PHOTONIC BIOSYSTEMS

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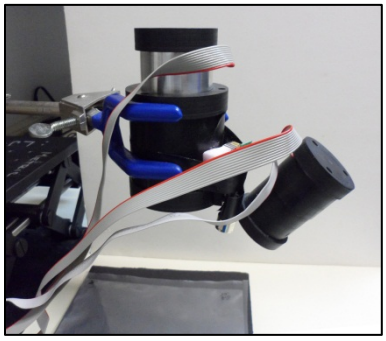
Oxygen-Sensing Smart Package Technology



Photonic BioSystems, Inc. has developed new technology for measuring oxygen non-invasively inside sealed packages for the food, beverage, medical, pharmaceutical and electronics industries. Using remote optical interrogation, it eliminates destructive package testing and enables non-contact, rapid, real-time O_2 measurements. This innovative approach makes "smart packages" by incorporating a small amount of an oxygen-sensitive luminescent dye inside the package film itself. The technology is extremely diverse, capable of measuring O_2 either in the gas phase environment of a dry package, in the headspace of a liquid package, or of dissolved-oxygen in fluids and beverages. This enables significant application for flexible film packages, rigid containers, bottles, vials, caps, and other sealed vessels. With its economic feasibility, the door for 100% quality control and quality assurance has now been opened.

Packager Benefits:

- Enablement of 100% QC/QA up to point of sale
- More efficient and lower plant operating costs
- Earlier identification of packaging equipment malfunction
- Reduced losses from out-of-spec packaging
- Higher customer loyalty
- Reduced risk of compromised brand image from flawed product entering the market
- Lower liability risk
- Protection from bioterrorist attempts, adulteration, tampering
- Opportunity for premium pricing commensurate with higher quality/safety
- Elimination of product loss due to sacrificial sampling of goods for test purposes

Customer Benefits:

- Greater confidence in their supplier(s)
- Reduced losses from dealing with inferior or unusable product
- Shelf-life studies
- Reduced risk of compromised brand image from flawed product entering the market
- Lower liabilities for resellers to end consumers
- Protection from bioterrorist attempts, adulteration, tampering
- Opportunity for premium pricing commensurate with higher quality/safety
- Prevention of counterfeit product entering the market

"This technology will raise the standard for package quality, efficiency, and safety of delivered goods."

Through the proprietary process, O_2-sensing polymer films can be made from nearly any grade of packaging plastic designed for food, medical or electronics packaging. The potential of this technology can be consider a game-changer for the packaging industry. Photonic BioSystems is currently seeking license candidates and welcomes all interested parties to contact them directly to discuss this opportunity and/or submit proposals.

Key Features:

- Non-invasive & Non-destructive
- Meets food safety laws
- Rapid, real-time measurements
- Measure: dry atmosphere, headspace over liquid, dissolved oxygen within liquid
- Photostable
- Low cost
- Reversible response
- Incorporation directly into polymer or as a discrete sensor "dot"
- Remote interrogation/measurement
- Large measurement range
- Highly specific O_2 responsiveness