

ABSTRACT

CHLORINE DIOXIDE GENERATING
POLYMER PACKAGING FILMS

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A composition incorporating a chlorine dioxide generating compound such as sodium chlorite into a polymer or oligomer film is coatable onto various substrates. Controlled release is accomplished by absorption of moisture from the environment. The chlorine dioxide so released acts as a biocide and a fumigant. To form the composition, the chlorite is dissolved into a hydrogen bonded phase containing a monomeric or polymeric amide or a monomeric or polymeric alcohol. This hydrogen bonded phase is then mixed with an incompatible apolar phase consisting of anhydride such as a polymer such as a maleic anhydride copolymer with olefin, or a grafted maleic anhydride-polypropylene polymer. Chlorine dioxide is released by direct reaction of the anhydride or hydrolzed anhydride with the chlorite anion across the phase boundary. Increzsing the molecular weight of the phases, increasing the phase incompatibility and decreasing the concentration of anhydride will all decrease the chlorine dioxide release rate.

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