

Development of a Clean Evaporation and Digestion System for Analyzing Fine Suspended Particles Regulating the Dynamics of Trace Elements in the Ocean and the Determination of Particulate Al, Mn, Fe, Cu, Zn, Cd and Pb

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Summary

Suspended marine particles play a central role on the marine biogeochemical cycles of trace elements and their isotopes in the ocean that are paid attention by recent international program 'GEOTRACES'. Despite their great importance, suspended particulate trace elements are challenging objectives because they exist at low concentrations and some of them are contamination prone elements. Especially, removal of HF used as digestion solution requires evaporation procedure that has a high risk of contamination. This study has designed a new digestion and evaporation system that is capable of analyzing marine particles for the GEOTRACES key trace elements. Experimental results proved low system blanks for many trace elements.