

## **Study of the physical properties of the linear poly (Isobornyl Acrylate-co-2-Ethylhexyl Acrylate)**

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**ABSTRACT :** The high-performance materials are mainly functional such as the polyacrylates which can be improved by adding other initial polymers (copolymers, terpolymers, etc.). Poly (Isobornyl Acrylate) has recently received considerable attention due to its interesting properties and depending on the choice of application, it is usually combined with other polyacrylates [1,2]. In this work, we have elaborated by radical photopolymerization, a series of binary linear copolymers based on Isobornyl acrylate (IBOA) and 2-Ethylhexyl acrylate (2-EHA) monomers. The developed poly (IBOA-co-EHA) was characterized by Fourier

Transform Infrared spectroscopy- Attenuated Total Reflexion (FTIR-ATR) for structural analysis. Their physical properties were evaluated by the Differential Scanning Calorimetry (DSC) and the Dynamic Mechanical Analysis (DMA), these measurements have shown the evolution of the glass transition temperature ( $T_g$ ) by varying weight content of (IBOA) monomer. The  $T_g$  values and the storage modulus have increasing with reducing the amount of (2-EHA), due to the presence of the voluminous isobornylene groups of (IBOA).

**KEY WORDS:** copolymers, polyacrylates, poly (IBOA-co-EHA), physical properties.

### **References**

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