

Abstract

Lead (Pb) as one of toxic elements occurs naturally in nature. Its use in metalurgical activities, mining and combustion of coal, waste incineration and use as a additive to gasoline in the past has endangered environment and health of oranisms. We determined the Pb isotopic composition in two podzol profiles, in a forest and nearby a road, using ICP MS. Based on the $^{206}\text{Pb}/^{207}\text{Pb}$ vs $^{208}\text{Pb}/^{206}\text{Pb}$ ratios we assesed the main source of Pb in O, Ah, Bhf, and Bf horizons in both soil profiles and Ep horizon from profile P2 to be coal combustion. The source in eluvial Ep horizon from profile P1 and C horizons originated in lithogenic Pb with values $^{206}\text{Pb}/^{207}\text{Pb}$ 1,126; 1,198 and 1,193. From Pb isotopic ratios we can conclude that during podzolization antropogenic Pb move to the deeper parts of soil profiles.