SYNTHESIS OF METHYLTRIALKOXYSILANES FROM METHYL SILICA GEL

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Synthesis of alkoxysilane monomers and avoiding chlorine-containing compounds are the most important trends in organosilicon chemistry. The need to improve the methods of synthesizing alkoxysilanes with industrial output and the search for alternative precursors is dictated not only by the trend of time, but also by the real need for more efficient, economical and environmentally friendly production of individual compounds, polymers, and various materials based on them.

This paper discusses the synthesis of methyltrimethoxy / ethoxysilane from methyl silica gel, waste production of silicone sorbents, as well as the hydrolysis of direct synthesis monomers. In consequence of this recycling of by-products is an important task.

Methyl trialkoxysilane is the main product of the reaction of methyl silica with carbonates (di-methyl / diethyl carbonate) in the presence of an alkaline catalyst. Experiments were carried out in an autoclave, with a slight overpressure and in a horizontal flow tube. The reaction products are characterized by physico-chemical methods. This work expands the technological capabilities of the organosilicon synthesis of monomers.

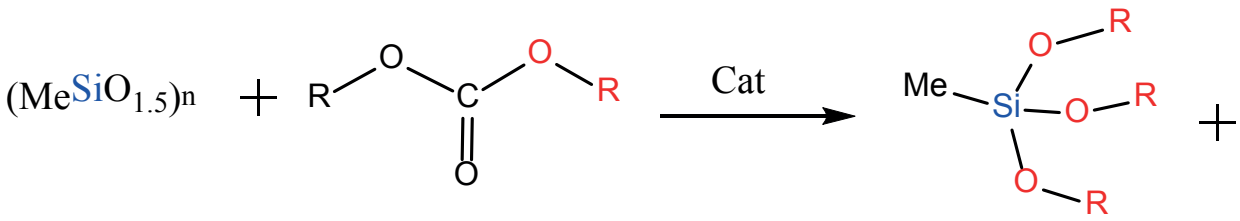

Figure 1. Synthesis scheme of methylalkoxysilanes

Literature:
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2. Y. Ono, M. Akiyama, and E. Suzuki, Chem. Mater. 1993.5, 442-447
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