

Society For Risk Analysis Annual Meeting 2010

Risk Analysis in Action

Poster Session: Exposure Assessment

P.47 Occupational Exposure to Diacetyl and Potential Health Effects: A Weight of Evidence Analysis .
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Abstract: Since investigating potential health hazards of the Gilster-Mary Lee sentinel plant in 2000, the National Institute of Occupational Safety and Health (NIOSH) has conducted an additional 12 cross-sectional industrial hygiene and medical investigations in microwave popcorn, flavorings manufacturing, bakery, and commercial kitchen facilities. The conclusions offered in these NIOSH reports suggest that respiratory disorders are elevated in certain workers and that diacetyl appears to be a potential causative agent. We performed a weight of evidence analysis reviewing the existing animal toxicology and epidemiology studies for diacetyl and artificial butter flavoring substitutes, and completed a detailed analysis of the relevant NIOSH Health Hazard Evaluation (HHE) reports conducted to date. We conclude that there are still unresolved and significant gaps in the understanding of the health effects of diacetyl, and that as a result, definitive conclusions regarding its inhalational toxicity for occupationally-exposed workers are difficult to offer. Areas of future research that we feel would address these information gaps are discussed.