

Preventing Lung Disease in Workers Who Use or Make Flavorings

WARNING!

Breathing certain flavoring chemicals in the workplace may lead to severe lung disease.

Flavorings are complex mixtures of natural and manmade ingredients that are added to many food products in the production process. Depending on the flavoring and the process, workers may be exposed to hazardous flavorings or flavoring ingredients in the form of vapors, dusts, or sprays.

Workers who make, use, or work near flavorings or flavoring ingredients should take the following steps to protect their health:

- Ask your supervisor for training on the hazards associated with the flavorings and ingredients.
- Read labels on containers and material safety data sheets (MSDSs) on the flavorings and ingredients.
- Know and use the exposure control devices and work practices that keep flavorings and ingredients out of the air in your workplace.
- Keep containers of flavorings and chemical ingredients tightly closed when not in use so that their contents do not get into the workplace air.
- Understand when and how to wear a respirator (protective breathing mask) and other personal protective equipment (such as gloves and eye goggles) that your employer may provide.

- Participate in breathing tests provided by your employer.
- Promptly report any persistent shortness of breath or cough, or any problems with your eyes, nose, throat, or skin to your supervisor and your doctor. When you report your symptoms, show them a copy of this Alert.

Companies that use or make flavorings should take the following steps to protect the health of their workers:

- Limit hazardous worker exposures:
 - Consider substitution of less hazardous flavoring ingredients or formulations where feasible.
 - Use closed production processes (i.e., avoid handling of open containers of flavorings and ingredients).
 - Apply effective local exhaust ventilation as well as general dilution ventilation in places where flavorings or their ingredients are handled.
 - Isolate mixing and other high-exposure processes from the rest of the workplace and maintain these work areas under negative air pressure.
 - Use the lowest temperatures necessary if heated processes are used.
 - Establish and enforce work practices to limit release of chemical vapors and dust into the workplace air.

- Monitor air concentrations of flavoring ingredients to assure that control efforts are limiting exposures.
- Train workers on the potential for lung disease and other health effects from exposure to flavoring-related chemicals and on ways exposure can be avoided or minimized.
- Assure appropriate labeling of containers and posting of warnings.
- Provide workers with appropriate respiratory protection if they are at risk for hazardous respiratory exposure to flavorings or their ingredients
 - while optimal exposure controls are being implemented,
 - when controls are not working properly because of a breakdown or maintenance procedures, and
 - when even the lowest exposures that can be achieved are still associated with potential risk.
- Provide workers with other appropriate personal protective equipment (e.g., gloves, masks, and goggles) if they are at risk for hazardous eye and skin exposure.
- Provide breathing tests (spirometry) before the first exposure, and on a regular basis thereafter, to all workers at risk of hazardous exposure to flavorings or their ingredients. Refer workers for evaluation by a physician if they have abnormal test results, an accelerated drop in test results over time, or persistent symptoms.
- Assess the patterns of reported symptoms and lung function results among the entire workforce to identify work areas, processes, or exposures that may require more intensive intervention to prevent further adverse health effects.

For additional information, see ***NIOSH Alert: Preventing Lung Disease in Workers Who Use or Make Flavorings*** [DHHS (NIOSH) Publication No. 2004-110]. Single copies of the Alert are available free from the following:

NIOSH—Publications Dissemination
 4676 Columbia Parkway
 Cincinnati, OH 45226-1998

Telephone: 1-800-35-NIOSH (1-800-356-4676)
 Fax: 513-533-8573
 E-mail: pubstaft@cdc.gov

or visit the NIOSH Web site at www.cdc.gov/niosh

Department of Health and Human Services
 Centers for Disease Control and Prevention
 National Institute for Occupational Safety and Health

