



High sensitive potentiometric ionic surfactant sensor

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Abstract

A Croatian faculty developed a highly sensitive surfactant sensor for determination of ionic surfactants in industrial, household and cosmetic products. The sensor is based on the use of direct potentiometry as a detection methodology. The advantages over conventional time-consuming methodologies are: chemicals saving, reduced waste amount, reduced analysis time, ease of operation, lower analysis costs. The faculty seeks industrial partners for licensing and technical co-operation.

Description

Direct potentiometry is a technique for determination of ionic species by measuring electromotive force of a potentiometric cell consisting of an indicating electrode (potentiometric sensor) and a reference electrode. The offer comprises the construction of a potentiometric surfactant sensor that can be used as the end point detector in potentiometric surfactant titrations or for direct determination of surfactants in flow injection potentiometry.

The surfactant sensor can be applied for determination of ionic surfactants in industrial, household and cosmetic products, or for monitoring of surfactants in industrial effluents. The sensing element used in the construction provides a high sensitivity, which enables the determination even of shorter hydrocarbon chain surfactants, usually heavily determined using conventional sensors. The corresponding specific expertise and know-how are available.

Innovations and advantages of the offer

A sensitive potentiometric surfactant sensor has been developed for determination of ionic surfactants in industrial products and effluents. The sensor can be used as the end point detector in potentiometric surfactant titrations or for direct determination of surfactants in flow injection potentiometry. It can substitute the existing methodology for the surfactant quantification or for monitoring of surfactants in

effluents, which suffer from numerous drawbacks (time-consuming procedure, considerable chemicals consumption, use and disposal of toxic organic solvents, inability of determination in colored samples etc). The sensor described overcomes all these limitations.

Current and Potential Domain of Application

Industrial, household and cosmetic products

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