CPWR THE CENTER FOR CONSTRUCTION RESEARCH AND TRAINING TOOLBOX TALK

Spray Painting and Sanding Nano-Enabled Paint

Nano-enabled products contain very small engineered nanomaterials. Adding them to construction products can make them stronger or protect them from the sun. Nanomaterials are many times thinner than a human hair. Nano titanium dioxide is a common nanomaterial added to paints. Workers can breathe in nanomaterials when they spray, sand or disturb nano-enabled paint.

The National Institute for Occupational Safety and Health (NIOSH) believes nano titanium dioxide might be harmful to workers because it causes lung damage and cancer in lab animals. NIOSH has a recommended exposure limit for nano titanium dioxide. OSHA has no specific standard for engineered nanomaterials, but other standards, like respiratory protection or hazard communication, may apply.

Frank's Story

Frank is using an airless sprayer and a new paint that contains nano titanium dioxide to paint wooden siding. Once the paint dries, one of his co-workers will sand the paint with an orbital sander. Frank knows spraying creates mist and sanding creates dust. He is concerned that breathing mist or dust containing engineered nanomaterials could damage his health and the health of his co-worker

- **What could be done to prevent the mist and dust from getting into the air?**
- **How could you find more information about the nano-enabled paint?**

Remember This

- NIOSH has a recommended exposure limit for nano titanium dioxide.
- Connect a hose on your orbital sander to a vacuum with a HEPA filter. This system will capture the dust before it gets in the air. Otherwise, capture it with the dust collection bag that came with the sander.
- Use a respirator to protect yourself from paint mist while spraying and dust while sanding. Your employer is responsible for providing you with the right type of respirator as part of a full respiratory protection program required by OSHA. N95 or P100 filters effectively capture nanomaterials.
- Try to work upwind when spraying paint to reduce exposure to mist. Rotate with other painters to reduce exposure.
- Ask your employer if the product you are working with is nano-enabled. Look for this information on the product label and the safety data sheet. You can also check CPWR's nano product inventory: http://nano.elcosh.org. Be aware that this information is often missing
- Wear goggles or a face shield to protect your eyes from the dust or mist.
- Wear gloves and disposable clothing when spray painting.
- Use hearing protection to prevent hearing loss when using an orbital sander.

How can we stay safe today?

What will we do to prevent exposure to mist or dust from nano-enabled paint?

1. _____
   _____
2. _____
   _____

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- Use an orbital sander attached to a vacuum with a HEPA filter to capture the dust before it gets into the air.
- Use a respirator when spray painting and while sanding if the vacuum alone does not capture enough of the dust.
- Wear goggles or a face shield to protect your eyes from the dust and hearing protection to prevent hearing loss.