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**BIODEGRADATION AND MECHANICAL PROPERTIES OF POLY(HYDROXYBUTYRATE) AND
POLY(ACID LACTIC)**

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In recent years, the consumption of plastics by the society has grown considerably. Several possibilities have been considered to minimize the environmental impact caused by the use of conventional polymers. An important alternative is the biodegradable polymer, which can be degraded through the action of naturally occurring microorganisms, such as bacteria, fungi or algae. In the various methods proposed for analysis of the biodegradability of polymers, biodegradation may occur in different forms, degrees of aggressiveness and speed. This work involved the investigation of the biodegradation of samples of tensile strength essay and impact strength essay of pure poly(hydroxybutyrate) (PHB) and poly(acid lactid) (PLA), through system of biodegradation in composted soil. The evaluation of biodegradability was performed by mass loss, changes in tensile strength and Izod impact strength (according to ASTM D-638 and ASTM D-256, respectively), macroscopic observations and scanning electron microscopy of the samples after 0, 50, 100, 150, 200 and 250 days in contact with the soil. The results show that PHB suffered considerable weight loss (about 21%), loss of mechanical properties and surface changes caused by microorganisms of the soil. In other hand, no changes in these properties occurred in samples of PLA during the study period. The non-occurrence of biodegradation in the samples of PLA, in these conditions, corroborates with previous studies (KOYAMA, 1995), that determines the minimum time about one year for biodegradation of PLA. Furthermore, according LUNT, 1999, to achieve hydrolysis of PLA at significant levels, both a relative humidity at or above 98% and a temperature at or above 60°C are required.