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Recent progress in applications of graphene oxide for gas sensing: A review

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Highlights

► ► Gas sensors using graphene oxide are summarized in this review. ► Most studies on these sensors have been published in the last few years. ► *Graphene oxide has a large specific area and its characteristics change with adsorbed gases.* ► *Oxygenous functional groups on graphene oxide interact with polar gas molecules.*

*Graphical abstract**Ryo Furue** obtained his Bachelor of Science degree in March, 2014 and is now studying graphene-based gas sensors at Kumamoto University as a graduate student.*

Abstract

This paper is a review of the recent progress on gas sensors using graphene oxide (GO). GO is not a new material but its unique features have recently been of interest for gas sensing applications, and not just as an intermediate for reduced graphene oxide (RGO). Graphene and RGO have been well known gas-sensing materials, but GO is also an attractive sensing material that has been well studied these last few years. The functional groups on GO nanosheets play important roles in adsorbing gas molecules, and the electric or optical properties of GO materials change with