

Panel - Applying the Canadian Chemicals Management Framework to Nanomaterials

Troy Winters

Senior Health & Safety Officer
Canadian Union of Public Employees
Vice Chair, CSA Technical Committee
OHS - Nanotechnology

Overview

- Quantifying Hazards and Risks
- Controlling Hazards and Risks
- Standards Development in Canada around Nanomaterials
- Broader Issues and Questions



Health Risks of Nanomaterials

To quantifying the human health risks, we need to answers many questions, including:

- How can the material enter the body?
- Where does it go and how does it change once it gets there?
- What aspects of the material end up causing harm?
- How much material is needed for serious harm to occur?
- How should the toxicity of the material be assessed?
- How will people end up being exposed to the material?
- How should exposure be measured?
- Can exposures be adequately controlled?
- What about downstream effects?



But the number one question for workers??

- Are these types of materials even in my workplace??
- Perceived lack of requirements should not equal lack of action...

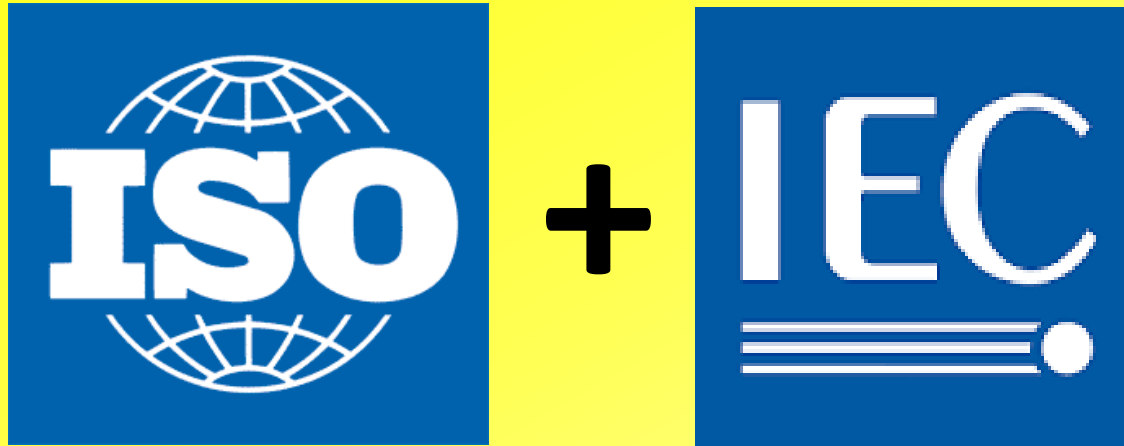


Control

- Elimination (including substitution)
- Substitution
- Engineering techniques
- Administrative means
- Personal protective means



Standards and Standards Bodies



Canadian Standards

CSA Z12885-12 Nanotechnologies - Health and safety practices in occupational settings relevant to nanotechnologies

CAN/CSA-ISO/TR 13121:13 Nanotechnologies - Nanomaterial risk evaluation

CAN CSA-Z13329 15 Nanomaterials - Preparation of safety data sheets (SDSs)

CAN/CSA-Z12901-2:15 Nanotechnologies - Occupational risk management applied to engineered nanomaterials—Part 2: Use of the control banding approach



CSA Z12885-12

- CSA Z12885-12 is based on ISO/TR 12885:2008 – the **first** WG3 OHS standard from ISO/TC229
- Significantly different with CAN/CSA Z1000, Occupational Health and Safety (OHS) Management framework
- Added Canada-generated content, related to OHS nano-research in Canada



CAN/CSA-ISO/TR 13121:13

The contents include:

- Nanomaterials' properties, hazards and exposure
- Evaluating and managing risks
- Deciding, acting, reviewing and adapting
- Informative annexes including:
 - Physical and chemical properties
 - Tiered testing approach
 - Health and environmental hazard data
 - Output worksheet and other reference material



CSA Z13329-15 (SDS)

- Provides guidance on the development of safety data sheets (SDSs) for manufactured nanomaterials (and materials or products that contain manufactured nanomaterials), and provides additional information on safety issues associated with manufactured nanomaterials.



CSA Z12901-15 Control banding

- As the risk from new nanomaterials is frequently unknown, the standard, unlike many other models recommends the highest control for unknown chemicals.

