

Passive In Situ Gas and Chemical Sensor



In many sealed systems, the spontaneous generation of chemicals and gases can adversely affect the contents of a sealed system. The container or system is closed, and sampling is impossible. A passive method for detecting the presence of specific chemicals in the system is critical and addresses a key question: How do you ascertain the integrity of the contents in a sealed container without opening it? This invention allows a sealed system to be monitored for the infiltration or generation of gasses or other chemical species specific to the enclosed materials.

DETECTOR / SENSOR / IMAGING

Features

- Can be used as a passive or active detector
- Not only allows a specific gas or chemical to be specifically identified but also to determine its concentration, mass, temperature, and time history.
- Provides quantitative analysis for determining longevity of the system

Benefits

- Can be custom tailored to react to a single chemical or broad spectrum of chemicals
- Passive Monitoring
- Cost-effective

Applications

- Specialized storage and warehousing
- Laboratory testing services
- Scientific research and development

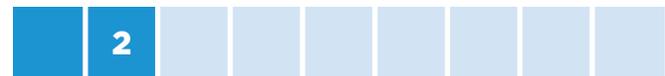
Patents & Awards

- U.S. Patent No. 8,114,677

Inventors

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Technology Readiness Level (1–9)



Applications are speculative at this time, however, key principles have been observed, and next steps include integrating into a functional prototype.

Partnering Opportunities

Y-12 is seeking an industry partner to fully commercialize this technology.

If you would like more information, please contact the Office of Technology Commercialization and Partnerships:

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