



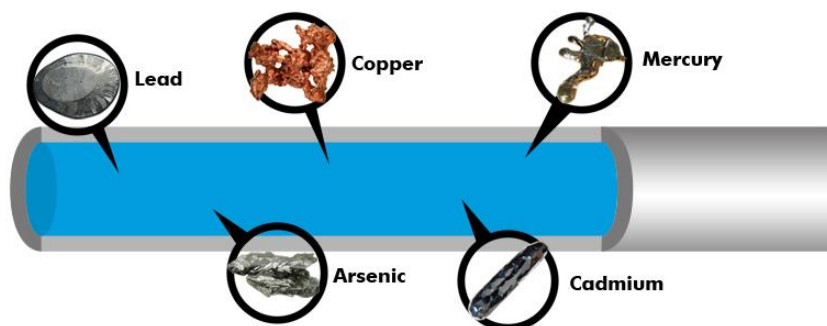
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## Interaction of heavy metals with graphene and iron based particles

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### Abstrakt

This study is aimed at determining the effectiveness of reduced graphene oxide and paramagnetic particles ( $\text{Fe}_2\text{O}_3$ ) to adsorption of cadmium(II), lead(II), and copper(II) on its surface. Different interaction time from 1 minute to 24 hours was tested. The main attention was paid to the detection of these metals using differential pulse voltammetry. Metal ions are



still a threat polluting environment and having great bioaccumulation potential. For isolation of heavy metals, it is possible to use different materials with high sorption properties that are able to adsorb metal ions onto their surface

or into their structure. Different modifications of carbon, such as graphene, nanotubes, or fullerenes are important members of this group. Instead of various carbon modifications, paramagnetic particles (PMPs) with comparable properties can be also used. Monitoring of adsorption properties of reduced graphene oxide and  $\text{Fe}_2\text{O}_3$  particles related to cadmium, lead and copper ions was investigated in this paper. From presented results seems that 100  $\mu\text{M}$  concentration of metal ions was limiting in the adsorption process of reduced graphene oxide and  $\text{Fe}_2\text{O}_3$  particles.

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