

ABSTRACT

NEUTRAL, STABLE AND TRANSPARENT PHOTOCATALYTIC TITANIUM DIOXIDE SOLS

A method for preparing a neutral, stable and transparent photocatalytic titanium dioxide sol is provided. The method comprises (1) contacting an alkaline titanium dioxide sol with an alkaline peptizing agent to provide a peptized alkaline titanium dioxide sol; (2) neutralizing the peptized alkaline titanium dioxide sol; and (3) obtaining or collecting the neutral, stable and transparent photocatalytic titanium dioxide sol. The titanium dioxide sol is stable and transparent over a range of pH of about 7.0 to about 9.5. The titanium dioxide sol may include crystallites of titanium dioxide having an average particle size of less than about 10 nm with at least 90% of the crystallites being in the anatase form.

(Fig. 1)