

## عنوان مقاله:

Experimental Investigation of Surfactant Effect on the Tin Oxide Coating Wettability

## محل انتشار:

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## خلاصه مقاله:

Tin oxide has many applications in different fields such as gas sensor fabrication. In recent years many researchers have been focused on tin oxide coatings. In this study, tin oxide coating by a solution based process (chemical bath deposition) was prepared. Several parameters are effective on the deposited surface wettability. Surfactant to Tin (II) chloride molar ratio and surfactant type are two effective parameters of CBD coating process. Two different types of surfactant, Polyethylene glycol (PEG) and Polyvinylpyrrolidone (PVP), in two surfactant/Sn molar ratios, 0.002 and 0.004 was studied. Wettability of the fabricated surfactant was evaluated using contact angle measurements. FTIR analysis and SEM images was used for ensuring formation the Sn-O bands and detecting the appearance of coatings, respectively. Results showed that addition of PVP makes the surface more hydrophilic. Also, using the higher ratio of the additives would decrease the hydrophobic property of the synthesized SnO<sub>2</sub> surface. The optimized surface was treated by stearic acid. The water contact angle of modified sample was 135°.

## کلمات کلیدی:

Tin (IV) oxide, Chemical bath deposition, surfactant, PVP, PEG

## لینک ثابت مقاله در پایگاه سیویلیکا:

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