

Presence of a-PHB in PURs structure changed the degradability kinetic, what could be useful during the designing of novel, degradable materials for medicine.

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COMPOSITES OF GLASS MATE AND STYRENE CROSS-LINKED DIETHYLENE GLYCOL BASED POLY(ESTER-ETHERURETHANE)S

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This work presents the results of the investigation on preparation and mechanical properties of poly(ester-etherurethane)-glass mate composites, which were prepared in three-stage procedure.

In the first stage unsaturated oligo(ester-ether) (OAEE) were obtained in a polycondensation process from the following substrates: diethylene glycol (GD), adipic acid (KA), maleic anhydride (BM) and poly(ethylene glycol) (POE).

In the second stage the unsaturated OAEE were used as the substrates to receive unsaturated poly(ester-etherurethane)s (PEEUR) in two step process. First quasi-prepolymers (QPRE) from the unsaturated OAEE and 4,4'-diphenylmethane diisocyanate (MDI) were synthesised. Then urethane prepolymers (PRE), were obtained by elongation of the urethane quasi-prepolymers with oligo(alkylester-ether)diols. After that styrene and initiators such as methyl ethyl ketone peroxide (MEKPO) and cobalt 2-ethyl cyclohexanoate (EtHCo) were added to urethane prepolymers.

In the third stage poly(ester-etherurethane) glass mate composites were obtained by impregnation of glass mate with unsaturated PEEUR and

additives. Then cross-linking via radical copolymerisation with styrene in the presence of the initiators took place at room temperature. In this way we obtained one-layer composites containing 25% w/w of glass, two-layer composites having 35% w/w of glass and three-layer composite with 45% w/w of glass. Thus obtained composites exhibited tensile strength within the range of 25 - 124 MPa, depending on the number of glass layers and molar ratio of NCO/OH groups used in the synthesis of unsaturated PEEUR.

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INFLUENCE OF POLYMER PACKAGING DEGRADATION PRODUCTS ON THE GROWTH OF CYAN BACTERIA TOXIC POPULATION OF BALTIC SEA

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As a “future” approach, several new polymeric materials have been recently synthesized and introduced to the global market; materials which are susceptible onto biodegradation process as an environmentally friendly way of waste decomposition.

The paper was devoted into investigation of the growth of cyan bacteria toxic population of Baltic Sea in the presence of new biodegradable polymer packaging. From known literature review is not stated if and up to what extend biodegradable polymers will influence the marine biological life.