

Degradation of Formaldehyde by Using LED light with Nitrogen-Doped TiO₂

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In general formaldehyde, which can be existence in new house, new cars, new furniture, is deadly to human. As the major source of formaldehyde, insulation, indoor furniture, adhesive paper lanterns are widely raised. Atmospheric formaldehyde is absorbed into human body through respiration, as well as penetration through the skin and eyes, nose and throat irritation and cause harmful result. Animal experiments demonstrated that accumulation of formaldehyde can be lead to carcinogenic and genetic variability, respiratory allergic disease, central nervous system disorders. Due to of these reasons, formaldehyde is demanded stringent environmental regulation. Among different waste-gas treatment techniques, using Nitrogen-doped TiO₂(N-TiO₂) as a photocatalyst was successfully applied to remove low-concentration VOCs or odorous pollutants in the gases emitted from different industrial or agricultural process.