

A Unique Approach to the Design and Production of Photochemical Sensors (Yisum)

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Invention allows for rapid detection of myriad environmental impurities

Categories	Materials, composites, sensors, optical
Development Stage	Concept proven, ready for commercialization
Patent Status	US Patent 6,562,424
Market Size	\$2B

Highlights

- Enables the preparation of stable, multi-use remote sensors for detection systems for environmental impurities
- Based on the introduction of indicator dyes into a novel composite glass film from which sensitive waveguides are fabricated
- Uses a plurality of nanopores sized between 20 and 200 angstrom for the detection of analyte entry

Our Innovation

- Provides a process for the preparation of an indicator-dye, nanoporous, photochemical-sensor composite glass
- Allows monitoring in situ of traces of impurities such as ammonia, acid rain and bases in the atmosphere, the water and the ground, and chlorinated hydrocarbons in ground water and soil
- Results in mechanically and photochemically stable films
- Comprises a multiplicity of polyacrylate chains intertwined with a multiplicity of cross-linked networks of silica and doped with an indicator dye

The Opportunity

- Addresses burgeoning field of sophisticated environmental technologies, including the detection of air, water, and ground impurities
- Has additional applications for biomedical and process-control sensing

Development Milestones

- Ready for commercialization, application

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