



Coffee Processing and Lung Disease

December 21, 2016

Attention: Coffee Roasters and other businesses where unflavored or flavored coffee is processed

Two potentially harmful chemicals, diacetyl and 2,3-pentanedione, are created and escape into the air as vapor while unflavored or flavored coffee beans are roasted. Both chemicals continue to vaporize from beans as they are ground, stored, and packaged.

Recent results from air testing done in several states show that workers' airborne exposures to either chemical can exceed recommended safety limits - especially during grinding and hand-packaging activities. High exposures can also occur at "micro" roasters where smaller batches (e.g., 70-lbs) of beans are processed.

Workers who breathe air with diacetyl and 2,3-pentanedione above recommended safety limits may be at risk for obliterative bronchiolitis, a serious and often debilitating lung disease. Symptoms may include cough, shortness of breath on exertion, and sometimes wheezing; but some individuals can have lung damage and not know it until breathing tests (e.g., spirometry) are conducted. Nationally, 5 former workers of a facility that processes flavored and unflavored coffee have been diagnosed with obliterative bronchiolitis.



Air testing results show that substantial amounts of potentially harmful diacetyl and 2,3-pentanedione vapor are released when unflavored coffee beans are processed.

Businesses can have air testing done (e.g., conduct personal air monitoring) to learn if a problem exists.

If potentially harmful amounts of diacetyl and/or 2,3-pentanedione vapor are found, safety improvements can reduce vapor levels and protect workers from possible harm. Coffee processing workers with suspect respiratory symptoms can see an occupational physician to get evaluated.

To learn more about this hazard issue, visit:

- **[Respiratory Disease and Coffee Processing: Precautionary Guidance for Employees and Employers \(fact sheet from University of Washington\)](#)**
- **[NIOSH Science Blog: Coffee Workers at Risk for Lung Disease](#)**
- **[NIOSH Flavoring-related Lung Disease](#)**

[Get 1-on-1 assistance from L&I](#) or visit L&I's [Safety & Health webpage](#) for training, videos, and other resources to help strengthen your safety program.

Share this bulletin with others in your industry and safety network.

*This bulletin was developed by L&I's Division of Occupational Safety and Health (DOSHS) to alert employers, labor groups, and employees to potential hazards associated with work activities. **This is not a rule and creates no new legal obligations.** The information provided includes suggested guidance on how to avoid workplace hazards and describes relevant mandatory safety and health rules. DOSHS recommends you also check related rules for additional requirements.*