Photocatalytic Ceramic Paint to Purify Air

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Nowadays, daily human activities related with use of vehicles and industrial processes, are generating air contamination. Main pollutants are nitrogen oxides (NOx) and sulfur oxides (Sox), those gases produce acid rain, photochemistry smog, green house effect and health problems like respiratory diseases. This project has the purpose to approach this problem by propose a phothocathalytic ceramic paint to purify air, involved heterogeneous photocatalysis , that is a technological tool that give us sustainable solutions. With active titanium dioxide (TiO2) in anatase form, a ceramic photocatalytic paint will be prepared, then in contact to the polluting gases, will be analyzed in a photocalitic reactor where will be simulate controlled environmental conditions. To prepare the paint, will be necessary to synthesize the titanium dioxide by the sol-gel method and then characterized by x rays diffraction, electronic microscope and reflecting spectrophotometer. All those procedures will be done with the equipment from a local University, with the main objective to eliminate contaminant gases from environment using paint made with the active material (TiO2).

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