

عنوان مقاله:

THE INFLUENCE OF pH AND UV VISIBLE ABSORPTION ON HYDROLYSIS STAGE AND GEL BEHAVIOR OF GLASSES SYNTHESIZED BY SOL-GEL

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خلاصه مقاله:

Abstract: Lead-containing glass borosilicate was synthesized by Sol-gel technique using metalalkoxids such as tetraethyleorthosilicate (TEOS), Al-sec-butoxide and trimethyl borate. The sol containing TEOS converts to gel during drop wise addition of Al-alkoxide while inorganic lead salt was added in the last stage of gelation to prepare the alcogels. The specimens were dried at room temperature to set then heated at 600°C quickly to avoid crystallization preparing a glass containing 63 wt% lead oxide. The influence of pH on absorption behavior of the sols studied by UV visible technique so the characteristic of the gel, alcogel and xerogel were studied in the different acidic concentrations. The UV spectrums show that the higher the acidity of the hydrolysis stages, the higher the absorbance. The results showed the sample with 63 wt% lead was found fully amorphous. Microstructure and phase analysis of the glass powders were investigated by X-ray diffraction (XRD), X-ray fluorescence (XRF) and scanning .electron microscopy (SEM) equipped with EDS analysis

کلمات کلیدی:

Sol Gel, Lead Glass, Uv-Vis

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