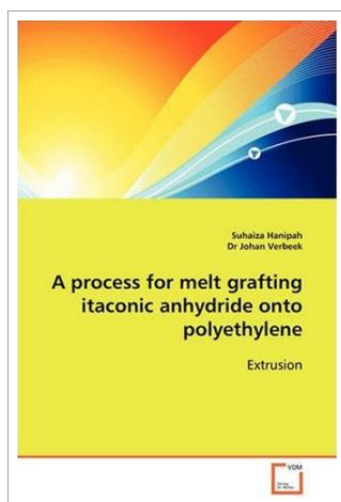




A process for melt grafting itaconic anhydride onto polyethylene

By Hanipah, Suhaiza

Condition: New. Publisher/Verlag: VDM Verlag Dr. Müller | Extrusion | Currently, extensive research in using bio-derived polymers is being done, highlighting the importance of sustainable, green polymeric materials. Some sustainable alternatives to synthetic polymers include lignin, starch, cellulose or blends of these with petroleum-based polymers. In this study, free radical grafting of itaconic anhydride (IA) onto polyethylene was investigated. IA was selected because it is capable of reacting with polyethylene and amino acid residues, such as lysine. The objective of the research was to identify and investigate the effect of reaction parameters on grafting. These were: residence time, temperature, initial monomer concentration as well as peroxide concentration and type. Grafting was characterized in terms of the degree of grafting (DOG), percentage reacted and the extent of side reactions. | Format: Paperback | Language/Sprache: english | 100 pp.



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