

Resistive sensor for benzene detection in air: monitoring of benzene contamination in industry

Unique Technology Offer

- Benzene is one of the most used starting material deriving from oil, but has the drawback of being carcinogen and highly toxic.
- Exposure to benzene of workers and individuals is subject to strict regulations: 0,1 ppm during 8 hours or 1 ppm during 15 mn.
- The sensor is based on a selective molecular receptor of benzene self-assembled onto gold nanoparticles attached to carbon nanotubes forming the electrode.
- Encapsulation of benzene provokes a change in the shape and electrical resistivity of the carbon nanotube, which is measured by the electrode.
- Stage of development: tested in the laboratory (controlled environment).
- IP position: Spanish patent application filed (2014).

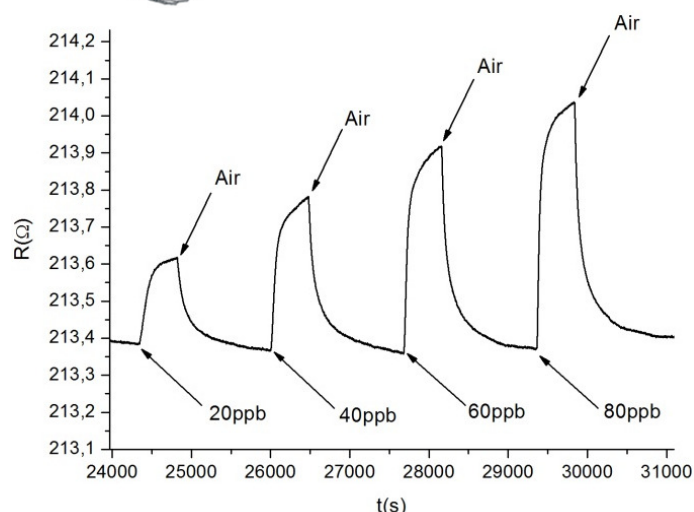
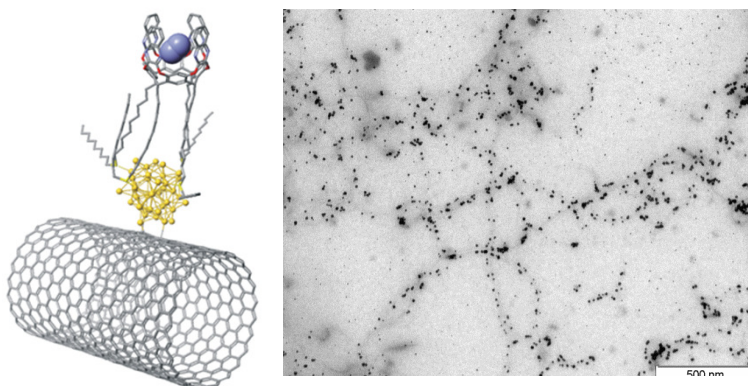
Value Proposition

- Highly sensitive (order of ppt) and selective sensor.
- Sensor operates in continuous mode (no latency period), not offered by marketed devices (PID)
- Low cost device
- No need to use expensive consumables for each measurement

Business opportunity

- Current devices on the market for benzene sensing (PID technology) present some drawbacks covered by this new technology.
- The global gas sensors market was estimated at USD 1,700.5 million in 2012, and is expected to grow at a CAGR of 5.1% from 2014 to 2020.

Technology concept



Licensing Opportunity

- Partner for joint development, scale-up and commercialisation of the process is sought.
- Global licensing rights for the process are available.
- Regional licensing deals will be considered.
- Flexible licensing strategy related to development milestones.

Further information:

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