

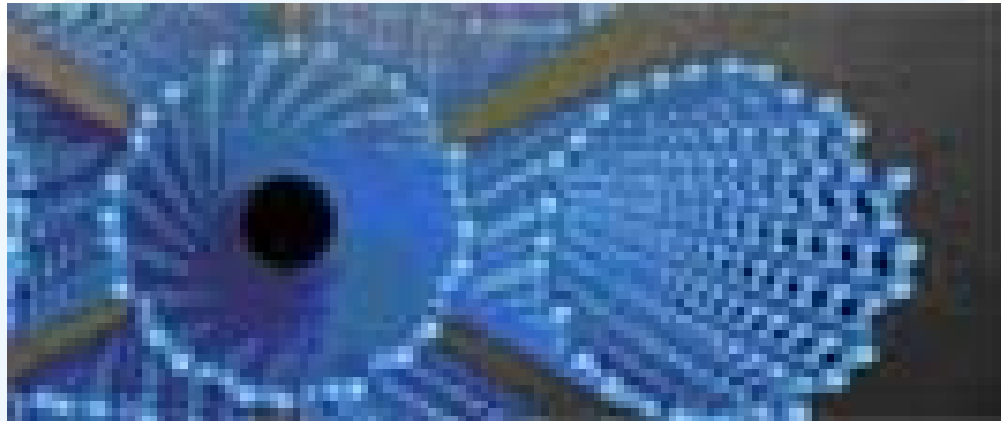
The image features the OSHA logo prominently in the center. The logo consists of a stylized 'O' with a blue and white circular design inside, followed by the letters 'S', 'H', and 'A' in a white, serif font. A registered trademark symbol (®) is located to the upper right of the 'A'. The background is a close-up, slightly blurred view of the stars and stripes of the United States flag, with the stars appearing in the upper half and the stripes in the lower half.

OSHA[®]

**Occupational Safety
and Health Administration**

Nanomaterials

OSHA's Approach to Protecting Workers from Potential Hazards



NanoBusiness Alliance Roundtable
March 17, 2010



Framework of Existing Requirements

- General Duty Clause
- Standards applicable to nanomaterials
 - Hazard Communication
 - Personal Protective Equipment
 - Respiratory Protection
 - Laboratory Standard
 - Substance-specific standards



General Duty Clause

Requires employers to maintain a workplace “free from recognized hazards that are causing or are likely to cause death or serious physical harm” to employees



Hazard Communication

29 CFR 1910.1200

- Requires chemical manufacturers and importers to evaluate the hazards of chemicals they produce
- Hazard information conveyed to downstream users through labels and material safety data sheets (MSDSs)
- Training of workers required to ensure they understand chemical hazards and protective measures



Personal Protective Equipment

29 CFR 1910.132 (General Requirements)

- Covers use of protective clothing and equipment where necessary to protect against workplace hazards
- Requires:
 - Hazard assessment to determine need for PPE
 - Selection of appropriate PPE
 - Training



Respiratory Protection

29 CFR 1910.134

- Respirators required when necessary to protect the health of employees
- Employer must establish and implement a written respiratory protection program addressing:
 - selection of respirators
 - medical evaluations
 - fit testing
 - proper use, maintenance, and care
 - training



Hazardous Chemicals in Laboratories

29 CFR 1910.1450

- Covers laboratory use of hazardous chemicals
- Requires:
 - Development of a chemical hygiene plan containing SOPs, exposure control methods, use of PPE
 - Assignment of a Chemical Hygiene Officer
 - Training



Substance-Specific Standards

29 CFR Subpart Z

- Includes permissible exposure limits (PELs) for over 400 chemicals, including titanium dioxide, graphite, and silver
- Comprehensive standards for some chemicals, such as cadmium



Outreach and Guidance Activities

- Nanotechnology Safety and Health Topics Webpage at <http://www.osha.gov/dsg/nanotechnology/nanotechnology.html>
- Guidance on evaluation of nanomaterials for classification in accordance with OSHA's Hazard Communication Standard



Questions?



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The logo for the Occupational Safety and Health Administration (OSHA) is displayed against a background of a stylized American flag. The letters 'OSHA' are rendered in a bold, white, serif font with a 3D effect. The letter 'O' is unique, featuring a blue and white circular design. A registered trademark symbol (®) is positioned to the upper right of the letter 'A'.

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