

Publication**Effects of organic sulfur compounds on extraction and determination of inorganic sulfate****JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 86922**Author(s)** ALEWELL, C**Author(s) at UniBasel** [Alewell, Christine](#) ;**Year** 1993**Title** Effects of organic sulfur compounds on extraction and determination of inorganic sulfate**Journal** Plant and soil**Volume** 149**Number** 1**Pages / Article-Number** 141-144**Keywords** C-BONDED-S, ESTER SULFATE, INORGANIC SULFATE, ORGANIC-S

The common methods for determining inorganic soil sulfate may be affected by the extraction of sulfate from organic sulfur compounds such as ester sulfates. In order to test this, various synthetic organic sulfur compounds (ranging from ester sulfates to sulfonates and C-bonded sulfur) were extracted with deionized water or with two common sulfate extractors (0.5 M NaHCO₃ and 0.02 M NaH₂PO₄). Similar amounts of dissolved sulfate were detected in all extracts of the aromatic ester sulfate hydroxyquinoline sulfate. Sulfate was not released from aliphatic ester sulfates or C-bonded sulfur. Ion chromatography was compared to a turbidimetric method for the determination of sulfate. The latter method, based on BaSO₄-precipitation, appeared to be unsuitable for determining sulfate in organically influenced solutions. Barium precipitated sulfate as well as ester sulfates. Furthermore, the photometry of BaSO₄ was influenced by specific absorption of dissolved organic compounds, leading to a misinterpretation of the sulfate concentration in the solution.

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