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Printed Visible Leak Detector of Low Oxygen Atmosphere.

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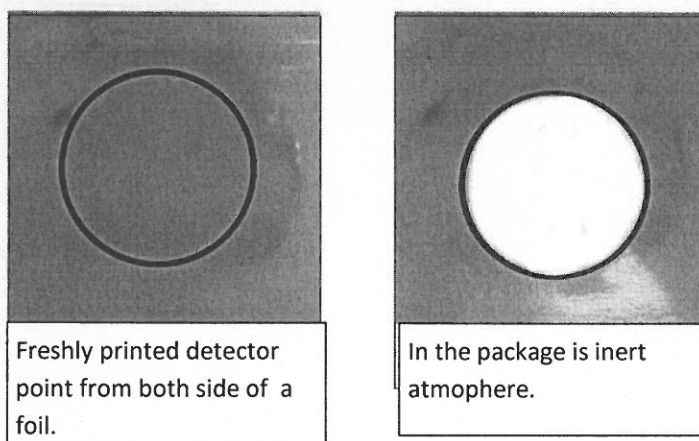
PRINTED VISIBLE LEAK DETECTOR OF LOW OXYGEN ATMOSPHERE

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Oxygen spoils many foods as its presence allows myriad of food spoilage microorganisms to grow and thrive. Presence of oxygen cause deterioration and corrosion of archeological and museum items. Packing in low oxygen atmosphere reduces these effect. To control that the package is intact and that oxygen ingress is not significant oxygen indicators are inserted into package. We developed cheap irreversible reusable visible detector of oxygen, which was printed on transparent foil of package. In oxygen free atmosphere the detector point is colorless. Tamper of the package and oxygen ingress cause its turn blue. To exclude false results the detector point was printed from both side of the foil. A circle is on internal side and square surrounded the circle is on external side of a foil, which is in air. We measured velocity of turn color, determined condition of reuse, and storage stability. Detector points with alternative color transitions – green to yellow or grey to blue were prepared. Commercial lacquers, organic solvent-based and water-based as well as organic-inorganic polymers, ORMOCER[®], were used as a carrier of detector paints.



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