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➢ **ORAL PRESENTATION**

A review on the preparation of different clay types by the modified with surfactants

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Abstract

It is the name given to clay found near Montmorillonite (MMT) in France and was described by Knight in 1896. Depending on the silicate content, the color of MMT clay change from tile red to pale yellow or blue-green. The specific surface area ranges from 750-800 m^2/g (theoretical value 834 m^2/g). Due to the swelling property of the MMT layers, it is possible to distribute or deaggregate the clay aggregates in a single layer under appropriate conditions of preparation. It consists of silicate clay minerals, octahedral and tetrahedral layers. Basic building blocks of tetrahedral and octahedral layers; silicon tetrahedral and aluminum octahedral. The Si^{4+} cation forms a tetrahedral coordination with oxygen and a smooth quadrature. The most commonly used fillers in the production of organoclays have a layer structure of silicates, of which montmorillonite, bentonite, hectorite and saponite are widely used. Zeolites are in the divided into two groups as natural and synthetic zeolites. In the regions where natural zeolite formation is observed, factors such as the pH value, ion amount and temperature give rise to natural zeolites with the different chemical and physical properties. Physical and chemical properties most of the zeolites come from in the alumina contents. This information is the usually given in the form of the Si/Al ratio. Synthetic zeolites are the generally colorless and powder. Color change is the observed when the exchangeable cations of the zeolites are the replaced by transition metals or when they contain transition metals as the impurities. The cation exchange capacity (CEC) of clay types such as the montmorillonite and zeolite is highly dependent on the Si/Al ratio. The Si/Al ratio affects the amount of the cations that can be change. So that the amount of cations is a function of the density of the anionic structure. The surfactant molecule consists of the combination of the hydrophilic and hydrophobic group. The hydrophobic end division of the surfactant consists of a long hydrocarbon chain, while the hydrophilic division contains in the anions or cations such as the sodium, chloride or bromide. Surfactants can to be classified into four groups as anionic, cationic, non-ionic and amphoteric according to the structure of the hydrophilic group.

Keywords: Montmorillonite, zeolite, cation exchange capacity (CEC), surfactant, hydrophilic and hydrophobic group.