



Niet Alledaagse Toepassingen van Inductief Gekoppeld Plasma Massaspectrometrie (ICPMS) in Humaan Blootstellingsonderzoek

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Tijdstip: 11.40 u – 12.00 u

Abstract:

Human exposure studies are getting great interest for study-specific and general reasons. Several cases regarding to different matrices of interest will be presented. In all cases inductively coupled plasma mass spectrometry (ICPMS) was applied for the measurements.

- Acute and chronic exposures of soldiers, which might be in contact with depleted uranium-containing ammunition, were investigated. Chronic exposure is routinely controlled via the analysis of urine. After an incident acute exposure is based on inhalation. Related procedures of sampling and analysis were examined more closely.
- In human exposure studies blood is often the matrix of choice. Regarding to ultra-trace concentration levels and interferences high resolution (HR-)ICPMS was applied for the determination of the rather unusual element germanium (Ge) in blood of workers from special circumstances (“high-tech production”). Matrix-based interferences will be presented and obtained results will be compared with literature.
- In the field of speciation analysis a first pilot study about methyl mercury (MeHg^+) in finger nails was carried out by gas chromatography (GC) hyphenated to ICPMS. MeHg^+ , which is one of the most toxic compounds at all, and inorganic Hg were investigated in finger nails from persons from different origins and with different food intakes.