

TECHNOLOGY OFFER

CHEMISTRY AND BIOTECHNOLOGY

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MULTISENSOR SYSTEM

Optical Device to Analyze Liquid Media (UOL135)

THE PROBLEM

As yet there has been no satisfactory and easy method to determine the concentrations of substances dissolved in liquid product flows. Previous methods using sensors were not sufficiently reliable and not designed for flow-through systems. Or they required that the analyte whose concentration was to be determined was already known.

THE SOLUTION

The device according to invention makes it easy to determine the analyte in a liquid phase both qualitatively and quantitatively.

The Carl von Ossietzky University in Oldenburg, Germany, developed a method which serves the purpose of identifying and quantifying substances (proteins, amino acids, drug constituents) in solution. The idea is based on the fact that the swelling or shrinking polymers, e.g. resins, in liquids depends on their chemical composition, and on the nature and concentration of the liquid medium to be analyzed. The swelling characteristics of the polymers used in the test and the soluble analyte are recorded at a constant temperature by a video signal and digitally evaluated. The properties of many different substances and their behavior at various concentrations in solutions are stored in a database. They will serve as reference data for the actual measurement tasks. An unknown substance and its concentration can then be determined by way of correlation.

The idea has been realized on a laboratory scale. In the long-run, it is planned to measure and collect the reference data needed to complete the database.

ADVANCES AND APPLICATIONS

The invention is applicable to quality control processes of the pharmaceutical and food-processing industries and enables an online detection of impurities through the recognition of pattern changes. Compared with conventional physical-chemical methods, this is an uncomplicated optical method easy to apply.

FIELD OF APPLICATION

Pharmaceutical, chemical or clinical analytics, quality control, processing control

KEYWORDS

Optical evaluation, measuring concentrations

PROPERTY RIGHTS

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Approved

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Licensing, sales, cooperation and further development

AN INVENTION OF

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