

[Bunseki Kagaku, 38, 419 (1989)]

**Continuous Monitoring Method of Trace Silicon in Industrial Water  
Using Continuous Micro Flow Analysis.**

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A continuous monitoring method was developed for the automatic determination of trace silicon in industrial water, based on the molybdenum blue absorption spectrophotometry. A sample, a molybdic acid reagent and a reducing reagent are continuously pumped with a peristaltic pump at a flow rate of ca. 75  $\mu\text{l}/\text{min}$ . The sample is mixed with the molybdic acid reagent in a mixing joint and then introduced into a reaction tube made of Teflon tubing. The stream from the reaction tube is mixed with a stream of the reducing reagent, which is then introduced into a flow cell of a spectrophotometer. The absorbance at 815 nm based on the molybdenum blue is continuously recorded to measure the trace silicon (2~2000 ppb) in samples.

[Kankyou Kagaku Kaishi, 2, 41 (1989)]

**Continuation of Total Phosphorus Monitoring in Wastewater.**

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The total phosphorus measurement in wastewater based on the molybdenum blue absorption spectrophotometry was automated and continued by using "continuous micro flow analysis" technique. A sample, an oxidizing reagent and a coloring reagent are continuously pumped with a peristaltic pump at the flow rates of 200, 100 and 100  $\mu\text{l}/\text{min}$ , respectively. The sample is first mixed with the oxidizing reagent and the mixture is introduced into an oxidation reaction tube. The stream from the reaction tube is then mixed with a stream of the coloring reagent. The absorbance at 880 nm of the molybdenm blue formed in the mixed stream is continuously recorded, thus the total phosphorus in the sample is automatically measured. The method was successfully applied to continuous monitoring of total phosphorus concentration in wastewater from chemical laboratories.

[Fresenius Z. Anal. Chem., 334, 115 (1989)]

**Matrix Effects in the Determination of Mercury by Continuous Micro  
Flow-Cold Vapor Atomic Absorption Spectrometry in Alkaline Medium.**

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The determination of mercury in the presence of matrix substances such as inorganic cations (Ni (II), Fe (III), Te (IV), Pb (II), Ag (I), Pt (IV), Se (IV), Au(III), and Pd (II) ions) and anions (iodide, bromide, chloride, sulfide, nitrate and nitrite ions), and organic compounds (dextrose, sodium benzoate, and cysteine) was studied by cold vapor atomic absorption spectrometry with "completely continuous micro flow", using tin (II) chloride in sodium hydroxide solution as reducing reagent. The effects of the diverse substances in the proposed method were found to be much smaller than those in the conventional methods using tin (II) in acid medium or borohydride in alkaline medium as the reducing reagents.