Dragon, Karen E. (CDC/NIOSH/EID)

From: Materna, Barbara (CDC cdph.ca.gov)
Sent: Friday, February 18, 2011 6:57 PM
To: NIOSH Docket Office (CDC)
Cc: CDPH Center for Chronic Disease Prevention and Health Promotion; CDPH EODC Division Office ; Shusterman, Dennis (CDPH-DEODC); Harrison, Robert; Roisman, Rachel (CDPH-DEODC-OHB); Beckman, Stella (CDPH-DEODC-OHB)
Subject: Docket Number NIOSH 161-A
Attachments: CDPH Nanotech comments NIOSH Docket 161-A 2-18-11.pdf; CDPH Nanotech comments NIOSH Docket #161-A 2-18-11.doc

The California Department of Public Health, Occupational Health Branch, respectfully submits the following technical assistance comments to Docket Number NIOSH-161-A, regarding the Draft Current Intelligence Bulletin, "Occupational Exposure to Carbon Nanotubes and Nanofibers," and the Federal Register Notice 75(246): 80819-80820 announcing the availability of this draft document. I have attached our comments in both pdf and Word versions. Thank you for the opportunity to comment.

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State of California—Health and Human Services Agency
California Department of Public Health

MARK B HORTON, MD, MSPH
Director

EDMUND G. BROWN JR.
Governor

RE: Docket Number NIOSH-161-A
Draft Current Intelligence Bulletin
Occupational Exposure to Carbon Nanotubes and Nanofibers

Draft Document for Public Comment

Submitted February 18, 2011

California Department of Public Health (CDPH), Occupational Health Branch (OHB)

CDPH provides the following technical assistance in response to the National Institute for Occupational Safety and Health (NIOSH) request regarding Docket Number NIOSH-161-A, published December 23, 2010, in Federal Register 75(246), pages 80819-80820 (Notice).

The Occupational Health Branch (OHB) of CDPH prevents occupational injury and illness through a non-regulatory program of public health surveillance, investigation, technical assistance, research, and education. OHB programs conduct surveillance of a variety of work-related injuries and illnesses including work-related asthma, occupational lead, traumatic fatalities, carpal tunnel syndrome, and occupational pesticide illness. OHB has also been at the forefront of efforts to track emerging workplace hazards such as those posed by flavor manufacturing chemicals including diacetyl.[1] OHB is interested in health and safety issues related to the use of carbon nanotubes (CNT) and nanofibers (CNF) since we recognize that they represent a potential emerging workplace hazard. The enclosed comments focus primarily on the draft Bulletin's sections on medical screening and surveillance, and future research needs.

CDPH supports the perspective proposed by NIOSH in the draft Current Intelligence Bulletin, specifically, that until research studies better identify inhalation toxicity from CNT and CNF, "steps should be taken to minimize CNT and CNF exposures of all workers and to implement an occupational health surveillance program that includes elements of hazard and medical surveillance." We also agree with the NIOSH approach to use both medical screening and exposure registries to obtain additional information about health effects and exposures in worker populations.

However, the draft Bulletin addresses hazard and medical surveillance only at the level of the employer and in this way misses the opportunity to adopt a public health approach to this potential emerging hazard. Public health surveillance is the ongoing systematic collection,

[1] Kim TJ, Materna BL, Prudhomme JC, Fedan KB, Enright PL, Sahakian NM, et al. Industry-wide medical surveillance of California flavor manufacturing workers: Cross-sectional results. *Am J Ind Med.* 2010;53(9):857-65.

analysis, and interpretation of health data for the purpose of improving safety and health, and dissemination and use of data is a key component.[2,3] We suggest that the aggregation and analysis of these data could support public health follow-up actions at the state or national level.

1. Identification of *workplaces* where CNT and CNF are used is a critical first step in characterizing the potential hazards posed by these products. We suggest that NIOSH identify mechanisms to track workplaces where CNF and CNF materials are handled, and the types, quantities, and uses of these products, in order to identify potentially high-risk worksites or industries where prevention efforts should be directed.

2. The need to collect and aggregate the data from medical surveillance efforts, and to provide some kind of public health analysis/review in order to identify trends across workplaces, should be described and encouraged in the draft Bulletin.

3. The draft Bulletin contains no recommendations in the event that abnormalities are discovered in the process of medical surveillance. We suggest that NIOSH identify reportable conditions (e.g., chronic lung disease), that medical providers and employers should be encouraged to report to appropriate public health authorities if they identify them in individuals who work with nanomaterials. In addition, the draft Bulletin should remind medical providers to follow state-specific laws related to mandatory reporting of suspected occupational injuries and illnesses.

4. The utility and importance of establishing exposure registries for workers exposed to nanomaterials has been described previously.[4,5] The recommendations for exposure registries in the draft Bulletin should be expanded to include detailed recommendations for how exposure registries could be established, a list of reportable exposures (or exposure levels) that should be reported to public health authorities, and encouragement for employers to participate.

In summary, CDPH supports the implementation of the Current Intelligence Bulletin with consideration of the additional elements we have suggested. We appreciate the opportunity to comment and look forward to discussing and developing these ideas further with our NIOSH colleagues. Please contact Rachel Roisman, M.D., M.P.H., Public Health Medical Officer, at Rachel.Roisman@cdph.ca.gov or (510) 620-3606 for any questions regarding these comments.

Sincerely,

Barbara Materna, Ph.D., CIH, Chief
Occupational Health Branch

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[2] National Institute for Occupational Safety and Health (NIOSH). NIOSH Safety and Health Topic: Surveillance. Accessed at http://www.cdc.gov/niosh/topics/surveillance February 2011.
[3] Halperin W, Baker EL eds: *Public Health Surveillance*. New York: Van Nostrand Reinhold, 1992.
[4] Trout DB, Schulte PA. Medical surveillance, exposure registries, and epidemiologic research for workers exposed to nanomaterials. *Toxicology*. 2010;269:128-135.
[5] Schulte PA, Trout D, Zumwalde RD, Kuempel E, Geraci CL, Castranova V, et al. Options for occupational health surveillance of workers potentially exposed to engineered nanoparticles: State of the science. *J Occup Environ Med.* 2008;50(5):517-526.