

## **Adsorption of micro-pollutants onto a clay mineral and its derivatives non-ionic and cationic organoclays**

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Organoclay based on cationic surfactants are widely used in diverse applications fields such as geochemical barriers, bio-medical applications, filters for the treatment of water and polymer nano-composites... However, final properties of organoclays narrowly pertain to the nature of the inserted surfactant into the silicate galleries and its both confined structure and dynamics.

In this study, a novel organoclay has been synthesized by using a nonionic surfactant, the tri-ethylene glycol mono n-decyl ether (C<sub>10</sub>E<sub>3</sub>) characterized by its bulk lamellar phase. The successful intercalation of the C<sub>10</sub>E<sub>3</sub> in the internal clay mineral structure enlarges the interlayer space of clay galleries and points out the relationship between the surfactant state in aqueous solution and its aggregates on mineral surface. Moreover, unlike conventional organoclays prepared by cationic surfactants, such hybrid organoclay materials shows a dual ability to adsorb both hydrophobic, ionic organic micro-pollutants in aqueous media.