

Polymer lifetime studies in hostile environment. Hamid, S. H.; Amin, M. B.; Maadhah, A. G.; Al-Jarallah, A. M. Res. Inst., King Fahd Univ. Pet. Miner., Dhahran, Saudi Arabia. Annual Technical Conference - Society of Plastics Engineers (1992), 50th(Vol. 1), 215-18. CODEN: ACPED4 ISSN: 0272-5223. Journal written in English. CAN 120:300473 AN 1994:300473 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

Weathering behavior of PVC pipes in Saudi Arabia depends not only on the chem. nature of polymers and additives but also on severity of weather parameters (solar radiation, humidity, and ambient temp.). Different levels of UV stabilization are required for geog. locations with variable conditions. High temp. can cause dehydrochlorination of allylic chlorine sites on the main chain with rapid progression to polyunsatn. Effects of heat and light are interrelated and can lead to photo- or thermooxidative degrdn. and chain scission and generation of multiple secondary functional groups.