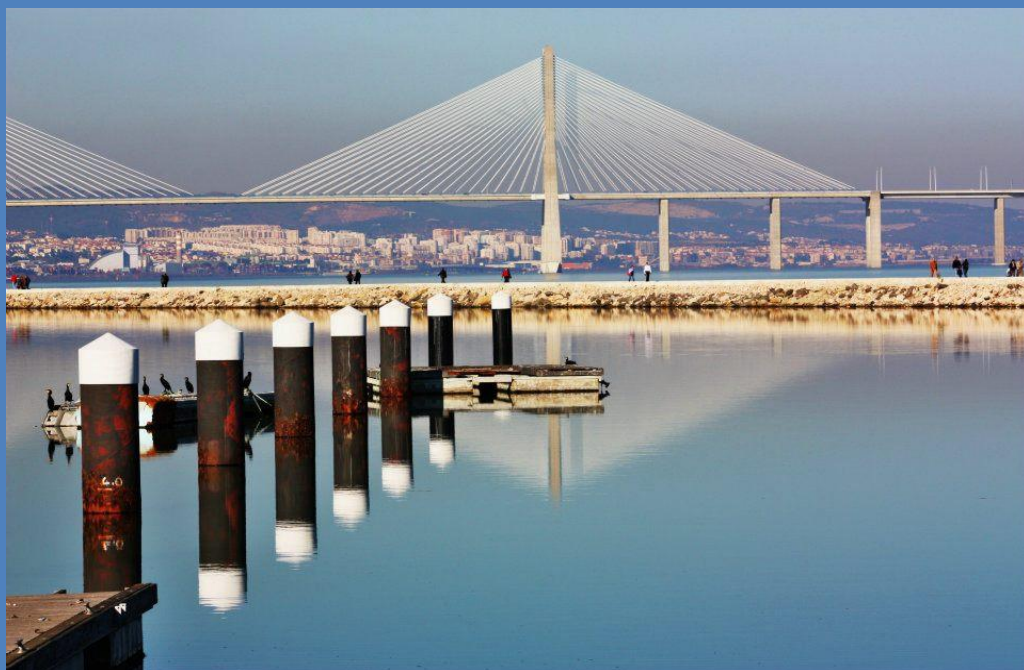


INTERNATIONAL CONGRESS ON ENVIRONMENTAL HEALTH 2012

29th May - 1st June 2012, Lisbon, Portugal



LIVRO DE RESUMOS PROCEEDINGS BOOK

Escola Superior de Tecnologia da Saúde de Lisboa
Instituto Politécnico de Lisboa

Lisbon College of Health Technology
Polytechnical Institute of Lisbon

ciceh
cisa
2012 Lisbon

FICHA TÉCNICA || TECHNICAL RECORD

Título || Title

Congresso Internacional de Saúde Ambiental 2012: Livro de Resumos
International Congress on Environmental Health 2012: Proceedings Book

Autores/Editores || Authors/Editors

Albuquerque, Paula; Cabo Verde, Sandra; Manteigas, Vítor; Monteiro, Ana; Ramos, Carla; Silva, Andreia;
Viegas, Carla; Viegas, Susana

Editora || Publisher

Área Científica de Saúde Ambiental – Escola Superior de Tecnologia da Saúde de Lisboa
Scientific Area of Environmental Health – Lisbon College of Health Technology

Fotografias || Photos

Cláudia Reis

Data || Date

Junho de 2012 | June 2012

ISBN || 978-989-8077-22-6

Esta edição é publicada pela Área Científica de Saúde Ambiental da Escola Superior de Tecnologia da Saúde de Lisboa (ESTeSL).

Biblioteca Nacional de Catalogação de dados de publicação

Congresso Internacional de Saúde Ambiental 2012: Livro de Resumos
editado por Albuquerque, Paula; Cabo Verde, Sandra; Manteigas, Vítor; Monteiro, Ana; Ramos, Carla; Silva, Andreia; Viegas, Carla;
Viegas, Susana

Inclui referências bibliográficas e índice.

ISBN 978-989-8077-22-6

Editora: Área Científica de Saúde Ambiental da Escola Superior de Tecnologia da Saúde de Lisboa

Prefixo da Editora: 989-8077

Livro em 1 volume, 374 páginas

Este livro contém informações obtidas de fontes autênticas.

Têm sido feitos esforços para publicar dados e informações fiáveis, mas os autores, assim como o editor, não assumem responsabilidade pela validade de todos os materiais ou pelas consequências da sua utilização.

Este livro ou qualquer parte do mesmo, não poderá ser reproduzido ou transmitido em qualquer formato ou por qualquer meio, electrónico ou físico, incluindo fotocópia, microfilmagem e gravação, ou por qualquer sistema de armazenamento de informação ou de recuperação, sem autorização prévia por escrito da Área Científica de Saúde Ambiental da ESTeSL.

Todos os direitos reservados. Autorização para fotocopiar itens para uso interno ou pessoal podem ser concedidas pela Área Científica de Saúde Ambiental da ESTeSL.

Aviso de marcas: Produto ou nomes de empresas podem ser marcas comerciais ou marcas registadas e são usados exclusivamente para identificação e explicação, sem intenção de infringir.

This edition is published by the Scientific Area of Environmental Health of Lisbon College of Health Technology (ESTeSL).

Portuguese National Library Cataloguing in Publication Data

International Congress on Environmental Health 2012: Proceedings Book
edited by Albuquerque, Paula; Cabo Verde, Sandra; Manteigas, Vítor; Monteiro, Ana; Ramos, Carla; Silva, Andreia; Viegas, Carla;
Viegas, Susana

Includes bibliographical references and index.

ISBN 978-989-8077-22-6

Publisher: Scientific Area of Environmental Health of Lisbon College of Health Technology

Publisher Prefix: 989-8077

Book in 1 volume, 374 pages

This book contains information obtained from authentic sources.

Reasonable efforts have been made to publish reliable data and information, but the authors, as well as the publisher, cannot assume responsibility for the validity of all materials or for the consequences of their use.

Neither this book nor any part may be reproduced or transmitted in any form or by any means, electronic or physical, including photocopying, microfilming, and recording, or by any information storage or retrieval system, without prior permission in writing from the Scientific Area of Environmental Health of ESTeSL.

All rights reserved. Authorization to photocopy items for internal or personal use may be granted by Scientific Area of Environmental Health of ESTeSL.

Trademark notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation, without intent to infringe.

**ÁREA CIENTÍFICA DE SAÚDE AMBIENTAL
ESCOLA SUPERIOR DE TECNOLOGIA DA SAÚDE DE LISBOA**
Av. D. João II, Lote 6.49.01
1990-096 Lisboa, Portugal

© 2012 by Scientific Area of Environmental Health – ESTeSL
ISBN 978-989-8077-22-6

Multi-residue analysis of 39 pesticides in surface waters of Ria de Aveiro

J.L. Vera^{1,2}, A. Almeida³, J.M. Costa^{3,4}, V.F. Domingues¹, C. Delerue-Matos¹, C. Mansilha*^{4,5}

¹ REQUIMTE, Instituto Superior de Engenharia do Porto, Portugal, ² REQUIMTE, Faculdade de Ciências da Universidade do Porto, Portugal, ³ Centro de Estudos de Ciência Animal (CECA). Vairão, Portugal, ⁴ Instituto Nacional de Saúde Dr. Ricardo Jorge, Porto, Portugal, ⁵ Requitme, Universidade do Porto, Portugal

Corresponding Author: *catarina.mansilha@insa.min-saude.pt

A multi-residue gas chromatography-mass spectrometry method was developed in order to evaluate the presence of 39 pesticides of different chemical families (organophosphorus, triazines, imidazole, organochlorine), as well as some of their transformation products, in surface water samples from Ria de Aveiro. Ria de Aveiro is an estuarine coastal lagoon, located in the northern west region of Portugal, which receives inputs from agriculture, urban and industrial activities. The analytical method was developed and validated according international guidelines and showed good linearity, with correlation coefficients higher than 0.9949 for all compounds, adequate precision and accuracy, and high sensitivity.

Pesticides were chosen from the priority pollutants list of the Directive 2008/105/EC of the European Parliament and of the Council (on environmental quality standards in the field of water policy), or were selected due their common use in agricultural practices. Some of these 39 pesticides are, or are suspected to be, endocrine disruptor compounds (EDCs), being capable of altering the endocrine system of wildlife and humans, causing form malfunction and ultimately health problems. Even those pesticides which are not EDCs, are known to be awfully toxic and have a recognised impact in human health.

The aquatic environment is particularly susceptible to pollution due to intentional and accidental release of chemicals to water [3]. Pesticide contamination of surface water is a national issue as it is often used as drinking water. This concern is especially important in rural agricultural areas where population uses small private water supplies, regularly without any laboratory surveillance.

The study was performed in seven sampling points and the results showed a considerable concern pesticide contamination of all samples.