

## عنوان مقاله:

EFFECT OF INORGANIC HYBRID LiBr ON THE SILICA MATRIX XEROGELS

## محل انتشار:

ماهنامه بین المللی مهندسی، دوره 25، شماره 1 (سال: 1390)

تعداد صفحات اصل مقاله: 5

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## خلاصه مقاله:

The SiO<sub>2</sub>-LiBr hybrid porous materials were prepared by the sol-gel method. This process was obtained by the hydrolysis and condensation tetraethyl orthosilicate (TEOS) with replacement of ethanol from alcogel by drying at ambient temperature to obtain xerogel structure. The alcogel samples were synthesized from TEOS, EtOH, H<sub>2</sub>O, HCl, NH<sub>4</sub>OH and LiBr. The total molar ratio of the compounds was 1: 9: 4: 8 x 10<sup>-4</sup>, 8 x 10<sup>-3</sup>. Xerogel contain 30 % wt of LiBr (dry matter) was prepared and characterized by Scanning Electron Microscopy (SEM), Transmission Electron Microscopy (TEM), Fourier Transmittance Infra Red (FTIR), Energy Dispersive X-ray (EDX) and Thermal Gravimetry Analysis (TGA) systems. The results obtained from SEM were shown the micrograph of LiBr on the silica matrix. Chemical elemental analysis data was resulted by EDX. On the other hand, the TEM have confirmed average particle size of SiO<sub>2</sub>-LiBr about 50 nm and FTIR spectrum describes functional groups of nanocomposite. The thermal analysis of SiO<sub>2</sub>-LiBr nanocomposite was performed using TGA system. The results show that the suitable temperature for initial thermal treatment is about 200 °C.

## کلمات کلیدی:

Inorganic hybrid, Lithium bromide, Silica, Xerogel

## لینک ثابت مقاله در پایگاه سیویلیکا:

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