



DGT Use for Metals in Water

Diffusive Gradient in Thin Films—Metals

Summary

Media:	Water
Study Type:	Review
Technology:	Accumulation
Peer Reviewed:	Yes
Publication Date:	July 2017

Study Description

Review of DGT use focused on metals and metalloids and applications in fractionation and speciation analysis.

Review focuses on alternative binding agents and materials that have been used for speciating metals and metalloids, including arsenic, chromium, mercury, uranium, and others, and effects on fractions recovered (that is, organic/inorganic, nanoparticle, colloids).

Remedial Phase

Not applicable. This is a literature review of several peer-reviewed case studies and review papers that summarizes current state-of-practice for DGT use for metals in water.

Outcome

Review documents examples for metal/metalloid fractionation, speciation analysis, and bioavailability in water and notes these as significant improvements to grab sampling techniques, particularly when information about bioavailability and toxicity of metals is required.

References

A.A. Menegário; L. N. M. Yabukie; K.S. Luko; P.N. Williams; and D.M. Blackburn. 2017. Use of diffusive gradient in thin films for in situ measurements: A review on the progress in chemical fractionation, speciation and bioavailability of metals in waters. *Analytica Chimica Acta* 983: 54–66. <https://doi.org/10.1016/j.aca.2017.06.041>