NanoMed Digest
Nanomedicines Alliance Newsletter **March 2012**

REGULATORY AND LEGISLATIVE DEVELOPMENTS

News on Nanomaterials Regulation Under REACH

ECHA is preparing to update its Guidance on Information Requirements and Chemical Safety Assessment based on the reports from the European Commission's REACH Implementation Projects on Nanomaterials. These final reports were supported by a broad range of stakeholders and ECHA will utilise them to revise their guideline and ensure appropriate safety assessment of nanomaterials.
More information can be found here:
http://echa.europa.eu/web/guest/view-article/-/journal_content/d2809a13-f2e7-4ce9-9815-c5c7f3f02009

WHO Guidelines on Protecting Workers From Manufactured Nanomaterials

The WHO recently released a draft document entitled "Protecting Workers from Potential Risks of Manufactured Nanomaterials." The guideline aims to improve occupational safety of workers who may potentially be exposed to nanomaterials. The document is based on risk assessment and management, and is open for public comments until 31 March 2012.
The guidelines can be found here:
http://www.who.int/occupational_health/topics/nanotechnologies/en/

FDA Plans to Issue Guidance on Liposome Drug Products

CDER has recently issued a list of new and revised guidance documents they plan to publish in 2012. Among this list is a guidance entitled "Liposome Drug Products: CMC, Human Pharmacokinetic and Bioavailability, and Labeling Documentation."
The full list can be found here:
http://nano.gov/sites/default/files/pub_resource/nrc_and_nni_comparative_quotes_in_lthd_jan_30_2012.doc

Australia Publishes Guidance on Safe Handling and Use of Carbon Nanotubes

Safe Work Australia, an independent agency responsible for improving occupational health and safety, has released a guidance on handling and using carbon nanotubes. The agency issued an information sheet alongside the document that provides an overview of risk management for carbon nanotubes. The guidance document, entitled "Safe Handling and Use of Carbon Nanotubes," outlines in detail two approaches for managing risks associated with carbon nanotubes. The agency states that the guidance is also applicable to other forms of carbon nanofibers, including carbon nanorods and carbon nanowires.
The information sheet can be found here:
http://www.safeworkaustralia.gov.au/AboutSafeWorkAustralia/WhatWeDo/Publications/Documents/663/Safe_Handling%20of%20Nanotubes%20info%20sheet.pdf

The guidance can be found here:
http://www.safeworkaustralia.gov.au/AboutSafeWorkAustralia/WhatWeDo/Publications/Documents/664/Safe%20Handling%20and%20Use%20of%20Carbon%20Nanotubes.pdf

Safe Implementation of Innovative Nanoscience and Nanotechnology (SIINN ERA-NET) First Call

SIINN ERA-NET promotes the safe and swift applications of European research to industrial nanoscience and nanotechnology. ERA-NETs are projects funded by the EC under the 7th Framework Programme which aims to connect national or regional research programs. The first joint call for transnational projects of the SIINN ERA-NET is now open, and proposals are due by 5 June 2012.
More information can be found here:
http://www.siinn.eu/en/joint-calls/2012-first-siinn-call/,51

National Nanotechnology Coordination Office Welcomes New Director

The National Nanotechnology Coordination Office (NNCO) has appointed Dr. Robert Pohanka as the new Director of the NNCO. Dr. Pohanka was previously the Director of the Defense Venture Catalyst Initiative, where he developed strategies for transitioning private sector technologies to DoD Research, Development, and Acquisition.
More information can be found here:
http://www.nano.gov/node/772

France Publishes Response to Public Nano Debate

The French government has recently issued its response to the public debate on nanotechnology that was held from 15 October 2009 to 24 February 2010. The response first notes that 10% of funding for nanotechnology under the "plan de relans" (re-launch plan) is dedicated for societal and health aspects. The document then outlines main points: 1) robust research of the issues and risks associated with nanomaterials and nanotechnology; 2) responding to public request for information on nanotechnology and its applications; and 3) connecting the different stakeholders associated with nanotechnology.
The full response can be found here:
http://www.developpement-durable.gouv.fr/IMG/pdf/Les_engagements_du_Gouvernement_sur_les_suites_a_apporter_au_debat_public_relatif_au_developpement_et_a_la_regulation_des_nanotechnologies.pdf

REVIEWS AND OTHER PUBLICATIONS OF INTEREST

Nanoparticles Release Drugs on Demand. Chemical & Engineering News, 13 March 2012. Jeffrey M. Perkel.
http://cen.acs.org/articles/90/web/2012/03/Nanoparticles-Release-Drugs-Demand.html

Entropy-Driven Single Molecule Tug-of-War of DNA at Micro-Nanofluidic Interfaces. Nano Letters, 14 March 2012, Vol. 12, No. 3, pp.1579-1602. Jia-Wei Yeh, Alessandro Taloni, Yeng-Long Chen, and Chia-Fu Chou.
http://pubs.acs.org/doi/pdf/10.1021/nl2045292

Full Surface Embedding of Gold Clusters on Silicon Nanowires for Efficient Capture and Photothermal Therapy of Circulating Tumor Cells. Nano Letters, 14 March 2012, Vol. 12, No. 3, pp. 1638-1642. Gyeong-Su Park, Hyuksang Kwon, Dong Wook Kwak, Seong Yong Park, Minseok Kim, Jun-Ho Lee, Hyouksoo Han, Sung Heo, Xiang Shu Li, Jae Hak Lee, Young Hwan Kim, Jeong-Gun Lee, Woochul Yang, Hoon Young Cho, Seong Keun Kim, and Kinam Kim.
http://pubs.acs.org/doi/pdf/10.1021/nl2045759

Delivery of Large Molecules via Poly(butyl cyanoacrylate) Nanoparticles into the Injured Rat Brain. Nanotechnology, 27 April 2012, Vol. 23, No. 16. Yong Lin, Yaohua Pan, Yinfeng Shi, Xianjian Huang, Nengqin Jia, and Ji-yao Jiang.
http://iopscience.iop.org/0957-4484/23/16/165101/pdf/0957-4484_23_16_165101.pdf

Nanoscale Surface Modification Favors Benign Biofilm Formation and Impedes Adherence by Pathogens. Nanomedicine: Nanotechnology, Biology, and Medicine, April 2012, Vol. 8, No. 3. Barbara W. Trautner, Analette I. Lopez, Amit Kumar, Danish M. Siddig, Kershena S. Liao, Yan Li, David J. Tweardy, Chengzhi Cai.
http://www.nanomedjournal.com/article/PIIS1549963411005995/fulltext

Review: Iron Oxide Nanoparticles for Targeted Cancer Imaging and Diagnostics. Nanomedicine: Nanotechnology, Biology, and Medicine, April 2012, Vol. 8, No. 3. Joshua E. Rosen, Lorena Chan, Dar-Bin SHieh, Frank X. Gu.
http://www.nanomedjournal.com/article/S1549-9634(11)00354-6/abstract

In vitro and In Vivo Evaluation of the Inflammatory Response to Nanoscale Grooved Substrates. Nanomedicine: Nanotechnology, Biology, and Medicine, April 2012, Vol. 8, No. 3. Ediwn Lamers, X. Frank Walboomers, Maciej Domanski, Ljupcho Prodanov, et al.
http://www.nanomedjournal.com/article/S1549-9634(11)00266-8/abstract

A Lipo-PEG-PEI Complex for Encapsulating Curcumin that Enhances its Antitumor Effects on Curcumin-Sensitive and Curcumin-Resistance Cells Nanomedicine: Nanotechnology, Biology, and Medicine, April 2012, Vol. 8, No. 3. Yu-Ling Lin, Yen-Ku Liu, Nu-

Man Tsai, Jui-Hung Hsieh, et al.
http://www.nanomedjournal.com/article/S1549-9634(11)00264-4/abstract

Antibacterial Activity, Inflammatory Response, Coagulation, and Cytotoxicity Effects of Silver Nanoparticles. Nanomedicine: Nanotechnology, Biology, and Medicine, April 2012, Vol. 8, No. 3. Fidel Martinez-Gutierrez, Emily P. Thi, Judith M. Silverman, Carolina Camargo de Oliveira, et al.
http://www.nanomedjournal.com/article/S1549-9634(11)00267-X/abstract

Are High Drug Loading Nanoparticles the Next Step Forward for Chemotherapy? Nanomedicine, March 2012, Vol. 7, No. 3, pp. 303-305. Joseph Della Rocca, Demin Liu, Wenbin Lin. .
http://www.futuremedicine.com/doi/pdf/10.2217/nnm.11.191

Challenges Posed by the Scale-Up of Nanomedicines. Nanomedicine, March 2012, Vol. 7, No. 3, pp 307-309. Madaswamy S Muthu, Barnabas Wilson.
http://www.futuremedicine.com/doi/pdf/10.2217/nnm.12.3

Review: Tapping the Potential of Quantum Dots for Personalised Oncology: Current Status and Future Persepctives Nanomedicine, March 2012, Vol. 7, No. 3, pp. 411-428. Chuang Chen, Jun Peng, Sheng-Rong Sun, Chun-Wei Peng, Yan Li, Dai-Wen Pang.
http://www.futuremedicine.com/doi/pdf/10.2217/nnm.12.9

Review: Advances in Molecular Imaging: Targeted Optical Contrast Agents for Cancer Diagnostics. Nanomedicine, March 2012, Vol. 7, No. 3, pp. 429-445. Anne Hellebust, Rebecca Richards-Kortum.
http://www.futuremedicine.com/doi/pdf/10.2217/nnm.12.12

Review: Nanoparticles for Cancer Therapy Using Magnetic Forces. Nanomedicine, March 2012, Vol. 7, No. 3, pp.447-457. Rainer Tietze, Stefan Lyer, Stephan Durr, Christoph Alexiou.
http://www.futuremedicine.com/doi/pdf/10.2217/nnm.12.10

CONFERENCES AND WORKSHOPS

BioNanoMed 2012. March 1-2, 2012, Krems, Austria
- Personalized medicine
- Cancer
- Regenerative medicine
- Diagnostics and therapy
- Multidisciplinary nano-technologies

http://www.bionanomed.at/

Nanotechnology, Biotechnology, and Spectroscopy International (ICNBS 2012) March 1-3, 2012, Cairo, Egypt
- Nanotechnology
- Biotechnology
- Spectroscopy

http://ises-nakaa-conf.webs.com/

EEE International Conference on Nano/Micro Engineered and Molecular Systems March 5-8, 2012, Kyoto, Japan
- Nanomaterials
- Carbon nanotube based devices and systems
- Molecular sensors, actuators, and systems
- MEMS/NEMS and molecular sensors
- Micro and nano heat transfer
- Nanobiology, bio-informatics, nanomedicine
- Micro/nano sensors and actuators

http://www.ieee-nems.org/2012/general_info/introduction/

NANO 2012 March 12-14, 2012, Omaha, NE
- Nanotech biomarker detection
- Applications of nanotechnology
- Drug delivery
- Nanotechnology
- Nano-arrays for cancer
- Nanomedicine
- Nano-sensors
- Nano-electronics
- Nano-devices

http://www.omicsonline.org/nano2012/

International Symposium on Innovative Nanobiodevices, March 21-22, Nagoya, Japan
- Nanopore DNA sequencing
- Biomedical applications of nanobiodevices
- Nanobiodevice based diagnosis of infectious diseases, cancer, and common diseases
- Nanobiodevice based biomarker detection of blood, urea, and exhalation
- Clinical regulations and international standardization of nanobiodevices

http://square.umin.ac.jp/isin2012/index.html

International Symposium on Assessing the Economic Impact of Nanotechnology, March 27-28, 2012, Washington, DC
- Input and output factors
- Role of research funding

International cooperation
Public-private partnerships
Venture capital
Patents and publications
http://www.nano.gov/node/729

Nanomedicine: Visions, Risks, Potential. April 19-20, 2012, Berlin, Germany
Will discuss trends in nanotechnological methods in medical applications, focusing on both scientific and technical aspects.
http://www.nanodiara.eu/spring-conference-2012/

Safety Issues and Regulatory Challenges of Nanomaterials, May 3-4, 2012, San Sebastian, Spain
Four EU projects: Four different ways to approach nanosafety
Regulatory testing of nanomaterials and international dimension
Challenges in nanosafety research: new materials and detection technologies
Nanomaterials interactions with living systems
Exposure and risk assessment of nanomaterials
Life cycle assessment analysis and end of life processes sustainability for nanotechnology-based products
http://www.leitat.org/nanoLCA/

The Joint European Summit for Clinical Nanomedicine 2012 (CLINAM 2012). May 7-9, 2012, Basel, Switzerland
Clinical trials for nanomedicines
Regulation, toxicology, ethics, sustainability
Transition from research to industrial products
Strategic instruments in nanomedicines
http://www.clinam.org/conference.html

Nanobio-Europe 2012, June 18-20, 2012, Varese, Italy
Nano-enabled drug delivery
Nanotechnology for medical applications
In vivo imaging
Biomarkers and nanoparticles
Cell analysis and manipulation
Sensors and actuators
Bioanalytics
Bio-nano materials and tissues
http://nanobio-europe-2012.jrc.ec.europa.eu/

3rd International NanoMedicine Conference, July 2-4, 2012, Sydney, Australia
Target delivery
Sensing
Diagnostics
Regenerative medicine
Imaging
Translational medicine
Safety
http://www.oznanomed.org/

9th International Conference on Nanosciences & Technologies, July 3-6, 2012, Thessaloniki, Greece
Nanotechnology in biology
Nanostructures for medical applications
Cell/Nanomaterial interactions
In-vitro and in-vivo diagnostics
Targeted drug delivery
Regenerative nanomedicine
Nanotoxicity, risk assessment, and ethics
Nanomedicine commercialization
http://www.nanotexnology.com/index.php?option=com_content&view=article&id=48&Itemid=60

Working Safely with Nanomaterials. July 6, 2012, Edinburgh, Scotland.
Nanomaterials categories
Nano toxicology/hazard banding
Nano controls/monitoring
Nano health surveillance
http://www.bohs.org/Events/WorkingwithNanomaterials/

77th Prague Meetings on Macromolecules: Polymers in Medicine. July 8-12, 2012, Prague, Czech Republic
Polymers for Nanomedicine
Stimuli responsive polymers
Polymers for Advanced Drug Delivery
Polymers for Biomedical Applications
Biomaterials for Tissue Engineering
http://www.imc.cas.cz/sympo/pmm2012/

Colloids and Nanomedicine 2012. July 15-17, 2012, Amsterdam, Netherlands.
Biomaterials
Tissue engineering and regenerative medicine
Drug delivery
Biosensors
Toxicology and risk assessment of nanomedicine systems
Proteins and peptides at interfaces
Soft matter, surfactants, polymers in biological systems
Novel phenomena and techniques
http://www.colloidsandnanomedicine.com/index.html

Drug Carriers in Medicine & Biology, August 12-17, 2012, Waterville Valley, NH
Vascular delivery, targets and barriers
Translational studies, clinical trials, and combination therapies
Local, pulmonary, GI, and CNS delivery
Emerging technologies, materials, carriers, and mechanisms

Carriers for vaccines and antigen delivery
Intracellular delivery, trafficking and cellular barriers
Biological response to delivered drugs and genes
http://www.grc.org/programs.aspx?year=2012&program=drugcarr

IEEE Nano 2012 Conference, August 20-23, 2012, Birmingham, UK
Nanobiomedicine
Nanosensors
Nanoplasmonics
http://www.ieee.org/conferences_events/conferences/conferencedetails/index.html?Conf_ID=19746

European Congress of Molecular Spectroscopy, August 26-31, 2012, Cluj-Napoca, Romania
Spectroscopic methods and techniques
Computational and theoretical approaches
Structure and dynamics of molecular systems
http://www.nanowerk.com/nanotechnology-event.php?eventid=3484

Nanosafe 2012, November 13-15, 2012, Grenoble, France
Exposure assessment
Characterisation, detection, and monitoring
Nanomaterials life cycle
Toxicology
Environmental impact
Nanoparticle release from consumer products
Personal protective equipment
Secure industrial production
Safety parameters evaluation
Standardisation, regulations
http://www.nanosafe.org/scripts/home/publigen/content/templates/show.asp?P=121&L=EN&ITEMID=65

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/home
Nanomedicine:
http://www.futuremedicine.com/page/about.jsp
Nature Nanotechnology:
http://www.nature.com/nnano/focus/highlights/index.html?WT.mc_id=NM1110CT010

CONTACT

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