



**EFFECT OF BACTERIA ISOLATED FROM SEWAGE
IN DEGRADATION OF DISHWASHING
LIQUID SURFACTANT**

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ABSTRACT

According to World Health Organization, persistent organic pollutants (POP), one of the major contributors of water pollution, are chemicals that are resistant to environmental degradation and bio-accumulate in the ecosystems. Surfactants, mixtures of alkyl phenols that are POP contributors resistant to degradation by bacteria, are widely used and common ingredients of dishwashing liquid, detergents and soap. In the Philippines, 11% of the total population in Manila is directly/indirectly connected to a sewage system, 85% are served by over 2 million ill-maintained septic tanks. This surfactant effluent is discharged without treatment, which can bio-accumulate and damage the environment quality, and health of organisms and humans. The bacteria are isolated through streak method and determined through biochemical tests and degradation of surfactant is tested on Methylene Blue Photometric Assay at absorbance measurements at 652 nm. There are five (5) potential degraders, which are *Neisseria*, *Staphylococcus*, *Mycobacterium*, *Bacillus* and *Micrococcus*. The consortium of the known bacteria was able to degrade 100% of surfactants within 24 hours.

Key words: surfactants, bacterial sludge, persistent organic pollutants, sewage



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