

Ionic liquids used as plasticizers of starch: Influence of anionic part

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Over the years the plastic usage in many sectors including packaging, automotive, healthcare and electronics has resulted in environmental problems. Natural polymers have been considered a replacement for petro-based plastics due to their degradability, relative abundance, non-toxicity and low cost. In this sense, starch is one of the most abundant polysaccharides found in plant storage organs and it is readily available. Starch is a brittleness material due to strong interactions among chains which confine their mobility. To obtain effective starch films some plasticizers may be introduced that can be improved the polymeric segmental mobility. Many compounds have been studied as plasticizers and glycerol is most used. Nevertheless, small molecules can diffuse out of this polymer after some time, causing changes in the material properties. Recently, ionic liquids have been studied as new plasticizers and the influence on film properties of different anions will be discussed.