



**INFLUENCE OF CLAY ON THE THERMAL PROPERTIES OF THERMOPLASTIC POLYURETHANE NANOCOMPOSITE**

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The thermoplastic polyurethane elastomer and is set to allow applications in different industry segments due to their versatility as the chemical structure of production processes and types of application. The development of elastomeric nanocomposites is possible to understand how heat behaves this class of materials. The objective of this study is to evaluate the effects of incorporation of montmorillonite clay in thermal properties of thermoplastic polyurethane. TPU-based nanocomposites ester were obtained by the technique of in situ incorporation of montmorillonite Cloisite 30B in quantities of 1%, 3% and 5% by weight. The samples were processed by twin screw extruder and injected in the form of standard plates for the extraction of specimens. Were characterized by differential scanning calorimetry (DSC), thermogravimetric analysis (TGA), Vicat temperature and flammability test. Thermoplastic Polyurethane Nanocomposites with OMMT showed changes in the values of T<sub>m</sub> and T<sub>g</sub> as well as increasing the enthalpy of fusion, a small increase in temperature of mass loss temperatures, increase in the Vicat temperature and retardant properties of flame propagation.