

DISINFECTANTS AND WORK-RELATED ASTHMA: INFORMATION FOR EMPLOYERS

Some ingredients found in disinfectants and sanitizers can trigger work-related asthma. They may also cause new asthma. Avoid ingredients that are known to cause asthma, like bleach (sodium hypochlorite), quaternary ammonium compounds (benzalkonium chlorides), and glutaraldehyde. Disinfectants and sanitizers are classified as pesticides so there are extra regulations to keep in mind—the label must be followed exactly. Usually, regular cleaning with asthma-safer cleaners and microfiber is adequate to maintain a clean and healthy workplace. Disinfecting is often unnecessary.



Photo: Custodian using a microfiber cloth

WHAT IS WORK-RELATED ASTHMA?

Asthma is a chronic lung disease where the flow of air is decreased, making it hard to breathe. Asthma is work-related when it is caused or made worse by something at work. Symptoms can start right after an employee breathes in a substance or hours after leaving work. Sometimes a person can suddenly develop work-related asthma from substances they have worked around for years. An employee experiencing wheezing, chest tightness, cough, shortness of breath, or difficulty breathing should be seen by a doctor. The employee should tell the doctor if exposures at work seem to increase or cause the symptoms. Work-related asthma can be serious. The earlier the exposure is stopped, the more the person's asthma can improve.

WORK-RELATED ASTHMA IN CALIFORNIA

The Work-Related Asthma Prevention Program (WRAPP) tracks information about Californians with asthma related to their work and helps reduce asthma in the workplace. WRAPP has found over 250 work-related asthma cases associated with disinfectant exposures in many indoor work settings—including schools, hospitals, offices, and manufacturing.

CASE REPORTS

Use of disinfectant sent a fellow employee to the emergency room

A 48-year-old woman with asthma worked as an office clerk at a training center. A coworker sprayed a disinfectant to clean a reception counter near the office clerk's desk. The office clerk right away began having severe asthma symptoms and had to be taken to the hospital by ambulance. To prevent another reaction, the office changed products, but used an even stronger disinfectant. The clerk had to go to the emergency room again. The office finally switched to non-disinfectant cleaning products that are safer for the clerk's asthma.

A medical records clerk developed asthma from disinfectant wipes

A 57-year-old woman worked as a medical records clerk and had no history of asthma. A coworker repeatedly used disinfectant wipes on their shared workstation, and the clerk developed asthma that worsened over several months. Her asthma was triggered whenever anyone used a disinfectant in her area. She had to leave her job due to her breathing problems.

Avoid Disinfectant Wipes That Contain Asthmagens

Often, disinfectant wipes are used when water with a paper towel or cloth would do, like for cleaning up a coffee spill. Having disinfectant wipes at hand makes it more likely that they will be overused or misused. Most of these wipes contain asthmagens, chemicals that can cause asthma even in people who have never had asthma before. The most common chemicals in wipes are called “quats,” or quaternary ammonium compounds, which have names like “alkyl dimethyl benzyl ammonium chloride,” “benzalkonium chlorides,” “benzyl-C10-16-alkyldimethyl chlorides,” and similar sounding names. Wipes can also contain bleach or glutaraldehyde, which are asthmagens. If you must use a disinfectant wipe, find one that does not contain asthmagens (see second and third bullets below).

AS AN EMPLOYER, WHAT CAN I DO TO PREVENT ASTHMA FROM DISINFECTANTS?

- Only disinfect or sanitize when necessary, such as when required by the health code or by regulations like the Cal/OSHA Bloodborne Pathogen Standard.
- If a disinfectant must be used, choose asthma-safer products: products with the active ingredients hydrogen peroxide, citric acid, lactic acid, ethyl alcohol, isopropyl alcohol, sodium bisulfate, or products authorized by the U.S. EPA’s Design for the Environment (see link below in Additional Resources).
- Avoid products that contain bleach (sodium hypochlorite), quaternary ammonium compounds (benzalkonium chlorides), peroxyacetic acid (peracetic acid), and glutaraldehyde.
- Educate employees about the health effects of the products they use and train them how to use the products properly, according to the product label and Safety Data Sheet. Provide and ensure workers wear the label-required personal protective equipment when they are using chemicals.
- Optimize building ventilation to bring in adequate fresh air, especially during cleaning activities.



Photo: Custodian reading disinfectant label

New Requirements for Disinfectant Use in California Schools and Child Care

Under the California Healthy Schools Act, disinfectants, like other pesticides, require special training for use in a public school or child care center. Any school staff member or school volunteer who uses disinfectants, including disinfectant wipes, is required to take a Department of Pesticide Regulation-approved training **annually**. Having disinfectants within the reach of children violates the product label, which is against the law. Surface disinfectants must never be used by children, or to clean skin, including hands. Most of the time regular cleaning is adequate to keep a classroom healthy and safe. If disinfectants are needed, such as for cleaning up blood or vomit, this should be done by a custodian trained to use hazardous products properly.

[Healthy Schools Act training website:](http://apps.cdpr.ca.gov/schoolipm/training/main.cfm)

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ADDITIONAL RESOURCES

[The U.S. EPA’s Design for the Environment Antimicrobial Pesticide Pilot Project’s products’ website](https://www.epa.gov/pesticide-labels/design-environment-antimicrobial-pesticide-pilot-project-moving-toward-green-end) (<https://www.epa.gov/pesticide-labels/design-environment-antimicrobial-pesticide-pilot-project-moving-toward-green-end>) Choose products that do not contain peroxyacetic acid.

[Certification standards to find asthma-safer products](https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/OHB/WRAPP/CDPH%20Document%20Library/GS-ELStandards.pdf) (<https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/OHB/WRAPP/CDPH%20Document%20Library/GS-ELStandards.pdf>)

[Cleaning products and work-related asthma fact sheet](https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/OHB/WRAPP/CDPH%20Document%20Library/WRA-CleaningProd.pdf) (<https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/OHB/WRAPP/CDPH%20Document%20Library/WRA-CleaningProd.pdf>)

For more information about work-related asthma, call the Work-Related Asthma Prevention Program in California: 1-800-970-6680 (toll-free to California callers) or go to [Work-Related Asthma Prevention Program website](http://tinyurl.com/CAWorkRelatedAsthma) (<http://tinyurl.com/CAWorkRelatedAsthma>). California Relay Service: 711. To get a copy of this fact sheet in another format, please call (510) 620-5757. Allow at least 10 days.