

Weather-induced degradation of polyethylene: infrared spectroscopic studies. Hamid, S. H.; Maadhah, A. G.; Qureshi, F. S.; Amin, M. B. Res. Inst., King Fahd Univ. Pet. Miner., Dhahran, Saudi Arabia. Arabian Journal for Science and Engineering (1988), 13(4), 503-31. CODEN: AJSEDY ISSN: 0377-9211. Journal; General Review written in English. CAN 110:154905 AN 1989:154905 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

IR studies of the degrdn. of polyethylene through weathering was reviewed with 110 refs. and the structural anal. of naturally weathered linear low-d. polyethylene was investigated via FTIR spectroscopy. Band indexing and dimensionless no. presentation of spectroscopic data eliminated the effects of initial impurities presented and variations in sample thickness, resp. The growth of carbonyl and vinyl indexes was linear and the vinylidene content diminished soon after exposure. Linear LDPE,s short-chain structure was affected by chain scission and chain branching, resulting in long-chain branching.