TITLE: ***Evaluation of the ambient risk in sediment of the lakes of the Cambé streamlet in Londrina for the metal distribution.***

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ABSTRACT

The metals are introduced naturally to the environment through the intemperism of rocks, as well as for a great variety of human activities through industrial effusion, domestic agricultural and cattle breeding. These metals associates to the sediments in different fractions and forces, being the values of these forces related to the availability of the metal to the environment. The importance of the metal chemical form in the sample makes the quantification of the different metal form in the earth's samples and sediment be more significant regarding the total concentrations becoming the speciation an indispensable tool in the availability evaluation of the metals. For accomplishment of this evaluation the metal concentrations available, potentially available and pseudo-total had been determined, in collected samples of sediment in lakes formed in the Cambé streamlet in Londrina and adjacent ground. These results had allowed to evaluate the profiles of distribution of the metals Al, Cd, Co, Cr, Cu, Mn, Ni, Pb and Zn in sediment of six different collect points, as well as evaluating the tax of ambient risk of these samples for criterion RAC. The orientation values defined by the Environmental Sanitation Technology Company (CETESB) and the levels of metal occurrence in the State of the Paraná determined by the MINEROPAR. The metals available (soluble fraction acid of the BCR), potentially available (HCl 0.1 M) and pseudo-total (3050-EPA) had been determined by spectrometry of atomic emission with inductively coupled plasma (ICP/AES). The experimental results had classified the samples of sediment in low to no risk to the environment regarding Al, of medium to high risk regarding Co, of low to the average risk regarding Pb, of low to the average risk regarding Cu, of high the highest risk regarding Mn and of medium the highest risk regarding Zn. The elements Cr and Ni had not been detected in the available fractions, presenting no risk to the environment. The Cd was not detected in none of the samples of studied ground or sediment. None of the boarded criteria, separately, has shown an enough and safe indicator to evaluate the environmental risk.

Key words: RAC (Risk Assesment Code), sediment, metal distribution, extraction, Igapó lake.