

CARBON NANOTUBES AND NANOFIBERS: NIOSH SEEKS COMMENT ON DRAFT RECOMMENDATIONS, RESEARCH NEEDS

The National Institute for Occupational Safety and Health (NIOSH) today invited public comment on a draft document, “Current Intelligence Bulletin: Occupational Exposure to Carbon Nanotubes and Nanofibers.”

For public review and comment, the draft document summarizes current scientific knowledge about the occupational safety and health implications of carbon nanotubes and carbon nanofibers, and recommends an occupational exposure limit and measures for controlling work-related exposures to those types of nanomaterials, based on the current state of knowledge. The draft document also suggests areas where further research is vital for more certainty in assessing potential risk of adverse health effects for workers in the manufacture and industrial use of carbon nanotubes and carbon nanofibers.

The draft document is available at www.cdc.gov/niosh/docket/review/docket161A/ for written public comment until February 18, 2011. NIOSH also announced that it will hold a public meeting to discuss and obtain comments on February 3, 2011, in Cincinnati, Ohio.

“As nanotechnology becomes more widely used and as public awareness grows, employers, workers, and health and safety professionals all increasingly seek guidance on measures for controlling occupational exposures,” said NIOSH Director John Howard, M.D. “These diverse stakeholders agree that the prudent stewardship of nanotechnology is essential for public acceptance and U.S. competitiveness in the global market.

“Meeting this need poses a tremendous challenge for scientists,” Dr. Howard noted. “As we continue the research necessary for understanding the unique properties and implications of nanomaterials, we are also tasked by the fact that nanomaterials are already being produced and used in the workplace, where workers may be exposed to them. This is particularly true of carbon nanotubes and carbon nanofibers, which are currently used in numerous industrial and biochemical applications. We invite public comment on the draft Current Intelligence Bulletin to help us develop final recommendations.”

The draft document includes, for comment:

- A recommendation that employers minimize work-related exposures until scientific studies can fully clarify the physical and chemical properties of carbon nanotubes and carbon nanofibers that define their potential for adverse occupational health effects through inhalation. The draft document recommends a strategic approach for assessing potential work-related exposures and risks, controlling exposures through a hierarchy of measures, instituting appropriate medical screening programs, and educating workers on sources and job tasks that may expose them to these types of nanomaterials.

(more)



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- A recommended exposure limit (REL) of 7 micrograms of carbon nanotubes or carbon nanofibers per cubic meter of air as an eight-hour, time-weighted average, respirable mass concentration. This is the concentration that can most reliably be measured with current instrumentation. The draft document states, “NIOSH recognizes that the REL may not be completely health protective but its use should help lower the risk of developing [work-related] lung disease and assist employers in establishing an occupational health surveillance program that includes elements of hazard and medical surveillance.” The draft document recommends that airborne concentrations should be reduced as low as possible below the REL by making optimal use of sampling and analysis.

NIOSH has worked with its partners to advance strategic research on the occupational health and safety aspects of nanotechnology for more than six years, and has published numerous studies, recommendations, and scientific methods in this pioneering area. The NIOSH web page at www.cdc.gov/niosh/nanotech provides a portal to these and other resources.

NIOSH is the federal agency that conducts research and makes recommendations for preventing work-related injuries and illnesses. It was created under the Occupational Safety and Health Act of 1970 and is part of the U.S. Centers for Disease Control and Prevention. More information about NIOSH can be found at www.cdc.gov/niosh.

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