

Title (en)  
GAS SENSOR

Title (de)  
GASSENSOR

Title (fr)  
DETECTEUR DE GAZ

Publication  
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Application  
**EP 96946098 A 19961218**

Priority  
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Abstract (en)  
[origin: DE19549147A1] To protect the sensor element, consisting of a titanate, from the chlorine, phosphorus and sulphur compounds included in the waste gas, it is proposed to cover the oxygen-sensitive sensor zones with a porous SrTiO<sub>3</sub> layer. Appropriate lambda probes have to date not been used in spite of their long working life, since the output signal thereof demonstrates an excessively large drift due to contamination of the protective layer. A thick, porous Al<sub>2</sub>O<sub>3</sub> film (34) covers the proposed oxygen sensor SrTiO<sub>3</sub> layer (3) bonded by two Pt electrodes (2, 2') and precipitated on a Al<sub>2</sub>O<sub>3</sub> substrate (1). The electrically insulating Al<sub>2</sub>O<sub>3</sub> layer carries the protective layer (4) preferably also consisting of SrTiO<sub>3</sub> and exposed to the waste gas. Said structure ensures that the sensor output signal representing the partial oxygen pressure still only depends on the resistance or conductance of the non-contaminated SrTiO<sub>3</sub> sensor layer (3). The invention relates, in particular, to a rapid oxygen sensor, a lambda probe, cylinder-selective regulation of the air ratio, and gas sensors which are exposed to a gas mixture containing aggressive constituents.

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