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Preparation of Nanocrystalline Tin Oxide Powder for Gas Sensor Applications

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Abstract — Nanocrystalline tin oxide powders were prepared using a solution precipitation technique after adding the surfactants, Triton X-100 (TX-100) and Sodium Dodecyl Sulfate (SDS). Powders were characterized using XRD and FTIR studies. The gas sensitivity for surfactant added powders increased for LPG (Liquefied petroleum Gas) as well as CNG (Compressed Natural Gas), due to low degree of agglomeration. The LPG sensitivity increased by almost ten times using SDS.