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Control Banding Nanotool: Evaluation of a qualitative risk assessment method for the control of nanoparticulate exposures

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Title:

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Abstract:

Control Banding strategies offer a simplified control of worker exposures when there is an absence of firm toxicological and exposure information. The nanotechnology industry fits this classification as there are overwhelming uncertainties of work-related health risks posed by nanomaterials. Many experts have suggested Control Banding as a solution for these issues. A recent survey shows a majority of nanomaterial users are not performing a basic risk assessment of their product in use. A Control Banding Nanotool has been developed and implemented to afford a qualitative risk assessment toward the control of nanoparticle exposures. The international use of the Control Banding Nanotool reflects on both its need and its possibilities. By developing this dynamic Control Banding Nanotool within the realm of the scientific information available, this application of Control Banding appears to be a useful approach for assessing the risk of nanomaterial operations. This success can be seen in providing recommendations for appropriate engineering controls, facilitating the allocation of resources to the activities that most need them, and initiating an appropriate discussion of these risks with non-experts. Experts have requested standardization of toxicological parameters, affording better utility and consistency of research. This database of toxicological research findings should be harnessed and presented in a format feeding directly into the Control Banding Nanotool severity and probability risk matrix. Making the latest research available for experts and practitioners alike will provide the best protection of workers in the nanotechnology industries. This presentation will also show the science behind the simplified Control Banding Nanotool approach, its structure, weighting of risks, utility for exposure mitigation, and the research needs to bolster its effectiveness.

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