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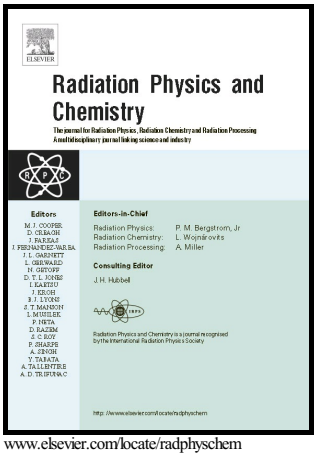

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Flame-retardant EPDM compounds containing phenanthrene to enhance radiation resistance

*J*ian Chen, Wei Huang, Shu-Bin Jiang, Xiao-Yan Li, You An, Chuang Li, Xiao-Ling Gao*, Hong-Bing Chen*

Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics, Mianyang 621000, China

xiaolinggao@caep.cn (X. L. Gao)

hongbing2014@foxmail.com (H.B. Chen)

*Corresponding author. Tel:＋86 816 2483430,＋86 816 2480412

Abstract

Ethylene propylene diene monomer (EPDM) compounds with good flame-retardant and γ-ray radiation resistant properties were prepared by adding complex flame retardants and phenathrene. The resultant EPDM formulations have a long time to ignition (TTI > 46 s), a low peak heat release rate (PHRR~341 kW/m^2) and a high limited oxygen index (LOI > 30). Effects of γ-ray radiation on the resultant flame-retardant EPDM was investigated. The formulated EPDM is a crosslinking dominated polymer under γ-ray radiation. The