Accepted Manuscript

A sustainable replacement for ${\rm TiO_2}$ in photocatalyst construction materials: Hydroxyapatite-based photocatalytic additives, made from the valorisation of food wastes of marine origin

Manfredi Saeli, Clara Piccirillo, David M. Tobaldi, Russell Binions, Paula M.L. Castro, Robert C. Pullar

PII: S0959-6526(18)31357-X

DOI: 10.1016/j.jclepro.2018.05.030

Reference: JCLP 12887

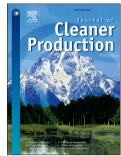
To appear in: Journal of Cleaner Production

Received Date: 2 December 2016

Revised Date: 17 April 2018 Accepted Date: 3 May 2018

Please cite this article as: Saeli M, Piccirillo C, Tobaldi DM, Binions R, Castro PML, Pullar RC, A sustainable replacement for TiO₂ in photocatalyst construction materials: Hydroxyapatite-based photocatalytic additives, made from the valorisation of food wastes of marine origin, *Journal of Cleaner Production* (2018), doi: 10.1016/j.jclepro.2018.05.030.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



ACCEPTED MANUSCRIPT

A sustainable replacement for TiO₂ in photocatalyst construction materials:

hydroxyapatite-based photocatalytic additives, made from the valorisation

of food wastes of marine origin

Manfredi Saeli ^{1,2*}, Clara Piccirillo³, David M. Tobaldi², Russell Binions⁴, Paula M. L.

Castro³, Robert C. Pullar^{2*}

¹ Department of Architecture (D'ARCH), Polytechnic School, University of Palermo, Viale

delle Scienze, Ed. 8, 90128 Palermo, Italy

² Department of Materials and Ceramic Engineering / CICECO – Aveiro Institute of

Materials, University of Aveiro, Campus Universitàrio de Santiago, 3810-193 Aveiro,

Portugal

³ Centro de Biotecnologia e Química Fina / Laboratório Associado – Escola Superior

Biotecnologia, Universidade Catòlica Portuguesa, 4202-401 Porto, Portugal

⁴ School of Engineering and Materials Science, Queen Mary University of London, London,

E1 4NS, United Kingdom

* Corresponding authors:

Manfredi Saeli: ing.arch.saeli@hotmail.it; manfredi.saeli@gmail.com Tel: +39 348 121 8060

Robert Pullar: rpullar@ua.pt Tel: +351 234 370 041

Abstract

The use of waste materials and by-products in building materials is of increasing importance

to improve sustainability in construction, as is the incorporation of photocatalytic materials to

both combat atmospheric pollution and protect the structures and facades. This work reports

1

Download English Version:

https://daneshyari.com/en/article/8094379

Download Persian Version:

https://daneshyari.com/article/8094379

<u>Daneshyari.com</u>