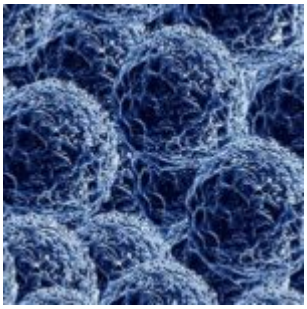
Take 6 Steps to Protect Workers from Nanoparticles



Not all of the safety hazards in the workplace are visible to the naked eye. In fact, some of them are very, very small.

Case in point: Nanoparticles, microscopic particles that are between one to 100 nanometres in diameter, thickness or total size. These tiny particles are used in a wide range of products from fabric and electronics to cosmetics, cleaning supplies and paint.

Exposure to nanoparticles can pose health risks to workers. For example, one study found ties between exposure to nanoparticles and autoimmune diseases.

Because of their size, protecting workers from the hazards posed by nanoparticles is especially challenging. But the European Agency for Safety and Health at Work recently released guidance for employers, OHS professionals and workers on the safe use of nanomaterials.

The guidance offers an overview of the issues surrounding the safe use of nanomaterials in the workplace, sets out the broad outlines of preventive action and provides a practical tool for complying with specific aspects of ensuring workers' safety, such as risk assessment and risk management.

You must obviously comply with any requirements pertaining to nanoparticles or nanomaterials in the OHS laws in your jurisdiction. But the guidance's recommendations provide a

general process to help you comply with such requirements.

The guidance recommends a six-step approach:

Step #1: Identify nanomaterials. First, determine whether there are any nanoparticles or nanomaterials present in the workplace. You should consult any MSDSs (or SDSs) for substances or mixtures. If you're uncertain whether a substance contains nanoparticles, contact the supplier.

S**tep #2: Conduct hazard assessment.** If there are any nanoparticles or nanomaterials present in the workplace, assess whether they pose a hazard to your workers. For example, nanoparticles may endanger workers if they're inhaled, absorbed through the skin or ingested, among other things.

Step #3: Conduct exposure assessment. A key part of any risk assessment is a thorough understanding of the exposure potential for workers. For each nanomaterial, determine the workplace activities and other foreseeable events (such as spills or equipment failures) that could potentially release the materials and thus expose workers to them.

Step #4: Categorize the risk. That is, determine how serious of a risk nanomaterials pose to workers together with the level of exposure to such materials.

Step #5: Conduct a detailed risk assessment. It's important to assess potential exposure quantitatively and verify the adequacy of engineering controls, such as ventilation.

Step #6: Manage the identified risks. As with any workplace hazard, apply the hierarchy of safety controls to eliminate or minimize the risks that nanomaterials pose to workers, with PPE be the safety measure of last resort.