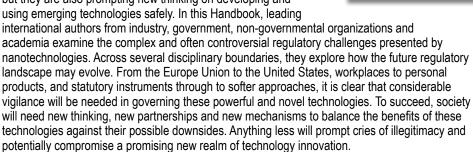
International Handbook on **Regulating Nanotechnologies**

Edited by **Graeme A. Hodge**, Director, Monash Centre for Regulatory Studies. Faculty of Law, Monash University, Australia, Diana M. Bowman, Senior Research Fellow, Centre for Health Policy, Programs and Economics, Melbourne School for Population Health, University of Melbourne, Australia and Andrew D. Maynard, Director, Risk Science Center, University of Michigan School of Public Health, US

'The Handbook's 26 chapters do a remarkable job of capturing the last decade of commentary and policy perspective regarding nano-related environmental health and safety regulatory issues, along with providing some fresh perspectives on where its future might be headed. It is an invaluable primer for those wanting to hear about the issue from some of the most authoritative voices in the area.'

- John C. Monica, Jr., Porter Wright Morris & Arthur LLP

As scientists and technologists discover how to engineer matter at the nanoscale in increasingly sophisticated ways, conventional approaches to ensuring safe use are being brought into question. Nanotechnologies are challenging traditional regulatory regimes; but they are also prompting new thinking on developing and using emerging technologies safely. In this Handbook, leading

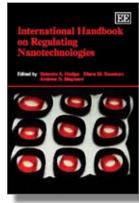


This Handbook draws on contributions from leading nanotechnology regulation scholars around the globe. It goes beyond articulating how certain nanotechnologies are currently regulated and the significance of existing regulatory gaps, to assessing how the future regulatory landscape may evolve. As well as considering potential legislative responses that could be employed by governments, the *Handbook* examines a range of other options available to stakeholders. The Handbook employs new and innovative lenses through which to view these regulatory challenges and by adopting an in-depth, systematic and whole-of-life-approach, synergistically combines contributions from many countries, many fields and many disciplines. Informative and insightful, it presents thought-provoking and stimulating perspectives on the coming nano-age and on how we as citizens will govern its future.

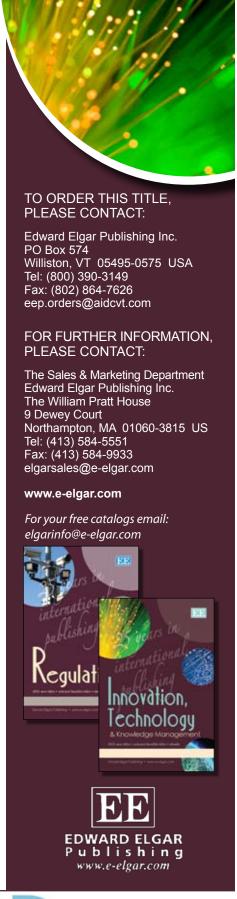
Contributors: K.W. Abbott, R.J. Aitken, J. Altmann, P. Binks, H. Bouwmeester, D.M. Bowman, J. Bradley, L.K. Breggin, R. Brownsword, Q. Chaudhry, J.C. Davies, T.K. Epprecht, R. Falkner, R.S. Gaspar, A. Gergely, A. Grobe, R.F. Hertel, G.A. Hodge, M. Holman, N. Jaspers, A.D. Jones, G. Klein, K. Ludlow, G.N. Mandel, G.E. Marchant, A.D. Maynard, C. Meili, J. Miles, G. Miller, A. Nordmann, J. Pendergrass, S.A.K. Peters, R. Porter, O. Renn, G. Scrinis, V. Stone, D.J. Sylvester, O. Tassinari, C. Toumey, G. van Calster, T. Weidl, M. Widmer, D. Williams, R. Zöllner

January 2011 640 pp Hardback 978 1 84844 673 1 \$299.95 • @ 978 1 84980 812 5

ELGAR ORIGINAL REFERENCE

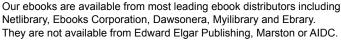














International Handbook on Regulating Nanotechnologies

Edited by Graeme A. Hodge, Diana M. Bowman and Andrew D. Maynard



Contents & Contributors

PART I: CONCEPTS AND FOUNDATIONS

- Introduction: The Regulatory Challenges for Nanotechnologies Graeme A. Hodge, Diana M. Bowman and Andrew D. Maynard
- Philosophy of Technoscience in the Regime of Vigilance Alfred Nordmann
- 3. Tracing and Disputing the Story of Nanotechnology **Chris Toumey**
- 4. The Age of Regulatory Governance and Nanotechnologies Roger Brownsword

PART II: FRAMEWORKS FOR REGULATING NANOTECHNOLOGIES

- 5. Nanotechnology Captured **John Miles**
- The Scientific Basis for Regulating Nanotechnologies
 David Williams
- 7. The Current Risk Assessment Paradigm in Relation to the Regulation of Nanotechnologies
 - Qasim Chaudhry, Hans Bouwmeester and Rolf F. Hertel
- 8. Regulating Risk: The Bigger Picture **Karinne Ludlow** and **Peter Binks**
- Producing Safety or Managing Risks? How Regulatory Paradigms Affect Insurability Thomas K. Epprecht

PART III: CASE STUDIES IN REGULATING NANOTECHNOLOGIES AND NANO-PRODUCTS

- The Evolving Nanotechnology Environmental, Health, and Safety Landscape: A Business Perspective
 Oliver Tassinari, Jurron Bradley and Michael Holman
- Regulation of Carbon Nanotubes and Other High Aspect Ratio Nanoparticles: Approaching this Challenge from the Perspective of Asbestos Robert J. Aitken, Sheona A.K. Peters, Alan D. Jones and Vicki Stone
- 12. Approaching the Nanoregulation Problem in Chemicals Legislation in the EU and US
 - Markus Widmer and Christoph Meili
- A Good Foundation? Regulatory Oversight of Nanotechnologies Using Cosmetics as a Case Study Geert van Calster and Diana M. Bowman
- 14. Therapeutic Products: Regulating Drugs and Medical Devices Rogério Sá Gaspar

- 15. Regulatory Perspectives on Nanotechnologies in Foods and Food Contact Materials
 - Anna Gergely, Qasim Chaudhry and Diana M. Bowman
- Regulation of Nanoscale Materials under Media-specific Environmental Laws
 - Linda K. Breggin and John Pendergrass
- 17. Military Applications: Special Conditions for Regulation Jürgen Altmann
- Regulating Nanotechnology through Intellectual Property Rights Gregory N. Mandel

PART IV: THE FUTURE REGULATORY LANDSCAPE

- 19. The Role of NGOs in Governing Nanotechnologies: Challenging the 'Benefits versus Risks' Framing of Nanotech Innovation Georgia Miller and Gyorgy Scrinis
- Voluntary Measures in Nanotechnology Risk Governance: The Difficulty of Holding the Wolf by the Ears Christoph Meili and Markus Widmer
- 21. The Role of Risk Management Frameworks and Certification Bodies Thorsten Weidl, Gerhard Klein and Rolf Zöllner
- Risk Governance in the Field of Nanotechnologies: Core Challenges of an Integrative Approach Ortwin Renn and Antie Grobe
- International Coordination and Cooperation: The Next Agenda in Nanomaterials Regulation Robert Falkner, Linda K. Breggin, Nico Jaspers,
 - John Pendergrass and Read Porter
- 24. Transnational Regulation of Nanotechnology: Reality or Romanticism? **Kenneth W. Abbott**, **Douglas J. Sylvester** and **Gary E. Marchant**
- From Novel Materials to Next Generation Nanotechnology: A New Approach to Regulating the Products of Nanotechnology J. Clarence Davies

PART V: CONCLUSION

 Conclusions: Triggers, Gaps, Risks and Trust Andrew D. Maynard, Diana M. Bowman and Graeme A. Hodge

Index