FREQUENTLY ASKED QUESTIONS ABOUT FORMALDEHYDE IN HOMES

What is formaldehyde?

Formaldehyde is a colorless, flammable gas with a strong, pungent odor. It is produced by both industrial and natural sources. It is produced in small amounts by living cells of people, plants, and animals.

It is used in the production of many consumer products found in the home including cigarettes, antiseptics, medicines, paper, cosmetics, permanent-press fabrics, furniture, disinfectants, and deodorizers. It is also used in the manufacturing of home-building materials such as plywood, particle board, and insulation.

How might I be exposed to formaldehyde?

Inhalation is the major route of formaldehyde exposure in people. Sources of formaldehyde in the home include cigarettes, consumer products, and building materials. Indoor air formaldehyde levels are usually higher than outdoor levels. Indoor air concentrations of formaldehyde have been reported to range from 0.02 to 4 parts per million (ppm) while outdoor air levels typically range from 0.0002 to 0.02 ppm.

How does formaldehyde enter and leave the body?

Formaldehyde primarily enters the body through breathing, but can also enter through the skin or through ingestion. Once absorbed, formaldehyde is very quickly broken down to a non-toxic chemical and is excreted in the urine.

What health effects are associated with formaldehyde exposure?

Formaldehyde can irritate the nose, upper respiratory tract, and eyes. Some people are more sensitive to the effects of formaldehyde than others. Asthmatics may be more sensitive to the effects of formaldehyde. The odor of formaldehyde can be detected by most individuals at about 1 ppm, but some people can detect it at lower concentrations.

Can formaldehyde cause cancer?

The US Department of Health and Human Services (DHHS) has determined that formaldehyde is a known human carcinogen based on human and animal inhalation studies.

Is there a medical test to determine whether I have been exposed to formaldehyde?

Although medical tests are available, it is difficult to obtain an accurate measure of formaldehyde in your body. These tests are not routinely available at your physician's office.

How can I reduce formaldehyde levels in my home?

Reducing indoor formaldehyde levels is different in each situation. Common tips to reduce levels include the following:

- Don't smoke in your home
- Increase air circulation indoors by using exhaust fans, and opening windows and doors
- Keep humidity between 40-50% and avoid high inside temperature
- Seal surfaces of any formaldehyde-releasing products
- Choose "manufactured-home," pressed-wood products that meet the requirements of either *Ultra Low Emission Formaldehyde* (ULEF) or *No Added Formaldehyde* (NAF)
- Choose pressed-wood products that are compliant with the American National Standards Institute (ANSI) or California Air Resources Board Air Toxics Control Measure (CARB ACTM) criteria

Are there any standards or guidelines to protect people from exposure to formaldehyde?

Standards and regulations are updated periodically as new information becomes available. At present, there is no generally agreed upon standard for formaldehyde concentrations in residential settings. On July 7, 2010, the Formaldehyde Standards for Composite Wood Products Act was signed into law but regulations related to the implementation of this law are still pending. This legislation, which adds a Title VI to the Toxic Substances Control Act (TSCA), establishes limits for formaldehyde emissions from composite wood products such as hardwood plywood, medium-density fiberboard, and particleboard. This simply mirrors California Air Resource Board (CARB) composite wood formaldehyde emissions standards.

For manufactured (prefabricated) housing, the U.S. Department of Housing and Urban Development (HUD) specifies standards for formaldehyde emissions at no more than 0.2 ppm for plywood and 0.3 ppm for particle board. The HUD standards are designed to provide an ambient level of 0.4 ppm or less in manufactured housing.

In workplace settings, the 8-hour time weighted average permissible exposure limit developed by the Occupational Safety and Health Administration to protect workers from formaldehyde is 0.75 ppm. The National Institute for Occupational Safety and Health's 10 hour time-weighted average recommended exposure limit for workers is 0.016 ppm.

How do I test my home for formaldehyde?

Homes should be tested on a case by case basis. According to a 2013 report by the Consumer Product Safety Commission (CPSC), it is not necessary to measure formaldehyde in your indoor air if you take measures to reduce existing formaldehyde levels and do not introduce products that emit formaldehyde into your home. However, you may want to consider testing if you are concerned about your health and your physician suspects that you are sensitive to formaldehyde.

There are a few ways to measure formaldehyde in your indoor air:

- Hire an indoor air professional. Before hiring an indoor air quality professional, consider their certifications and memberships. Indoor air professionals are typically found in telephone and online directories under the listing for environmental or laboratory services. The Virginia Department of Health does not maintain a list of indoor air professionals or make specific recommendations for companies to use.
- Use a home test kit for formaldehyde. Some kits allow direct reading of results while other kits require you to mail the kit to a lab. It is important to note that consumer kit results may be difficult to interpret and accuracy may vary.

Where can I get more information?

For formaldehyde and health related questions:
Contact the Virginia Department of Health, Division of Environmental Epidemiology, 109 Governor Street, Richmond, VA 23219, or call (804) 864-8182.

To file a product-related complaint:
Contact the Consumer Protection Section at the Office of the Attorney General at (800) 552-9963.

Online resources:
- Environmental Protection Agency: Formaldehyde Webpage
- Centers for Disease Control and Prevention: Formaldehyde and Your Health
- Consumer Product Safety Commission: Consumer Product Safety Commission
- California Air Resource Board: Composite Wood Products Webpage

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