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# Organomineral Derivatives Obtained by Reacting Organochlorosilanes with the Surface of Silicates in Organic Solvents

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**Abstract:** Stable organomineral derivatives are formed by reaction of organochlorosilanes with certain phyllosilicates. Organosiloxyl functions are grafted on silanol groups present at external mineral surfaces.

Water molecules adsorbed on external mineral surfaces may cause hydrolysis of the reactant organosilicon products, with liberation of HCl. This, in turn, may react with the silicate: octahedral cations are extracted from the lattice and fresh Si-OH groups, capable of further grafting, are formed on the mineral surface.

On the other hand, when difunctional reagents such as methylvinylchlorosilane are used and if the ratio of adsorbed water to added reactive is adequate, then polymeric species with polysiloxane chains are grafted on the mineral.

Because of its high content of silanol groups, sepiolite forms organomineral compounds having a relatively high organic matter content. With chrysotile, the amount of organic matter grafted to the silicate, is considerably smaller, but it increases appreciably if water is added to the reacting products. This is attributed to hydrolysis of the organic reactant and subsequent destruction of external " brucitic " layers by acid attack.

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