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Details view

Knowhow offering

Title	Rapid colorimetric method for real-time and on-site monitoring of water quality in low resource settings
Knowhow is available for	A device / kit for on-site, real-time water quality monitoring
Summary	A novel membrane composite consisting of PVDF membrane, tetrazolium dye, and a suitable carbon source, is used for the detection of bacterial contamination in water. The PVDF membrane has a natural high affinity for bacteria, and the attachment between bacteria and membrane occurs due to the accumulation of trace organic nutrients at the solid-liquid interface which is enough for bacteria to survive. When the strip is dipped in a sample of water, the bacteria present in the water are attracted to the membrane, and they utilize the carbon source, resulting in a localized change in pH and a change in colour of the dye. The time required for the colour to change can be calibrated to give a rough estimation of the bacterial load in the water sample..
Advantages	Inexpensive dye-based sensor that offers an easy, visual colorimetric readout that can be understood and interpreted by non-experts. No need for any instrument or lab assistance or skilled labour. Kit works effectively for any water sample Offers timely, on-site, real-time detection of contaminated water (live bacteria) before it reaches the end user Can be easily made available in the form of ready-to-use kits for common people. Has been standardized for detection of common gram-negative bacteria E. coli. Can be expanded to include the detection of specific bacteria in water. This device can be fitted to any pipeline to check the contamination level of source water by observing the color change The dye-based kit did not show any false result over a wide range of pH and salinity, unlike enzyme-based bacterial sensor kits.

Knowhow is listed under following categories

Knowhow from	
Scientific/ engineering subject areas	Life sciences/ biosciences & engineering
Investor interest categories	Materials Technology including Nanotechnology
Industries	Natural Resources, Water, Environment, Sustainability
Customer categories and nature of business	Businesses and other industries (B2B)
Technology readiness levels	TRL C: Prototype developed and tested; technology demonstrated at pilot scale

Related documents:

Database reference

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