# Influence of additives on crystallization of blends based on polyactid acid

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Due to growing environmental problems resulting from the impact of the use of plastic materials is the current development of materials mainly focused on that ones, which are environmentally friendly. There is an increasing effort to replace conventional plastics for biodegradable ones. The food packaging industry requires the development of material which production is easy, readily available and cost effective. At the same time, consumers demand high quality food with long shelf-life and also they desire to see through the packaging to perceive the foodstuff aspect. However, compared to conventional plastics the physical and mechanical properties of biodergadable materials in food packaging has been limited and need to be modified. Improving their processability and properties is an important challenge to be afforded before using these materials on the market. One way to improve the properties of these materials is to prepare their blends [1]. The most common way of preparation of packaging materials is the injection moulding, where crystallization of material is very important. That is the reason the crystallization has become one of the most studied characteristics of biodegradable blends based on PLA / PHB. The work is a contribution to works that deal with the description of the structure of PLA / PHB blends, which have been modified by the addition of various types of additives, mainly nucleating agents and plasticizers [2].

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[1] 1. Armentano I., Fortunati E, Burgos N., Processing and characterization of plasticized PLA/PHB blends for biodegradable multiphase systems. Polymer Letters Vol.9, No.7 583–596 (2015)

[2] 2. Lim J. S., Park K.I., Chung G. S. Effect of composition ratio on the thermal and physical properties of semicrystalline PLA/PHB-HHx composites. Materials Science and Engineering: C, 33, 2131–2137 (