

14 NANOMATERIALS IN THE WORKPLACE

ANSWERS—QUIZ 1

1. a
2. b
3. a
4. a
5. a
6. b
7. b
8. a
9. d
10. d
11. c
12. d
13. c
14. Reasonable steps that might be taken to avoid fire and explosion hazards when working with nanoparticles include identifying properties that contribute to dustiness, combustibility, flammability, and conductivity of the materials; recommending alterations in work practices; and developing a disposal protocol of the materials.
15. Regulatory agencies, which currently exists, that warrant close attention as the issues of nanomaterials move to the forefront are OSHA, NIOSH, and the EPA.
16. From an occupational safety perspective, it is important to examine the toxicity and dose data from the vendor as well as from other sources because short and long-term effects of nanoparticles in the workplace may be significantly different from the effects of larger particles. These effects may pose risks to organs and tissue and it is important to create and integrate models to assist in assessing possible hazards.
17. Steps that should be taken to prepare the workplace for exposure to nanomaterials include: determining key factors that influence production, dispersion, accumulation, and reentry of materials in the workplace; assessing possible exposure when materials are inhaled and settled on the skin; determining how possible exposures differ by work processes; and determining what happens to nanomaterials when they enter the body.
18. Risk assessment is key to a defensible justification for introducing nanomaterials in the workplace because it is necessary to identifying and evaluating potential occupational hazards.
19. Steps that may be taken to monitor the results of nanomaterials in the workplace include: evaluating any existing studies that may involve nanomaterials; identifying knowledge gaps in which these studies could advance and create new studies; integrating nanotechnology health and safety issues into existing hazard surveillance methods; and using existing systems to share data about nanotechnology.
20. Employers have both a legal and practical obligation to use protections that will prevent avoidable harm to their workers regarding nanomaterials just as they should prevent physical hazards such as a falling scaffold. Some controls that should be in place include: ventilation and respiration protections, clean rooms, face shields, personal protective clothing, etc.