

# Développement d'un Biomatériau à Base de Polymère et Renfort Végétale

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Soutenue en: 2021

**Abstract:** In the last few years, there has been a strong interest in the development of biodegradable polymers as an alternative for many applications. This is in order to reduce the large consumption of plastic causing environmental problems. In this study we develop low cost and low density biodegradable composite materials that can be recycled and help to combat the pollution problems of the 21st century. The work done in this thesis is oriented along this axis and aims to develop mixtures based on polyvinyl chloride and fiber Atriplex halimus whose loading rates vary from 1% to 10%. The various techniques of characterization were carried out on the developed mixtures. The physical properties such as absorption, as well as mechanical, hardness, tensile test, showed an improvement of the content and resistance of our material reinforced by the vegetable fiber. These observations lead us to conclude that such a material can be used on an industrial scale for packaging applications.

**Keywords :** composite materials, Polyvinyl chloride, Atriplex halimus, Vegetable fiber