

Nanomaterials Information Call-In

Submitted Information for the Carbon Nanotube Information Call-in Companies that Missed the January 22, 2010 Deadline Nanometals and Nanometal Oxides Of Interest Carbon Nanotubes Information Call-in Reference Documents

Submitted Information for the Carbon Nanotube Information Call-in

On January 22, 2009, DTSC sent a <u>formal information request letter</u> to manufacturers who produce or import carbon nanotubes in California, or who may export carbon nanotubes into the State. The letter also outlined the time frame that manufacturers are required to respond under the law. Please refer to the section entitled "Carbon nanotube information call-in" on this page for more background information.

Company Name	Date Submitted	Submitted Response
Ahwahnee Technology		Out of business
American Elements	9/14/2009	Link to document
Bayer MaterialSciences, LLC.	1/20/2010	Link to document
Carbon Solutions, Inc.	1/21/2010	Link to document
Carbolex, Inc.		Out of business
California Institute of Technology	1/20/2010	Link to document
California State University (CSU)	9/14/2009	Link to document
Cheap Tubes	3/1/2010	Link to document
Cnano Technology, Limited	1/18/2010	Link to document
ELORET Corporation	3/8/2010	Link to document

Lawrence Berkeley National Laboratory (LBNL)	1/11/2010	Link to document
Lawrence Livermore National Laboratory (LLNL) UPDATED	3/25/2010	Link to document
Molecular Nanosystems, Inc.	12/22/2009	Link to document
Nanomix	2/16/2010	Link to document
NASA Ames Research Center	1/26/2010	Link to document
San Jose State University	6/17/2009	Link to document
Santa Clara University	3/8/2010	Link to document
Stanford Materials, Inc.	1/27/2010	Link to document
Stanford University	12/23/2009	Link to document
Sun Innovations (formerly Sun Nano)	12/23/2009	Link to document
University of Affiliated Reseach Center UARC/NASA Ames	3/4/2010	Link to document
Unidym, Inc.	1/21/2010	Link to document
University of California (UC)	1/19/2010	Link to document
University of Southern California (USC)	1/13/2010	Link to document

Companies that Missed the January 22, 2010 Deadline

Company Name	Proposed Submittal Date	Contact Information
Apex Nanomaterials	Out of business	7909 Silverton, Suite 208 San Diego, CA 92126 e-mail: <u>sales@apexnanomaterials.com</u> Phone: (877)-576-6038
Graphene Solutions, LLC	Company claims it does not maunfacture CNT in California. No written response provided.	P.O. Box 417 Platteville, WI 53818 e-mail: <u>hamilton@uwplatt.edu</u> Phone: (608) 467-5396

Nanometals and Nanometal Oxides Of Interest

The Department is interested in requesting information regarding analytical test methods, fate and transport in the environment, and other relevant information from manufacturers of reactive nanometal oxides. Some possible nanometal oxides the Department is interested in include aluminum oxide, silicon dioxide, titanium dioxide, and zinc oxide. <u>DTSC is also adding nano silver, nano zerovalent iron, and cerium oxide to the list of nanomaterials of interest.</u> This announcement of intent does not represent a formal information request. The Department seeks the voluntary early engagement with "manufacturers" and/or submission of information to help shape further steps in the process. We seek input from all levels; from nanomaterial manufacturing to use in final product. The Department welcomes any comments or suggestions regarding which nanomaterial or nanometal oxides should be included in our review. Please send your comments or suggestions via e-mail to:

- Dr. Neena Sahasrabudhe at <u>nsahasra@dtsc.ca.gov</u>
- Dr. Hai-Yong Kang at <u>hkang@dtsc.ca.gov</u>
- Hamid Saebfar at <u>hsaebfar@dtsc.ca.gov</u>
- DTSC Nanotechnology Listserv at <u>nanotechnology@dtsc.ca.gov</u>

or mail them to:

Department of Toxic Substances Control P.O. Box 806 MS 12-A Sacramento, CA 95812-0806

Carbon Nanotubes Information Call-in

This notice serves to announce that the Department of Toxic Substances Control (DTSC) has requested information regarding analytical test methods, fate and transport in the environment, and other relevant information from manufacturers of carbon nanotubes. The term "manufacturers" includes persons and businesses that produce <u>Carbon nanotubes</u> in California or import carbon nanotubes into California for sale. The purpose of this information request will be to identify information gaps and to develop information about carbon nanotubes, an important emerging nanomaterial.

DTSC will exercise its authority under *Health and Safety Code*, Chapter 699, sections 57018-57020. These sections were added as a result of the adoption of <u>Assembly Bill (AB) 289 (2006)</u>. They are intended to make relevant information on the fate and transport, analysis, and other information on chemicals more available. The law places the responsibility to provide this information to the Department on those who manufacture or import the chemicals.

Carbon nanotubes (CNTs) are of interest to DTSC because they are in use commercially and because data on analytical methods, toxicity, physicochemical properties, and fate and transport are largely unavailable. Recent research on the potential impacts to the environment, workers and the public have highlighted some potential areas in manufacturing issues and fate and transport that DTSC should consider. One study by Massachusetts Institute of Technology (MIT) detected 15 different aromatic hydrocarbons including 4 different polyaromatic hydrocarbons (PAHs) when they manufactured CNTs from a carbon vapor source using chemical vapor deposition. Another study by researchers at the Georgia Institute of Technology found that the fate of CNTs spilled into groundwater and the ability of municipal filtration systems to remove CNTs from drinking water is dependent on the characteristics of the water such as pH, natural organic content, etc. The chemical call-in program will help develop the existing body of information on carbon nanotubes and will identify gaps in the existing information that could be filled to better protect human health and the environment.

On October 31st, 2008, the U.S. EPA issued a <u>Federal Register notice regarding carbon nanotubes</u> (<u>CNTs</u>). The notice reminds manufacturers and importers that they must notify EPA 90 days prior to the manufacture or import of new chemical CNTs for commercial purposes, in accordance with TSCA Section 5 regulations for new chemicals at 40 C.F.R. 720.22.

On January 22, 2009, DTSC sent a <u>formal information request letter</u> to <u>manufacturers who produce or</u> <u>import carbon nanotubes in California, or who may export carbon nanotubes into the State</u>. The letter also outlined the time frame that manufacturers are required to respond under the law.

On June 22, 2009, DTSC hosted a roundtable discussion on the carbon nanotube information call-in during the <u>IANANO Nano Biotech Conference</u>. DTSC provided this opportunity to the CNT industries who received the January 22, 2009 request letter to discuss their progress.

On December 3, 2009, DTSC participated in a webinar hosted by McKenna, Long, & Aldrich, LLP for the Carbon Nanotube Coalition. The purpose of the webinar was to consider <u>what might be included in the submissions of manufacturers and industrial users of carbon nanotubes when responding to DTSC</u>, and to consider what that information will convey to the public and to those considering using this new technology. The meeting also provided an opportunity to hear from and ask questions of DTSC about this data call-in and what it means for future regulatory considerations in California.

On January 22, 2010, California manufacturers and importers of carbon nanotubes were required to submit their responses to DTSC's formal information request. On January 25, 2010, DTSC posted the responses received to date along with a list of companies who failed to respond to the information request.

On February 16, 2010, DTSC issued <u>a follow-up letter</u> to the companies that failed to submit a response to the formal information request.

Reference Documents

- ->> Existing Body of Information on Carbon Nanotubes
- ->> Formal CNT Request Letter
- Mailing List for Formal CNT Request Letter
- ->> Follow-up Letter for Companies that Failed to Respond to the Initial Formal CNT Request
- DTSC Fact Sheet: Chemical Information Call-in NEW!
- <u>DTSC Fact Sheet:
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