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Effect of Supercritical Carbon Dioxide Pressure on Foamed PolyLactic Acid Biocomposite

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Abstract

The effect of Supercritical Carbon Dioxide (SCCO₂) pressure on foamed PolyLactic Acid (PLA) were studied in this work. Foamed PLA biocomposite thin film was created by combining PLA with Durian Skin Fibre (DSF) and Cinnamon Essential Oil (CEO) before being treated with supercritical carbon dioxide (SCCO₂). The morphological structure was studied to see the effect of pressure on the cell growth of the foamed polymer, later the correlation of morphology structure and tensile strength showing that the cell growth did hugely effect the tensile strength of the PLA biocomposite thin film. © 2023, The Author(s), under exclusive license to Springer Nature Singapore Pte Ltd.

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