

Component Comparison of Polyaluminum Chloride Produced from Various Methods

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Abstract : The main objective of this research was to study the differences of aluminum hydrolytic products between two PACl preparation methods. These two methods were the acidification process of freshly formed amorphous $\text{Al}(\text{OH})_3$ and the conventional alkalization process of aluminum chloride solution. According to Ferron test and ^{27}Al NMR analysis of those two PACl preparation procedures, the reaction rate constant (k) values and Al^{13} percentage of acid addition process at high basicity value were both lower than those values of the alkaline addition process. The results showed that the molecular structure and size distribution of the aluminum species in both preparing methods were suspected to be significantly different at high basicity value.

Keywords : polyaluminum chloride, Al^{13} , amorphous aluminum hydroxide, Ferron test

Conference Title : ICSR2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020