



### **MpoMte12-001**

#### **Dog wool powder: study of the physical and thermal properties**

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The canine wool it's a kind of textile fiber that has been discarded in the environment by the pet shops without any application generating wastes. The aim of this paper is to analyze the main physicochemical and thermal properties of canine wool fibers in order to evaluate their potential applications for the manufacture of polymer materials. The morphology, structure and thermal properties of the fibers were characterized by Scanning Eletronic Microscopy (SEM), Fourier Transfer Infrared Spectroscopy (FTIR), X-ray diffraction (XRD) and Thermal Analysis as TG/DSC of the fibers. The micrographs of the treated fibers showed a surface free of residues, indicating that the process was effective at removing dirt. The analysis did not demonstrate significant changes in the characteristics of the fibers after the alkaline treatment. In addition, the canine wool has insulating properties to be used as a filler in polymer matrices that can bring not only benefit the environmental but may offer the fabrication process green and sutainable.