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“CLEANER PRODUCTION INITIATIVES AND CHALLENGES FOR A SUSTAINABLE WORLD”

## Development of Catalytic Materials for Degradation Photoelectrochemical of Pesticides

G. R. P. Malpass <sup>a</sup>, S. Aquino Neto <sup>b</sup>, A. R. de Andrade <sup>c</sup>, A. L. T. Fornazari <sup>d</sup>, D.  
W. Miwa <sup>e</sup>, A. J. Motheo <sup>f</sup>

*a. Universidade Federal do Triângulo Mineiro, Uberaba - MG,  
geoffroy.malpassuftm@gmail.com*

*b.c. Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto – Universidade de São  
Paulo, Ribeirão Preto - SP, netoaquino@ig.com.br, andrade@ffclrp.usp.br*

*d.e.f. Universidade de São Paulo, São Carlos - SP, anaforazari@gmail.com,  
miwa@iqsc.usp.br, artur@iqsc.usp.br*

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### Abstract

The application of electrochemical methods is an interesting and clean alternative for the abatement of toxic organic pollutants. The present communication details the study of the synthesis of electrode materials of nominal composition  $Ti/Pb_xTi_{1-x}O_2$  (onde  $X = 0; 0.05; 0.10; 0.20$  e  $0.30$ ) and their subsequent use as electrodes for degradation of organic pollutants using both electrochemical and photo-assisted electrochemical techniques.

The results obtained demonstrate that the materials produced are interesting from the point of view of organic removal. The application of simultaneous UV radiation with electrical current was capable of removing greater amounts of the organic load (32% in under 1 h) than the purely electrochemical technique alone.

**Keywords:** *photo-assisted electrochemical degradation, formaldehyde, pollution control.*

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