CPWR THE CENTER FOR CONSTRUCTION RESEARCH AND TRAINING TOOLBOX TALK

# Introduction: Nano-Enabled Construction Materials

***Nanomaterials are very small. They are many times thinner than a human hair. Materials that contain engineered nanomaterials are called nano-enabled. Nano-enabled construction materials can be self-cleaning, insulating, fire resistant, stronger, and anti-corrosive. Engineered nanomaterials can be found in many products, including paints and coatings, cement, insulation, roofing, and lubricants. When workers cut, grind, sand or spray nano-enabled materials, dust or mist containing the engineered nanomaterial gets into the air that workers breathe. Some nanomaterials cause health problems in test animals. Many have not been thoroughly tested. There is no specific OSHA standard or exposure limit for engineered nanomaterials. However, other OSHA standards, like the respiratory protection or hazard communication standards, may apply.***

## Dave's Story

Dave has heard that some of the construction materials he and his co-workers cut and spray might contain something called an engineered nanomaterial. He knows that when they work with these materials the dust or mist gets in the air they breathe. He is concerned that breathing in this dust or mist could damage his health. Dave wants to know how he can find out if any of the construction materials he uses contain engineered nanomaterials.

- **Have you ever worked with a nano-enabled construction material? If yes, how did you know?**
- **How could you find out if a construction material is nano-enabled?**
- **How could you find out what OSHA standards may apply if a material is nano-enabled?**

## Remember This

- Ask your employer if any materials you are working with are nano-enabled.
- Check the material's label or ask your employer for the safety data sheet (SDS). Be aware this information may not be reported by the manufacturer on the label or SDS.
- Use CPWR's electronic Library of Construction Occupational Safety and Health's section on nano (http://nano.elcosh.org) to search for the material you are using in the inventory of nano-enabled materials.
- Visit the National Institute for Occupational Safety and Health (NIOSH) web page for information on nanotechnology: https://www.cdc.gov/niosh/topics/nanotech/default.html
- Read the OSHA fact sheet on nanomaterials (https://www.osha.gov/Publications/OSHA_FS-3634.pdf) and the list of OSHA standards that may apply when working with nanomaterials (https://www.osha.gov/dsg/nanotechnology/nanotech_standards.html)

## How can we stay safe today?

What will we do at this worksite to find out if the materials being used are nano-enabled?

1. _____

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2. _____

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