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**Wood pellets for home heating can be considered environmentally friendly fuels? Polycyclic Aromatic Hydrocarbons (PAHs) in their ashes**

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**Abstract**

This paper report the results of the first quantitative investigations of PAHs in wood pellet ashes. Investigations were carried out into the fifteen PAHs identified by the US-Environment Protection Agency (US-EPA) as requiring priority monitoring, other non-US-EPA listed PAHs and perylene were also investigated.

The total concentrations for the 17 investigated compounds, expressed as the sum of the concentrations ( $\Sigma$ PAHs), in the ashes produced by the wood pellet combustion, ranged from 0.064 mg Kg<sup>-1</sup> to 0.90 mg Kg<sup>-1</sup> of dry weight with a means of 0.31 mg Kg<sup>-1</sup>. The lowest concentrations (<0.1 mg Kg<sup>-1</sup>) were measured in the conifer ash samples.

Concentrations of PAHs found in this paper will also serve as a baseline for future monitoring campaigns. The ashes produced from burning of the wood pellet may pose threat to the people and environment due to the presence of carcinogenic and mutagen PAHs.

**Key words:** PAHs, wood, pellet, combustion, stove

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