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Introduction

In the last 20 years speciation analysis has become an important method for separation, identi cation and quanti cation of di erent species of one individual metal. Hitherto, the total concentration of an element in a sample matrix was the sole aspect being evaluated. Today it is known that the total concentration of an analyte is not a su cient criterion to assess the true hazardousness. But that bioavailability, mobility and toxicity are dependent to a great extent on the form of the element, i.e. oxidation states and di erent bonding forms [1,2].

As a consequence, elemental speciation is becoming more important. In most cases, liquid chromatography (LC) or capillary electrophoresis (CE) are used to separate the di erent species in the samples. Standard detectors like a UV-detector show only a low sensitivity and in addition no metals can be detected without e.g. further derivatisation of the metals. Hyphenation with other instruments being able to detect and quantify metals are necessary. erefore, mass spectrometry with inductively coupled plasma (ICP-MS) is o en used as detector. e ICP-MS shows a very low limit of detection (LOD), has a wide linear range and can be used for multi-element and isotopic analysis [3].

In 1980 speciation was introduced by Florence and Batley [4] for the identi cation and quanti cation of di erent species. But not before the 90s the method has been accepted. Olesik [5] and Michalke [6] are the

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Typical natural samples are di erent types of sh and seafood. Since both serve as foodstu stringent quality control checks are obligatory. (Semi) metals such as lead, arsenic or mercury have toxic e ects on humans and o en critical quantities thereof are present in sh and seafood.

Mercury is one of the most toxic metals and is on the third place

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