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Mercury speciation in fish muscles from major Czech rivers and assessment of health risks

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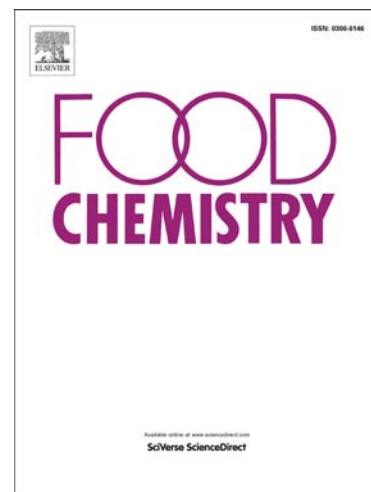
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12 **ABSTRACT**

13 The aim of this work was to determine the mercury and methyl mercury content in
14 muscle tissue of chub (*Leuciscus cephalus* L.), to assess the health risks of eating the fish
15 and to determine the number of fish meat servings that are suitable for weekly
16 consumption. Total mercury concentrations were determined using a single-purpose
17 atomic absorption spectrophotometer AMA 254. Methylmercury concentrations were
18 determined by gas chromatography. The location where the highest total mercury
19 concentrations in fish muscle tissues were found was the Vltava – Vraňany ($0.236 \pm$
20 $0.1001 \text{ mg/kg}^{-1}$), and the highest methylmercury concentration was found at the Labe –
21 Obříství ($0.231 \pm 0.1056 \text{ mg/kg}^{-1}$). The conclusion based on the data ascertained is that
22 the locations from which the lowest number of fish meat servings can be eaten are the
23 Vltava – Vraňany and the Labe – Obříství. The results of this study helped evaluate
24 contamination levels of rivers that flow out of the Czech Republic.

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