All prior art is generally silent about such process details of synthesis of the core-shell impact modifier especially its pH at the end of the synthesis, the pH before and during the recovery process and choice of electrolyte and the performance of such an impact modifier in a thermoplastic composition.

[Brief description of the invention]

In an aspect, there is provided a process for producing an impact modifier comprising following steps

a) synthesis of a core shell copolymer latex by emulsion polymerization

b) control and adjusting of pH value of the core shell polymer particle after the synthesis step to a pH between 4 and 8

c) coagulation of the core shell polymer at a pH between 4 and 8 by addition of an aqueous electrolyte solution.

Surprisingly it has also been discovered that the pH value during the precipitation agglomeration step is important for the coagulation and the performance of the product in the thermoplastic resin. It could be not sufficient to have a certain pH for the final product, but already respect a certain pH during the recovery step. The nature of the species (either acidic or basic) used to control the pH is also important for the performance of the product in the thermoplastic resin.

It has also been found that a compromise in choosing the conditions during the synthesis and agglomeration yields to a better performance of the impact modified thermoplastic resin, especially a good compromise between impact strength, yellowing, resistance to hydrolysis and melt stability.

Surprisingly it has also been discovered that the structure of the core-shell impact modifier is of importance, particularly having an intermediate shell that contains a gradient polymer.

[Detailed description of the invention]

In a first aspect, the present invention relates to a process for producing an impact modifier comprising following steps

a) synthesis of a core shell copolymer latex by emulsion polymerization
b) control and adjusting of pH value of the core shell polymer particle after the synthesis step
c) coagulation of the core shell polymer at a pH between 4 and 8 by addition of an aqueous electrolyte solution.

In a second aspect the present invention relates to a thermoplastic molding composition comprising one thermoplastic