

## **Heavy metal (Cd, Cu, Pb and Zn) concentrations in the suspended particulate matter of the public water supply.**

### **Abstract**

Suspended particulate matter (SPM) in the water filters were sampled periodically between 2000 and 2002 and were analysed for Cd, Cu, Pb and Zn. The total concentrations of metals in the water filters ranged from 14.5 to 19.7  $\mu\text{g/g}$  dry weight for Cd, 447.7 to 2073.9  $\mu\text{g/g}$  dry weight for Cu, 155.7 to 196.8  $\mu\text{g/g}$  dry weight for Pb and 249.64 to 1136.27  $\mu\text{g/g}$  dry weight for Zn. Since there is no reported data for comparison, the present data of metals were compared with established quality guidelines and the data are considered as 'heavily polluted' by USEPA, 'above 'limit of tolerance level' by Ontario Ministry of Environment and above 'interim sediment quality guidelines' by Canadian environmental quality guidelines. However, the metal concentrations in the 'Easily, freely or leachable or exchangeable' (EFLE) fraction of the SPM were only detectable in Cu (2.93 to 13.93  $\mu\text{g/g}$  dry weight) and Zn (19.43 to 32.06  $\mu\text{g/g}$  dry weight) but below detectable limits for Cd and Pb. The EFLE fractions only contributed between 0.001-0.023% and 0.021-0.128% of the total concentrations of Cu and Zn, respectively. Therefore, the data seem not to pose a risk of metal contamination in the water supply since the metals could hardly leach from the SPM to the water column although further validation is required. The present data provide a baseline for future references

**Keyword:** Public water supply; Suspended particulate matter; Heavy metals.