

# Isolation of Plastic Degrading Bacteria

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**Abstract**—*Plastic polyethylene waste accumulating at a breakneck speed with ever-increasing demand of growing population in the environment are posing an ever increasing creating a major ecological threat. During the past 3-decades, plastic materials have been increasingly used in food clothing, shelter, transportation, construction, medical, and recreation industries. Plastics are advantageous as they are strong, light-weighted, and durable. However, they are disadvantageous as they are resistant to biodegradation, leading to pollution, harmful to the natural environment. Increasing environmental pollution and waste that can not be renewed and degrade it encourages research and studies in the field of biosynthetic and biodegradation material. One of the wastes that can not be destroyed is plastic waste, which is a type of polyethylene plastic Microorganisms can degrade plastic over 90 genera, from bacteria among them; Bacillus megaterium, Pseudomonas sp., Azotobacter, Ralstonia eutropha, Halomonas. Bacteria was isolated using NA medium and TSA medium were allowed to incubate for five days. Isolates were resulted and analyzed for 1 month of incubation in liquid culture method at 37oC with agitation 130 rpm. The biodegradation of polyethylene was resulted by isolate of 22 TSB (used medium Triptych Soy Broth). Microbial counts in the degrading materials were recorded. The microbial species found associated with the degrading materials were identified as Gram positive (shape rod, have no spore).*

**Keywords:** *bacteria, biodegradation, polyethylene, plastic.*