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A New Approach to Plastics Reinforcement—— Reinforcing Function of Thermotropic Liquid Crystal Polymers

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Summary Characteristics of thermotropic liquid crystal polymers used as high-performance moulded products are commented. In-situ composites, consisting of reinforcing thermotropic liquid crystal polymers and thermoplastic matrix, are reviewed together with their preparation, structure and properties. Induced-orientation and compatibility which attentions should be paid to in further research on this new approach to plastics reinforcement are mentioned, too.

Key words In-situ composites, thermotropic liquid crystal polymers

使塑料成为生物可降解的 新途径

Purdul 大学的科学家正在发展一种使塑料成为生物可降解的新方法, 这种方法是使以石油为基础的聚合物和纤维素或淀粉结合起来。Purdul 大学的聚合物化学家 Ramani Narayan 说这个方法使废弃物的处理变得容易, 并使美国过程的玉米找到新的出路。他指出, 天

然聚合物例如与聚苯乙烯原本是不相容的, 然而 Purdul 小组通过加入淀粉-聚苯乙烯接枝共聚物为界面剂使之相容。阴离子聚合的方法使接枝共聚物的分子量和其他性质可以很好地被控制, 含有 20~30% 淀粉的淀粉-聚苯乙烯共混物性能很像普通的聚苯乙烯, 但是能够为土壤微生物所分解。Narayan 期望同样的方法也能适用于聚乙烯和其他聚合物。

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