



Electrodeposited composites for application in wastewater treatment

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Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | Composite electrodeposits containing titania as heterogeneous photocatalysts for organic pollutants degradation | The monograph presents a brief overview of literature data on the application of advanced oxidation processes to water/wastewater treatment. A special attention was paid to heterogeneous photocatalysis using TiO₂ catalyst under the action of UV light. The structures, physicochemical and photochemical properties of titania as well as the mechanism of photocatalysis on titanium dioxide surface were reviewed. Various methods of immobilisation of TiO₂ onto various supporting materials were described. The electrochemical deposition of composites containing TiO₂ dispersed particles is a very promising approach in searching perspective supports for TiO₂ photocatalysts. Our original experimental findings on electrodeposition of composite Fe/TiO₂ coatings from methanesulfonate electrolyte were presented in detail. The electrochemical kinetics and mechanisms of Fe and Fe/TiO₂ electrodeposition from methanesulfonate baths were investigated. The synthesized Fe/TiO₂ composite coatings manifest a high photocatalytic activity towards the destruction of organic dye as a model pollutant under exposure to UV radiation. A possible mechanism of photocatalytic degradation was proposed. | Format: Paperback | Language/Sprache: english | 72 pp.



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