

**Enhanced response of SnO<sub>2</sub>-based thick film sensor by NiO promotor for the detection of di  
(propylene glycol) methyl ether**

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Sensing behaviors of SnO<sub>2</sub>-based thick film gas sensors were investigated under very low concentrations (ppb level) of a chemical agent simulant [DPGME, di(propylene glycol) methyl ether] in a flow system. The SnO<sub>2</sub> gas sensor showed a low response of about 25%. To improve the response of the SnO<sub>2</sub> sensor, new SnO<sub>2</sub>-based sensors promoted with NiO were prepared by physical mixing and impregnation methods. These sensors showed the responses of about 45% and 70%, respectively, at 0.1 ppm DPGME and 350°C. It is found that NiO promotor plays an important role in the response of SnO<sub>2</sub>-based sensors. NiO dispersion is also an important factor for the enhancement of the sensor response. In this study, we will discuss the sensing properties of SnO<sub>2</sub>-based sensor with preparation methods and the reason for the enhancement of sensor response.