

Impact study of new formulations based on Poly vinyl chloride (PVC)

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Abstract

The aim of this work is the impact study of new formulations based on poly vinyl chloride (PVC). For that purpose semi-rigid and plasticized sheets were realized, three plasticizers were considered: the di-octyle phtalate (DOP), the di-iso décyle phtalate (DIDP) and the di-iso nonyle adipate (DINA), epoxidized sunflower oil (ESO) was used as a thermal stabilizer. Tests of lixiviation were carried out in two simulators mediums, the acetic acid solution and distilled water at 50°C while being based on the phenomenon of variation of mass. The ageing of the PVC in the soil was investigated on site in a garden soil (Tizi Ouzou, Algeria)) for six months. The biodegradation process was investigated by scanning electron microscopy. The results showed that both nature and content of the plastisizer influence the Biodegradation and the migration of the additives.

Keywords: PVC, Plasticizer, ageing, migration, biodegradation.