human Nutrition in the Laboratory of General Chemistry.

kokkini.maria@yahoo.gr

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