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## The characterization of the halatopolymers

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Halatopolymer compose of linear macromolecules having ionic or ionizable end-groups. The term halatopolymer is used to denote a polymer compose of macromolecules having stable (long-lived) ammonium groups, as chain ends. Halatopolymer belongs to the group of ion-containing materials that show both salt-and polymer-like properties. Various mode in which they can be synthesized and other characteristics have been widely reported. This work focusses on the various reports as defined by both polymeric structure and by the metal ions involved in formation. Also provided are data on other characteristics by which this group of materials can be identified. Synthesis of simple non-polymeric backbone structures can give highly crystalline salts, which become more amorphous after thermal treatment while the polymeric backbone-structured halatopolymers are soluble, the non-polymeric backbone counterparts are generally insoluble. The halatopolymers exhibit relatively high thermal stabilities. The polymeric character of a series of salts derived from divalent metal ions and organic dibasic acids have however been investigated. On melting this salts form extremely viscous melt which cool to amorphous solids with polymer-like properties and excellent thermal stabilities. This change from a salt to a polymer-like structure appears to be novel and has been termed a halatopolymeric transformation. Halatopolymers are unique in that they have no end groups in the traditional sense. Essentially, the metal carboxylate groups undergo a rapid interchange to afford an association equilibrium of long chains. Studies of the effects of chain modifiers on a calcium sebacate melt at 386 °C have indicated that on a time-average basis the association consists of approximately ten repeat units.

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