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Nota di contenuto	Challenges facing the environmental nanotechnology research enterprise / Stacey M. Louie, Amy L. Dale, Elizabeth A. Casman and Gregory V. Lowry -- Engineered nanoparticles for water treatment application / Jeehye Byun and Cafer T. Yavuz -- Mass spectrometric methods for investigating the influence of surface chemistry on the fate of core-shell nanoparticles in biological and environmental samples / S. GokhanElci, Alyssa L. M. Marsico, Yuqing Xing, Bo Yan and Richard W. Vachet -- Separation and analysis of nanoparticles (NP) in aqueous environmental samples / Ralf Kaegi -- Nanocatalysts for groundwater remediation / Kimberly N. Heck, Lori A. Pretzer and Michael S. Wong -- Properties, sources, pathways and fate of nanoparticles in the environment / Yon Ju-Nam and Jamie Lead -- Environmental exposure modeling methods for engineered nanomaterials / Niall J. O'Brien and Enda J. Cummins -- Aggregation kinetics and fractal dimensions of nanomaterials in environmental systems / Navid B. Saleh, A.R.M. Nabiul Afrooz, Nirupam Aich and Jaime Plazas-Tuttle -- Adsorption of organic

compounds by engineered nanoparticles / Bo Pan and Baoshan Xing -- Sorption of heavy metals by engineered nanomaterials / Gangfen Miao, Kun Yang and Daohui Lin -- Emission, transformation and fate of nanoparticles in the atmosphere / Prashant Kumar and Abdullah N. Al-Dabbous -- Nanoparticle aggregation and deposition in porous media / Yao Xiao and Mark R. Wiesner -- Interfacial charge transfers of surface-modified TiO2 nanoparticles in photocatalytic water treatment / Hyunwoong Park --
Chemical transformations of metal, metal oxide, and metal chalcogenide nanoparticles in the environment / T.R. Kuech, R.J. Hamers and J.A. Pedersen -- Fate, behavior and biophysical modeling of nanoparticles in living systems / Emppu Salonen, Feng Ding and Pu Chun Ke -- Subchronic inhalation toxicity study in rats with carbon nanofibers : need for establishing a weight-of-evidence approach for setting no observed adverse effect levels (NOAELs) / D.B. Warheit, K.L. Reed and M.P. DeLorme -- Toxicity of manufactured nanomaterials to microorganisms / Yuan Ge, Allison M. Horst, Junyeol Kim, John H. Priester, Zoe S. Welch and Patricia A. Holden -- Toxicity of engineered nanoparticles to fish / Wei Liu, Yanmin Long, Nuoya Yin, Xingchen Zhao, Cheng Sun, Qunfang Zhou and Guibin Jiang -- Toxicity of engineered nanoparticles to aquatic invertebrates / Denisa Cupi, Sara N. Sorensen, Lars M. Skjolding and Anders Baun -- Effects and uptake of nanoparticles on plants / Arnab Mukherjee, Jose R. Peralta-Videa, Jorge Gardea-Torresdey and Jason C. White -- Feasibility and challenges of human health risk assessment for engineered nanomaterials / Karin Aschberger, Frans M. Christensen, Kirsten Rasmussen and Keld A. Jensen -- Ecotoxicological risk of engineered nanomaterials (ENMs) for the health of the marine environment / Xiaoshan Zhu, Shengyan Tian, Chao Wang, Lihong Zhao, Jin Zhou and Zhonghua Cai.

Sommario/riassunto

Details the source, release, exposure, adsorption, aggregation, bioavailability, transport, transformation, and modeling of engineered nanoparticles found in many common products and applications * Covers synthesis, environmental application, detection, and characterization of engineered nanoparticles * Details the toxicity and risk assessment of engineered nanoparticles * Includes topics on the transport, transformation, and modeling of engineered nanoparticles * Presents the latest developments and knowledge of engineered nanoparticles * Written by world leading experts from prestigious universities and companies.