Flow-through (bio)chemical Sensors

Flow-through sensors are more suitable than classical probe-type sensors for addressing real (non-academic) problems. The external shape and operation of flow-through (bio)chemical sensors are of great practical significance as they facilitate sample transport and conditioning, as well as calibration and sensor preparation, maintenance and regeneration, all of which result in enhanced analytical features and a wider scope of application. This is a systematic presentation of flow-through chemical and biochemical sensors based on the permanent or transient immobilization of any of the ingredients of a (bio)chemical reaction (i.e. the analyte, reagent, catalyst or product) where detection is integrated with the analytical reaction, a separation process (dialysis, gas diffusion, sorption, etc.) or both. The introductory chapter provides an overview of (bio)chemical sensors and their impact on analytical chemistry. Essential concepts of flow-through (bio)chemical sensors including their definition, classification, the types of flow-cells where the sensing microzone can be accommodated, continuous-flow configurations to which they can be coupled, the measurement modes available and the types of transient signals obtained, among others, are the subject of Chapter 2. The remaining chapters classify the most relevant types of flow-through (bio)chemical sensors according to the processes taking place at the sensing (recognition) microzone, as well as their position in space and time. EAN/ISBN : 9780080875644 Publisher(s): Elsevier Science & Technology Format: ePub/PDF Author(s): Valcarcel, M. D. Luque M. - De Castro

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