

## Effect of High-Humidity Aging on Performance of Tungsten Oxide-Type Aromatic Compound Sensors

Toshio Itoh\*, Ichiro Matsubara, Jun Tamaki<sup>1</sup>, Kenji Kanematsu<sup>1</sup>,  
Woosuck Shin, Noriya Izu and Maiko Nishibori

National Institute of Advanced Industrial Science and Technology (AIST),  
Shimo-Shidami, Moriyama-ku, Nagoya 463-8560

<sup>1</sup>Department of Applied Chemistry, Faculty of Science and Engineering,  
Ritsumeikan University, Kusatsu, Shiga 525-8577

(Received January 24, 2011; accepted February 28, 2011)

**Key words:** tungsten oxide, aromatic compound, toluene, high-humidity aging

WO<sub>3</sub>-type toluene gas sensors have been shown to be affected by humidity. The high-humidity aging effect is investigated on these sensors. High-humidity aging treatment is found to be effective against the effects of humidity on WO<sub>3</sub>-type toluene sensors. This humidity independence can be explained in the terms of a change in the surface conditions of WO<sub>3</sub> grains.

\*Corresponding author: e-mail: itoh-toshio@aist.go.jp