LOUISIANA DEPARTMENTOF HEALTH AND HOPSITALS
Office of Public Health

ToxFAQs™
Formaldehyde
(Centers for Disease Control and Prevention)

This fact sheet answers the most frequently asked health questions about formaldehyde. For more information, you may call the ATSDR Information Center at 1-800-CDC-INFO. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

Highlights
Everyone is exposed to small amounts of formaldehyde in air and some foods and products. Formaldehyde can cause irritation of the skin, eyes, nose, and throat. High levels of exposure may cause some types of cancers. This substance has been found in at least 26 of the 1,467 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is formaldehyde?
At room temperature, formaldehyde is a colorless, flammable gas that has a distinct, pungent smell. It is also known as methanal, methylene oxide, oxymethyline, methylaldehyde, and oxomethane. Formaldehyde is naturally produced in small amounts in our bodies.
It is used in the production of fertilizer, paper, plywood, and urea-formaldehyde resins. It is also used as a preservative in some foods and in many products used around the house, such as antiseptics, medicines, and cosmetics.

What happens to formaldehyde when it enters the environment?
- Formaldehyde dissolves easily but does not last a long time in water.
- Most formaldehyde in the air breaks down during the day.
- The breakdown products of formaldehyde are formic acid and carbon monoxide.
- Formaldehyde does not build up in plants and animals.

How might I be exposed to formaldehyde?
- Smog is a major source of formaldehyde exposure.
- Cigarettes and other tobacco products, gas cookers, and open fireplaces are sources of formaldehyde exposure.
- It is used in many industries and in hospitals and laboratories.
- Formaldehyde is given off as a gas from the manufactured wood products used in new mobile homes.
- The amount of formaldehyde in foods is very small.
- Household sources, such as fiberglass, carpets, permanent press fabrics, paper products, and some household cleaners.

How can formaldehyde affect my health?
Low levels of formaldehyde can cause irritation of the eyes, nose, throat, and skin. It is possible that people with asthma may be more sensitive to the effects of inhaled formaldehyde.

Drinking large amounts of formaldehyde can cause severe pain, vomiting, coma, and possible death.

How likely is formaldehyde to cause cancer?

Some studies of people exposed to formaldehyde in workplace air found more cases of cancer of the nose and throat than expected, but other studies did not confirm this finding.

In animal studies, rats exposed to high levels of formaldehyde in air developed nose cancer.

The Department of Health and Human Services (DHHS) has determined that formaldehyde may reasonably be anticipated to be a carcinogen.

How does formaldehyde affect children?

The most common route of exposure is by breathing it, which is likely to cause nose and eye irritation (burning, itchy, tearing, and sore throat) in children as well as in adults.

Animal studies suggest that formaldehyde will not cause birth defects in humans. It is not likely to be transferred to a child in breast milk.

How can families reduce the risk of exposure to formaldehyde?

Formaldehyde is usually found in the air, and levels are usually higher indoors than outdoors. Opening windows and using fans to bring fresh air indoors are the easiest ways to lower levels in the house. Not smoking and not using unvented heaters indoors can lower the formaldehyde levels.

Removing formaldehyde sources in the home can reduce exposure. Formaldehyde is given off from a number of products used in the home. Providing fresh air, sealing unfinished manufactured wood surfaces, and washing new permanent press clothing before wearing can help lower exposure.

Is there a medical test to show whether I've been exposed to formaldehyde?

Laboratory tests can measure formaldehyde in blood, urine, and breath. These tests do not tell you how much formaldehyde you have been exposed to or if harmful effects will occur. The tests are not routinely available at your doctor's office.

Has the federal government made recommendations to protect human health?

The EPA recommends that an adult should not drink water containing more than 1 milligram of formaldehyde per liter of water (1 mg/L) for a lifetime exposure, and a child should not drink water containing more than 10 mg/L for 1 day or 5 mg/L for 10 days.

The Occupational Safety and Health Administration (OSHA) has set a permissible exposure limit for formaldehyde of 0.75 parts per million (ppm) for an 8-hour workday, 40-hour workweek. The National Institute for Occupational Safety and Health (NIOSH) recommends an exposure limit of 0.016 ppm.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1999. Toxicological Profile for Formaldehyde. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information?

ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.