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گواهی ثبت مقاله در سیویلیکا
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## عنوان مقاله:

Heavy Metal Extraction by EDTA Washing: Optimization using Central Composite Design

## محل انتشار:

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## خلاصه مقاله:

The occurrences of heavy metal contaminated sites and soils and the need for devising solutions have become global issues of serious concern. Soil washing, one of the few permanent treatment alternatives to remove metal contaminants from soils, requires an evaluation of its efficiency in simultaneously removing different metals. In this study, we employed ethylenediaminetetraacetic acid (EDTA), recognized as the most effective synthetic chelating agent, to extract Pb, Zn, and Cd from polluted soil. We then employed response surface methodology approach using faced centered central composite design for modeling, evaluating and optimizing the influence of EDTA concentration (25–175 mM), pH (4-7) and washing time (30-90 min) on Pb, Zn, and Cd ions extracted into the EDTA solution. The optimization process showed that the extraction efficiencies were 54.4, 44.9, and 82.65 % in Zinc Specialized .Industrial Complex soil for Pb, Zn, and Cd, respectively

## کلمات کلیدی:

Soil washing, EDTA, Optimization, Heavy metals, Central composite design

## لینک ثابت مقاله در پایگاه سیویلیکا:

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