Nanomedicines ALLIANCE

NanoMed Digest

Nanomedicines Alliance Newsletter
April 2013

REGULATORY AND LEGISLATIVE DEVELOPMENTS

New Nanomaterial Exposure Recommendation from NIOSH

The National Institute for Occupational Safety and Health (NIOSH) has recently recommended that workplace exposure to carbon nanotubes and nanofibers be monitored due to a risk of effects on the lungs. This recommendation is based on research, including studies indicating that these products may pose a respiratory risk if inhaled. NIOSH aims to help the industry establish good risk management practices. Although consumers are unlikely to be exposed to this hazard, manufacturing employees who encounter nanomaterials in "free form" are at risk. The recommendations include establishing strategic approaches for monitoring airborne risk and establishing programs to identify early risks of respiratory disease.
http://www.cdc.gov/niosh/docs/2013-145/pdfs/2013-145.pdf

Assessment of Potential Risks in Nanomaterials

Claims Magazine has published a new article on the risk and liabilities of working with nanomaterials. The article highlights the growing market value of nanomaterials and the need for the industry to stay up-to-date on scientific research and data. It also mentions the lack of national or international nanomaterial registries. Only France has a mandatory nanomaterials registry. Weaknesses in nanotechnology regulation may be addressed by increasing awareness and monitoring of these products.
http://www.innovationsgesellschaft.ch/media/archive2/news/Claim_Article_April2013.pdf

Council of Europe Considers Nanotechnology Regulation

The Council of Europe Parliamentary Assembly is considering a report entitled "Nanotechnology: balancing benefits and risks to public health and the environment." The assembly is evaluating the need for an increased effort to regulate nanotechnology to ensure public health. The report emphasizes the upcoming revolutionary role of nanotechnology in daily life and the need for a harmonized regulatory framework, research, and ethical rules. It is opened for public debate before the parliamentary assembly on April 26.
http://assembly.coe.int/ASP/Doc/XrefViewPDF.asp?FileID=19730&Language=EN

Nanoparticles May Act as Gene Therapy for Parkinson's

Researchers have developed a treatment approach that might be able to halt the development of Parkinson's disease in the body and even reverse its effects. The new approach uses the nasal route to administer a nanoparticle carrying a gene that is capable of saving dying neurons in the brain. The focus of the project is to employ a protein that revitalizes dopamine neurons, which are harmed by Parkinson's. The researchers believe they can greatly expand treatment options for Parkinson's and "many other central nervous system disorders."
http://www.nanowerk.com/news2/newsid=30174.php

Professor Researching Intersection of Chemistry and Nanomedicine

A professor of chemistry at the University of Copenhagen, Morten Meldal, will establish the Evolutionary Chemical Biology research center. He was formerly the head of the Department of Chemistry's Nano-Science Center. With the new research center, Meldal plans to "use chemical methods to investigate biological systems, particularly systems that result in illness." He will employ his background in nanotechnology to investigate the possibility of strengthening pharmaceutical drugs so that they can completely eliminate pathogens inside the body. His grant for research will last five years.
http://www.nanowerk.com/news2/newsid=29876.php

REVIEWS AND OTHER PUBLICATIONS OF INTEREST

Nanomedicine and the complement paradigm. Nanomedicine: Nanotechnology, Biology and Medicine, May 2013, Vol. 9, Issue 4, pp. 458-460. S. Moein Moghimi, Z. Shadi Farhangrazi.
http://www.nanomedjournal.com/article/S1549-9634(13)00077-4/abstract?elsca1=etoc&elsca2=email&elsca3=1549-9634_201305_9_4&elsca4=internal_family_medicine

Advanced nanobiomaterials for tissue engineering and regenerative medicine. Future Medicine, May 2013, Vol. 8, no. 4, pp. 501-503. Chee Kai Chua, Lay Poh Tan, Jia An.
http://www.futuremedicine.com/doi/full/10.2217/nnm.13.52

Elastin-based silver-binding proteins with antibacterial capabilities. Future Medicine, April 2013, Vol. 8, No. 4, pp. 567-575. Truong Thi Hong Anh, Ma Xing, Duc Huynh Tien Le, Ayae Sugawara-Narutaki, and Eileen Fong.
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Advanced biofabrication strategies for skin regeneration and repair. Future Medicine, April 2013, Vol. 8, No. 4, pp. 603-621. Rúben F Pereira, Cristina C Barrias, Pedro L Granja, and Paulo J Bartolo.
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Nanocomposites for bone tissue regeneration. Future Medicine, April 2013, Vol. 8, No. 4, pp. 639-653. Nanda Gopal Sahoo, Yong Zheng Pan, Lin Li, and Chao Bin He.
http://www.futuremedicine.com/doi/full/10.2217/nnm.13.44

Bioresponsive hydrogel scaffolding systems for 3D constructions in tissue engineering and regenerative medicine. Future Medicine, April 2013, Vol. 8, No. 4, pp. 655-668. Ting Ting Lau and Dong-An Wang.
http://www.futuremedicine.com/doi/full/10.2217/nnm.13.32

Nanocarriers as Promising Drug Vehicles for the Management of Tuberculosis. BioNanoScience, April 2013, Anil K. Sharma, Raman Kumar, Bhawna Nishal, Oisik Das.
http://link.springer.com/article/10.1007/s12668-013-0084-7#

Silver Nanoparticles Nanocarriers, Synthesis and Toxic Effect on Cervical Cancer Cell Lines. BioNanoScience, April 2013, Rocio Casañas Pimentel, Eduardo San Martín Martínez, Alberto Monroy García, Consuelo Gómez-García, Quetzaliztli G. Alvarado Palacios.
http://link.springer.com/article/10.1007/s12668-013-0085-6#

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http://link.springer.com/article/10.1007/s12668-013-0087-4

Atomic force microscopy-coupled microcoils for cellular-scale nuclear magnetic resonance spectroscopy. Applied Physics Letters, April 2013, Vol. 102, Issue 14. Charilaos Mousoulis, Teimour Maleki, Babak Ziaie, Corey P Neu.
http://apl.aip.org/resource/1/applab/v102/i14/p143702_s1?isAuthorized=no

Multicompartment Mesoporous Silica Nanoparticles with Branched Shapes: An Epitaxial Growth Mechanism. Science, April 2013, Vol. 340 no. 6130 pp. 337-341. Teeraporn Suteewong, Hiroaki Sai, Robert Hovden, David Muller, Michelle S. Bradbury, Sol M. Gruner, Ulrich Wiesner.
http://www.sciencemag.org/content/340/6130/337

Externally controlled on-demand release of anti-HIV drug using magneto-electric nanoparticles as carriers. Nature Communications, April 2013, Vol. 4, Article no. 1707. Madhavan Nair, Rakesh Guduru, Ping Liang, Jeongmin Hong, Vidya Sagar, Sakhrat Khizroev.
http://www.nature.com/ncomms/journal/v4/n4/full/ncomms2717.html

Diamond-Lipid Hybrids Enhance Chemotherapeutic Tolerance and Mediate Tumor Regression. Advanced Materials, April 2013. Laura Moore, Edward Kai-Hua Chow, Eiji Osawa, J. Michael Bishop, Dean Ho.
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Enzyme-Based Listericidal Nanocomposites. Scientific Reports, April 2013, Vol. 3, Article no. 1584. Kusum Solanki, Navdeep Grover, Patrick Downs, Elena E. Paskaleva, Krunal K. Mehta, Lillian Lee, Linda S. Schadler, Ravi S. Kane, Jonathan S. Dordick.
http://www.nature.com/srep/2013/130402/srep01584/full/srep01584.html

For further information, or if you have any questions about the Nanomedicines Alliance, please contact the Nanomedicines Alliance Secretariat at 1-202-230-5653.

CONFERENCES AND WORKSHOPS

Nano 2013, April 22, 2013, Troy, NY
- Nanotoxicity
- Commercialization for nanotechnology

http://alumni.rpi.edu/s/1225/2col.aspx?sid=1225&gid=1&pgid=1213

Nano4Life 2013, May 15, 2013, London, UK
- Adopting nanotechnologies to advance healthcare
- Regenerative medicine
- Pharmaceutical industry
- Medical devices & diagnostics

https://connect.innovateuk.org/web/nano4life-2013

Symposium: Nanotechnology Platform-based Biomarker Assays at 2013 AAPS, National Biotechnology Conference, May 21, 2013, San Diego, CA
- Nanotechnology in Cancer
- Biomarkers

http://www.nxtbook.com/nxtbooks/aaps/nbc2013_preprogram/#/0

The Accelerating Development of Difficult-to-Deliver Drugs, June 4-6, 2013, Philadelphia, PA
- Nanomaterial for Drug Delivery
- Drug Reformulation
- Imaging
- Advanced Characterization
- Delivery Technology

http://www.worldpharmacongress.com/Formulation-Drug-Delivery/

EuroNanoForum 2013, June 18-20, 2013, Dublin, Ireland
- Bionanotechnology
- Nanomedicines
- Nanosafety

http://www.euronanoforum2013.eu/

Nanoparticles and Nanotechnology in Medicine 2013, June 19-21, 2013, Milan, Italy
- Toxicity
- Curing Alzheimer's disease
- Regenerative medicine
- European legislation

http://npmed13.eu/

Sydney International Nanomedicine Conference, July 1-3, 2013, Sydney, Australia
- Target Delivery
- Sensing
- Diagnostics
- Regenerative Medicine
- Imaging
- Translational Medicine
- NanoSafety

http://www.oznanomed.org/

Cancer Nanotechnology, July 14-19, 2013, West Dover, VT
- Materials synthesis
- Characterization
- Biocompatibility

http://www.grc.org/programs.aspx?year=2013&program=cancnano

Nanocon 2013, October 16-18, 2013, Brno, Czech Republic
- Bionanotechnology
- Antibacterial materials
- Molecular analysis
- Anti-tumor therapy
- Targeted drug transport
- Tissue engineering
- Nano-implants

http://www.nanocon.eu/en/

6th International Symposium on Nanotechnology, Occupational and Environmental Health, October 28-31, 2013, Nagoya, Japan
- Nanomaterial processing and characterization
- Health effects and toxicity
- ADME
- Environmental toxicity
- Risk assessment and management

http://square.umin.ac.jp/nanoeh6/index.html

Carbon-Based Nano-Materials and Devices, November 3-8, 2013, Hualien, Taiwan
- Synthesis of carbon-based nanomaterials
- Characterization and processing of carbon-based nanomaterials
- Devices and Applications of carbon-based nanomaterials
- Multiscale modeling and computation

http://www.engconfintl.org/13ap.html

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REFERENCE SECTION

Nanobio- and Nanomedicine Companies

Listed alphabetically:
http://www.nanowerk.com/nanotechnology/nanomaterial/nanobiomedicine_a.php

Nano Organizations

National Center for Toxicological Research (NCTR):
http://www.fda.gov/AboutFDA/CentersOffices/NCTR/default.htm

National Nanotechnology Initiative (NNI):
http://www.nano.gov/

Nano Science and Technology Consortium (NSTC): http://www.nstc.in/

Nano Science and Technology Institute (NSTI):
http://www.nsti.org/

The Nanotechnology Institute (NTI):
http://nanotechinstitute.org/

Nano Journals

American Chemical Society -- Nano Letters:
http://pubs.acs.org/journal/nalefd

Institute of Physics – Nanotechnology:
http://iopscience.iop.org/0957-4484/

Journal of Nanoscience and Nanotechnology:
http://www.aspbs.com/jnn/

NanoTrends - A Journal of Nanotechnology and its Applications: http://www.nstc.in/journal/default.aspx

BCC Research -- Nanotechnology Reports:
http://www.bccresearch.com/index/category/code/nanotechnology

Nanomedicine: Nanotechnology, Biology, and Medicine: http://www.nanomedjournal.com/home0

Nanomedicine:
http://www.futuremedicine.com/page/about.jsp

Nature Nanotechnology:
http://www.nature.com/nnano/focus/highlights/index.html?WT.mc_id=NM1110CT01

CONTACT

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