

## Foreword

**T**his publication has been developed by OECD's Environmental Policy Committee through its Working Party on Resource Productivity and Waste (WPRPW). The individual chapters on recycling, incineration, landfilling and wastewater treatment have been developed by technical experts from Switzerland, Germany, Canada and France. At the OECD Secretariat the project was co-ordinated by Peter Börkey and Shunta Yamaguchi under the supervision of Shardul Agrawala, Head of the Environment and Economy Integration Division.

This work was initiated to attract attention to the potential risks that are linked to the presence of nanomaterials in waste treatment processes. As a first step, a "Scoping Study on Nanowaste" was developed by Jeremy Allan in May 2012 followed by a workshop on "Safe Management of Nanowaste" held in Munich on 9<sup>th</sup>-11<sup>th</sup> May 2012. This workshop contributed to identifying the state of knowledge in this area and led to the development of four reports on specific waste treatment processes of recycling, incineration, landfilling and wastewater treatment, which are presented in this publication.

Along with these efforts, the Working Party on Manufactured Nanomaterials (WPMN) has been investigating the possible impacts of nanomaterials on health and the environment since 2006. In September 2013, the OECD issued a Council Recommendation which suggests that existing regulatory frameworks are generally applicable to address safety assessment of nanomaterials with some possible adjustment required to handle the specificities of nanomaterials. Nevertheless, the OECD Council Recommendation does not imply that current waste management processes and techniques are generally appropriate in addressing potential impacts of nanomaterials. Current waste treatment facilities are not typically designed to handle Waste Containing Nanomaterials (WCNMs), potentially leading to emissions into the environment and the exposure of people to these substances. Therefore, this publication aims to identify the status of knowledge in this area, the knowledge gaps, as well as the areas where further work should be conducted in priority.

Given that the research on nanomaterials is rapidly evolving, this publication aims to deliver a snapshot of the current knowledge on the risks and impacts of nanomaterials entering these waste streams. The current findings are a compilation of intermediate results which are likely to evolve as the science progresses.

The report has been prepared as a joint effort of WPRPW member countries. The OECD Secretariat led the work in finalising the publication and drafted the assessment and recommendations chapter and the executive summary. The individual chapters have been developed by the following authors:

Chapter 1 on assessment and recommendations was prepared by Peter Börkey and Shunta Yamaguchi of the OECD Secretariat.

Chapter 2 on recycling of waste containing nanomaterials was prepared by Mathias Tellenbach from Terra Consult Bern (Switzerland).

Chapter 3 on incineration of waste containing nanomaterials was prepared by Julia Vogel and Benjamin Wiechmann with contributions from Susann Krause, German Federal Environment Agency (UBA).

Chapter 4 on landfilling of waste containing nanomaterials was drafted by Martha King, Jacinthe Séguin and Ashley Hui of Environment Canada.

Chapter 5 on nanomaterials released into wastewater treatment sludge was drafted by Jean-Yves Bottero, research director at the CNRS (National Centre for Scientific Research in France) and director of Labex-SERENADE.

The report also benefitted from extensive comments from OECD's Working Party on Resource Productivity and Waste and the Working Party on Manufactured Nanomaterials, including the country delegations as well as industry, represented by the Business and Industry Advisory Council to the OECD. The OECD Secretariat would like to particularly thank Switzerland, Germany, Canada and France for their intellectual and financial contributions to the work.

### Follow OECD Publications on:



[http://twitter.com/OECD\\_Pubs](http://twitter.com/OECD_Pubs)



<http://www.facebook.com/OECDPublications>



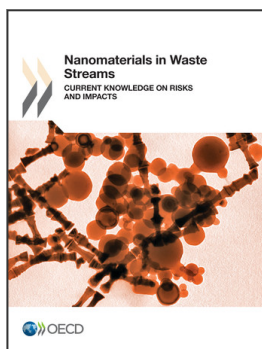
<http://www.linkedin.com/groups/OECD-Publications-4645871>



<http://www.youtube.com/oecdlibrary>



<http://www.oecd.org/oecdirect/>



**From:**  
**Nanomaterials in Waste Streams**  
Current Knowledge on Risks and Impacts

**Access the complete publication at:**  
<https://doi.org/10.1787/9789264249752-en>

**Please cite this chapter as:**

OECD (2016), "Foreword", in *Nanomaterials in Waste Streams: Current Knowledge on Risks and Impacts*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/9789264249752-1-en>

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to [rights@oecd.org](mailto:rights@oecd.org). Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at [info@copyright.com](mailto:info@copyright.com) or the Centre français d'exploitation du droit de copie (CFC) at [contact@cfcopies.com](mailto:contact@cfcopies.com).