

Oral bioaccessibility of inorganic and organic contaminants: interpretation of results from a range of contaminated sites and the role of mineralogy.

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Exposure risk to humans depends in part on the potential of the contaminant to mobilise from its matrix in the human digestive system (bioaccessibility) and enter the blood stream (bioavailability). This paper evaluates the findings of bioaccessibility analyses undertaken on soils sampled from a range of contaminated sites (historic landfill; former lead, copperas and tar works; other metallurgical waste sites). Our bioaccessibility ranking of potentially toxic elements (PTEs) in soils is consistent with X-ray diffraction (XRD) determined mineral phases. The potential risk to human health through this principal

(ingestion) exposure pathways is modelled. The role of bioaccessibility protocols as an additional line of evidence and as a valuable decision-support tool for determining contaminated sites is also highlighted.

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