

전분에의 아크릴로니트릴의 그라프트공중합에 의한 고흡수성 수지의 합성

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Starch-polyacrylonitrile(SPAN) graft copolymer was prepared by graft copolymerization of acrylonitrile onto gelatinized starch by using CAN initiator. Superabsorbent was made by hydrolyzing this graft with NaOH.

Graft yield and molecular weight of grafted PAN was estimated with grafting conditions, and crosslinking during graft polymerization was identified.

Saponification was performed on various conditions and water absorbency of each product was estimated. Highest water absorbency of hydrolyzed SPAN(HSPAN) was obtained when SPAN was saponified at 100°C and NaOH/AN mole ratio was 0.6~0.8 . Water absorbency of HSPAN was increased with increasing PAN content and molecular weight of PAN.

Water absorbency of HSPAN with homopolymer was higher than without homopolymer, and absorbency of saline solution was estimated. Water absorbency was estimated with particle size, too.