

ALERT: FOOD WORKERS BEWARE SOME FLAVORINGS CAN BE DANGEROUS



Inhaling certain flavoring chemicals have been found to cause permanent lung disease in workers.

WHY ARE FOOD FLAVORINGS A PROBLEM FOR FOOD INDUSTRY WORKERS?

Some chemicals may be present in food flavorings that can cause permanent lung damage when inhaled. This danger initially became public when federal investigators identified a serious lung disease in workers exposed to a chemical known as diacetyl, which is used in butter-flavored popcorn production. Workers are also at risk from airborne exposure to other flavoring chemicals used in various settings in the food industry, including coffee roasting plants, bakeries and candy factories.

The flavoring chemicals known to cause lung disease are:

- diacetyl, CAS No. 431-03-08 (2,3-butanedione)
- acetyl propionyl, CAS No. 600-14-6 (2,3-pentanedione)
- acetyl butyryl, CAS No. 3848-24-6 (2,3-hexanedione)
- acetyl valeryl, CAS No. 96-04-8 (2,3-heptanedione)

Although there are recommended guidelines for some flavoring chemicals,

THERE ARE NO KNOWN SAFE LEVELS.

Any potential exposures should be considered hazardous and appropriate precautions should be taken.

PRODUCTS THAT MAY CONTAIN CHEMICALS POTENTIALLY HARMFUL TO WORKERS:

- Flavored Popcorn (both microwaved and bagged)
- Coated snacks such as cheese-flavored chips, crackers and butter pretzels
- Refrigerated dough products
- Baked goods such as bread, rolls, crackers and biscuits
- Butter flavorings and starter distillates
- Fruit flavorings
- Dry mixes
- Coffee and flavored coffee creamers
- Pet foods
- Candies
- Cooking oils (butter flavored)
- Vegetable shortening, margarines and other butter substitutes
- Dairy products
- Other food items with flavorings as an ingredient

SYMPTOMS

HOW DO I KNOW IF I AND/OR MY CO-WORKERS HAVE BEEN AFFECTED?

Symptoms are not present in all cases, and can vary in severity. Symptoms may include:

- Shortness of breath
- Chronic coughing
- Wheezing
- Extreme fatigue
- Trouble with strenuous tasks
- Fever, muscle aches, night sweats, and weight loss
- Frequent or persistent eye, nose, throat or skin irritation

WHAT TYPES OF LUNG PROBLEMS CAN FLAVORING CHEMICALS CAUSE?

There is evidence that flavoring chemicals can cause disabling lung problems such as:

- Emphysema
- Asthma
- Bronchiolitis obliterans
- Hypersensitivity pneumonitis
- Granulomatous disease
- Interstitial lung disease

HOW CAN WORKERS BE TESTED TO SEE IF THEY HAVE HEALTH PROBLEMS CAUSED BY FLAVORING CHEMICALS?

Any of the symptoms noted above and reported by workers should be considered danger signs of possible flavoring-related disease.

Initial screening of workers can be performed by health care workers using lung function tests. Actual diagnoses of lung impairments related to flavoring chemicals needs to be done by qualified Occupational Health Physicians.

WHAT CAN I DO?

WHAT CAN WORKERS AND THEIR REPRESENTATIVES DO TO MAKE THE WORKPLACE SAFE FROM FOOD FLAVORING CHEMICALS?

Seek early treatment. The longer you have symptoms without getting help, the harder they can be to treat successfully. Health care professionals, attorneys and health and safety advocates can all be helpful resources.

Find a doctor who understands work-related health problems. Provide information (including this factsheet) to your doctor about the possible causes of lung problems caused by flavoring chemicals at your workplace.

Work with others at your workplace to ensure that your exposure to the hazard is eliminated or reduced.

Ask for information about flavoring chemicals from your union, health and safety committee, or worker center.

Ask your employer to provide you with information and training about the chemicals you are being exposed to. *You have legal rights under OSHA to receive information and training about workplace hazards and chemicals.*

Request that your employer take immediate steps to protect workers from exposure (see Controls section) and most importantly—*don't do it alone!* Find out if your co-workers have similar problems, and if so, work on next steps together.

Protect your legal rights. If you have been affected by these or other health hazards in your workplace, consult a knowledgeable attorney to find out if you may have a potential worker's compensation claim or third-party lawsuit.

Lung diseases related to flavoring may be initially misdiagnosed as another disease or complication such as asthma or COPD. It is important to inform your physician about your workplace and potential exposures to ask questions about a lung-related diagnosis. Encourage co-workers to do the same.



CONTROLS

HOW CAN FOOD FLAVORING EXPOSURES BE CONTROLLED IN WORKPLACES?

There are many resources to assist workplaces in preventing hazardous exposure to flavoring chemicals. The most common control methods, listed in order of effectiveness:



Engineering Controls

- Use a ventilated booth or partial enclosure to collect dust and vapors during manufacturing or packaging operations.
- Isolate the mixing area from the rest of the plant.
- Provide mechanical or pneumatic assistance with bag and sack handling.



Administrative and Work Practices

- Use a closed process wherever possible to transfer flavoring ingredients instead of manual pouring.
- Establish standard procedures for cleaning containers and mixing tanks.
- Establish a hazard communication program that meets the requirements of the OSHA hazard communication standard [29 CFR 1910.1200] and the Globally Harmonized System of Classification and Labeling of Chemicals [OSHA 2006].
- Establish standard procedures for cleaning up all spills, whether small or large, wet or dry.



Personal Protective Equipment

- Establish a respiratory protection program that meets OSHA requirements.
- Monitor each process and provide respiratory protection whenever possible exposure to potentially harmful flavoring chemicals exists.
- Use chemical resistant gloves and eye protection.

ADDITIONAL RESOURCES:

BEST PRACTICES: Engineering Controls, Work Practices, and Exposure Monitoring for Occupational Exposures to Diacetyl and 2,3-Pentanedione, DHHS (NIOSH) Publication No. 2015-197, available online at: www.cdc.gov/niosh/docs/2015-197/pdfs/2015-197.pdf

NIOSH and Milwaukee Journal Series

www.jsonline.com/watchdog/gasping-for-action-322988651.html

LEARN MORE

WHO CAN I CONTACT IF I THINK THERE'S A PROBLEM IN MY
WORKPLACE OR WANT MORE INFORMATION?

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National COSH is a federation of local and state Coalitions on Safety and Health (COSH) groups, including labor unions, community advocates, health and technical professionals, and others interested in promoting and advocating for worker health and safety.



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This information is jointly provided by NCOSH and Motley Rice, a law firm dedicated to helping workers affected by workplace-related diseases.