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Poly-caprolactone: A promising biodegradable polymer

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Degradable plastic have received extensive attention because of their faster degradation in the environment. Among these degradable polymers is Poly-Caprolactone (PCL), which has attracted interest as a substitute for conventional polymers because of its properties as a synthetic polymer that is biodegradable. PCL was tested for its degradation with three different polymer forms: discs, film and powder. The results showed that PCL discs could be fully degraded under controlled environmental conditions after 91 days at 50 °C under compost conditions. Moreover, PCL film showed a significant reduction in tensile strength with time when measured after incubation in compost under four different temperatures. Finally, for distributed polymer samples such as powders, the reduction in residual polymer was significant. Moreover, Fungi from the surface of the polymer discs were isolated, identified and tested for its ability to degrade PCL. Therefore it can be confirmed that PCL degradation rate increases with time and as we move to higher temperatures.

Biography

Asma Al Hosni is pursuing PhD at the University of Manchester. She is working on the microbial degradation of biopolymers. She has completed her MSc from Nottingham University in UK in 2008. She is working as a Lecturer at the Higher College of Technology in the Sultanate of Oman.

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