Quoi de neuf en formulation ?

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Dendritic polymers - new functional polymers from "old monomers" for novel industrial applications

Hyperbranched polymers, also called dendritic polymers are a relatively new class of architecturally complex polymers, intensively developed by the chemical industry during the last 20 years. Highly perfect dendritic structures have been however already developed as early as 1985 by Dow chemicals that applied for the first « dendrimer » patent. During the following years, other companies such as DSM investigated original dendrimer structures, but a successful leap was really achieved when hyperbranched polymers where finally introduced by DSM and Perstorp. Indeed, while dendrimers can only be prepared via a multistep synthesis strategy, hyperbranched polymers, although less perfect in terms of structure and polydispersity, can be prepared in a one-step polymerization process. This seminar will first recall the history of the development of hyperbranched polymers in polymer technology, then it will summarize the main achievements in terms of industrial applications, explain which effects hyperbranched polymers can bring to new formulated compositions and finally display recent opportunities in the design of new polymeric materials.