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SULPHUR VULCANIZED NATURAL RUBBER

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ABSTRACT

THERMAL ANALYSIS OF IRRADIATION AND SULPHUR VULCANIZED NATURAL RUBBER. Thermal behaviour of either irradiation or sulphur vulcanized natural rubber has been studied using thermogravimetric analysis. Thermal stability of irradiated natural rubber is found to be better than that of sulphur vulcanized natural rubber. However, the mechanism of thermal decomposition appears to be similar. The activation energy for thermal degradation increases with the increase of conversion, presumably due to the formation of higher degree of unsaturated compound during the heating. IR analysis shows the formation of $R_1R_2C=CH_2$ compound by heating natural rubber.

ABSTRAK

ANALISIS TERMAL KARET VULKANISASI RADIASI DAN BELERANG. Sifat termal karet vulkanisasi radiasi dan belerang dipelajari dengan menggunakan analisis termogravimetri. Kestabilan termal karet iradiasi ternyata lebih baik daripada karet alam vulkanisasi belerang. Tetapi mekanisme peruraannya hampir sama. Energi aktivasi peruraian termal naik dengan naiknya konversi, yang mungkin disebabkan oleh terbentuknya senyawa yang derajat tidak jenuhnya lebih tinggi. Analisis IR menunjukkan terbentuknya senyawa $R_1R_2C=CH_2$ pada pemanasan karet alam.

INTRODUCTION

Natural rubber lattice is a natural polymer lattice ^{which} is produced by a large number of plant species, but only *Hevea brasiliensis* lattice has assumed major industrial importance. Natural rubber is a polymer of isoprene in which all or nearly all of the repeating unit possesses

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