



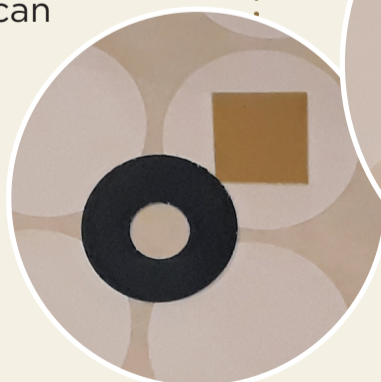
The SODIS Sticker

Development of an Inexpensive Film-based Detector for Accurate Ultraviolet Solar Disinfection of Water

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THE FACTS

- Globally 1 in 3 people use a biologically contaminated water source.
- Solar disinfection (SODIS) is a method of biological decontamination where ultraviolet (UV) rays present in sunlight kill bacteria, protozoan, parasites and renders some viruses inactive.
- The range of times required to successfully perform the SODIS process is dependent on many variable factors which can include geographical location, season, time of day, weather conditions and altitude.
- Currently the SODIS process is based on allotted time periods, usually a recommended 5-48 hours.
- If the required UV exposure is not met, the water remains unsafe to drink putting lives at risk unknown to the consumer.
- It is estimated that more than 5 million people from Africa, Asia and Latin American countries already use this method today.

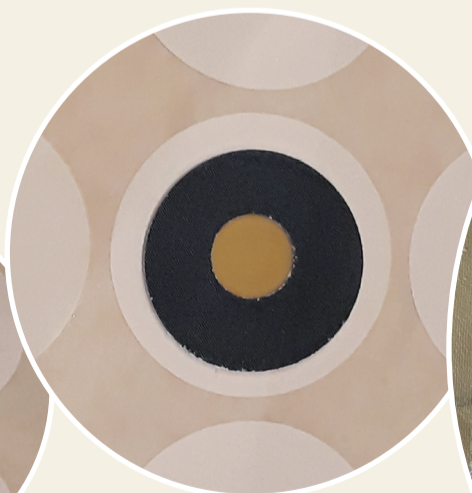


MY PROJECT

Due to the variable factors and to ensure the correct UV exposure is met, I developed the product 'The SODIS Sticker'. The Sticker is able to accurately measure and display whether water has been exposed to the appropriate amount of UV for the SODIS process to be successful.

The SODIS Sticker has two distinct factors which set it apart from currently available devices:

1. Cost - at less than 1US cent to produce, the Sticker is an inexpensive and applicable method for ensuring the disinfection of water, especially in developing countries.
2. Its open transmission layer is able to measure both incident and reflected light, a feature which no other device is capable of.



THE RESULTS

Testing of water after the Sticker has determined it was appropriately exposed, showed reductions of faecal coliform counts from 6,000 - 10,000cfu to less than 1cfu. This means the Sticker is capable of verifying the correct UV exposure for SODIS processes and could act as a safeguard for drinking water in developing communities.

