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Nota di contenuto	Carbon nanotube structure, synthesis and applications / Charanjeet Singh and Wenhui Song -- The aerodynamic behaviour and pulmonary deposition of carbon nanotubes / Alison Buckley, Rachel Smith and Robert Maynard -- Utilising the concept of the biologically effective dose to define the particle and fibre hazards of carbon nanotubes / Ken Donaldson [and others] -- CNT biopersistence and the fibre paradigm / David B. Warheit, Michael P. DeLorme -- Length-dependent retention of fibres in the pleural space / Craig A. Poland, Fiona A. Murphy, Ken

Donaldson -- Experimental carcinogenicity of carbon nanotubes in the context of other fibres / Klaus Unfried -- Fate and effects of carbon nanotubes following inhalation / Jessica P. Ryman-Rasmussen, Melvin E. Andersen, James C. Bonner -- Responses to pulmonary exposure to carbon nanotubes / Vincent Castranova, Robert R. Mercer -- Genotoxicity of carbon nanotubes / Roel P.F. Schins [and others] -- Carbon nanotube-cellular interactions : macrophages, epithelial and mesothelial cells / Vicki Stone [and others] -- Systemic health effects of carbon nanotubes following inhalation / Jacob D. McDonald, Amie Lund -- Dosimetry and metrology of carbon nanotubes / Lang Tran, Laura MacCalman, Rob Aitken.

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Sommario/riassunto

The widespread and increasing use of carbon nanotubes in scientific and engineering research and their incorporation into manufactured goods has urged an assessment of the risks and hazards associated with exposure to them. The field of nanotoxicology studies the toxicology of nanoparticles such as carbon nanotubes and has become a major growth area aimed towards risk assessment of nanoparticles. Compiled by a team of leading experts at the forefront of research, this is the first book dedicated to the toxicology of carbon nanotubes. It provides state-of-the-science information on how and why they are so potentially dangerous if breathed in, including their similarities to asbestos. The book examines various aspects of carbon nanotubes, from their manufacture and aerodynamic behaviour to their effects at molecular level in the lungs. It is invaluable to the many groups involved with research in this area, as well as to regulators and risk assessors.

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