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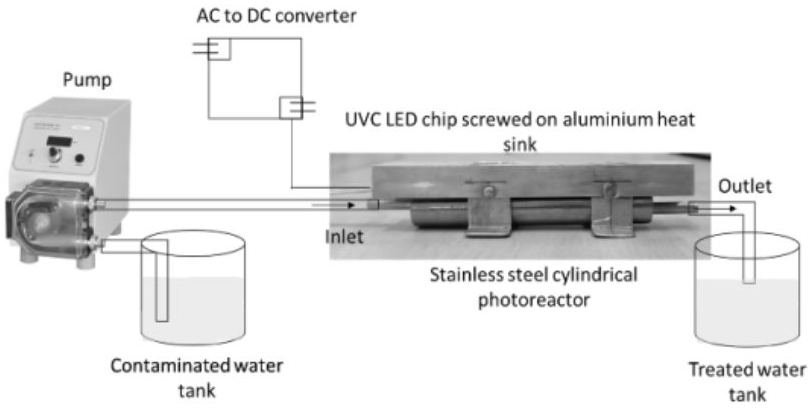
**PENDING**

# (IN202411075521)
# A water disinfection system and process for restricting regrowth of microorganisms in disinfected water




## NEED

Water treatment plants often report 30% bacterial regrowth after disinfection, leading to contamination risks and health hazards. Existing systems fail to prevent DNA repair in bacteria, causing repeated disinfection cycles and high operational costs.

## MARKET ANALYSIS

The global UV disinfection market is projected to grow at a CAGR of 10.8%, reaching $10.5 billion by 2033, driven by increasing demand for safe, chemical-free water treatment. [Source: MarketsandMarkets, 2024]

## TECHNOLOGY OVERVIEW

This invention offers a UVC LED-based water disinfection system with direct light exposure and chemical activation to permanently damage bacterial DNA. It prevents regrowth for up to 24 hours, enhances treatment reliability, and operates without complex cooling or fragile quartz tubes.

## Target Industries

Water Treatment, Healthcare Facilities, Food & Beverage Processing. , Water purification system manufacturers, healthcare water quality integrators, food and beverage hygiene solution providers, R&D labs for pathogen control technologies.

## TECHNOLOGY KEY FEATURES

Direct UVC exposure, PMS activation for reactive oxygen species generation, up to 24-hour regrowth prevention, stainless-steel photoreactor, embedded passive cooling, flow rates of 5–10 LPH, 15 mg/L safe PMS concentration, solar panel compatibility.

## AT A GLANCE

- SDG 3 (Good Health and Well-being), SDG 6 (Clean Water and Sanitation), SDG 12 (Responsible Consumption and Production)

Read more here

Technology is available for licensing/ co-development.

Reach out to Prof. Deepak Chitkara, Coordinator, BITS Technology Enabling Centre,
BITS Pilani Contact Details: tec.bits@pilani.bits-pilani.ac.in, 91 1596-255913

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