



FEMA



What You Should Know about Formaldehyde in Mobile Homes

Purpose

This flyer tells you about testing of indoor air in mobile homes supplied by the Federal Emergency Management Agency (FEMA). Because FEMA has offered you a mobile home to use as temporary housing, you may want to know about these tests. This flyer also tells you how to keep the air inside your home healthy so you can stay well while living in a mobile home.

Background

In December 2007 and January 2008, the Centers for Disease Control and Prevention (CDC) tested FEMA-supplied trailers and mobile homes in Louisiana and Mississippi. CDC found some useful facts about trailers and mobile homes for residents living in these two states. Based on the study findings, FEMA is now testing every mobile home for formaldehyde before using them as temporary housing. What CDC found out applies only to Louisiana and Mississippi, where they tested FEMA-supplied trailers and mobile homes.

The mobile home you are offered has been tested for formaldehyde levels, and an expert has made sure the results are correct.

What is formaldehyde?

Formaldehyde is a colorless, strong-smelling gas. It is used to make building materials and household products. Formaldehyde is used to make walls, cabinets, and furniture in trailers and mobile homes.

What was the level of formaldehyde measured in the mobile home FEMA has offered you?

The level measured in your mobile home on _____ was _____ ppb.

What happens when someone breathes too much formaldehyde?

Formaldehyde can make you feel sick if you breathe a lot of it. People can have symptoms such as:

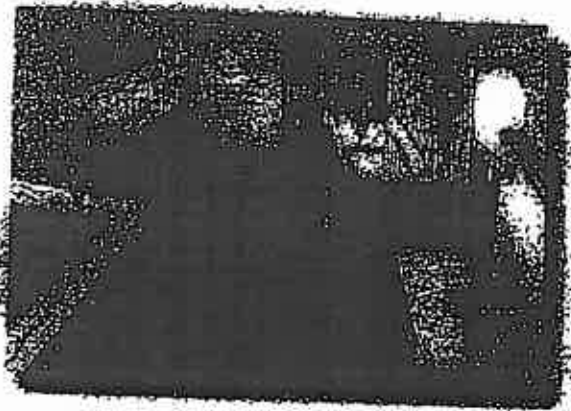
- sore throat
- cough
- scratchy eyes
- nosebleeds

Scientists use the words "exposed" or "exposure" to talk about how people come in contact with a substance, such as formaldehyde. Some people are more sensitive than others, so an exposure that causes no problems for some people can make other people sick or uncomfortable. Some of these symptoms also happen with other upper respiratory illnesses, such as colds/flu and seasonal allergies, so if you have these symptoms we recommend that you see a doctor or another medical professional.

In general -

- If you are more sensitive to formaldehyde and are exposed to more of it for a longer time, you are more likely to have symptoms.
- If you are exposed to less formaldehyde for a shorter time, you are less likely to have symptoms, especially if you are not sensitive to formaldehyde.

Formaldehyde is known to cause cancer. The cancer of greatest concern is cancer of the nose and throat. Scientific research has not yet shown that a certain level of formaldehyde exposure causes cancer. However, the higher the level and the longer the exposure, the greater the chance of getting cancer. Exposure to formaldehyde might increase the chance of getting cancer even at levels too low to cause symptoms.



What was the level measured in the mobile home FEMA has offered me?

The level measured in your mobile home tells us the amount of formaldehyde that was there when FEMA did the test. It can also help you decide what kind of short-term housing will be best for your family. This level does not tell us how much formaldehyde you might breathe in while you live in your mobile home. When the mobile home was new, or during hot weather, the level might have been higher. Because there are no laws or regulations for formaldehyde, there is not a single number that will tell us if your mobile home's level is high or low. Please look at the chart below to help you understand your mobile home's level.

1000	If your reading falls into the higher range, you need to place a high priority on lowering your exposure to formaldehyde. This is especially important if family members are elderly, young children, or have health conditions such as asthma.
100	If your reading falls into the intermediate range, your risk of irritation from formaldehyde exposure is lower, but it is still important to take steps to reduce your formaldehyde exposure. This is especially important if family members are elderly, young children, or have health conditions such as asthma.
10	If your reading falls into the lower range, these levels are found on the streets of many cities and in many buildings. The risk of health problems at these levels is low.
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Note: Levels are expressed at parts per billion (ppb). To convert to parts per million (ppm), divide by 1000.

In addition to the formaldehyde level, you should think about other factors:

- **Age.** Formaldehyde exposure is a special concern for children and the elderly. Children may become sensitive to formaldehyde more easily, which may make it more likely they will become sick. Elderly people may be less able to tolerate high formaldehyde exposures. If children or elderly people are in your mobile home, it is important to reduce their exposure to formaldehyde.
- **Health conditions.** Formaldehyde irritates the airways. People with asthma, bronchitis, or other breathing conditions are especially sensitive to formaldehyde. People with other chronic diseases also may be less able to tolerate formaldehyde exposure. Pregnant women and their unborn children may not be at higher risk, but they should be careful about exposure. If anyone in your mobile home has any of these conditions, it is important to reduce their exposure to formaldehyde.
- **How the mobile home is used.** Some people are in their mobile home for many hours of the day. Other people are in their home only for short stays. The more time you spend in your home, the more important it is to lower your formaldehyde exposure.

What does this mean for my family?

FEMA-supplied mobile homes are meant for temporary, emergency housing. Mobile home residents should try to move to permanent housing. Families living in mobile homes with children, elderly persons or persons who already have an illness like asthma should try to find permanent housing as soon as possible.

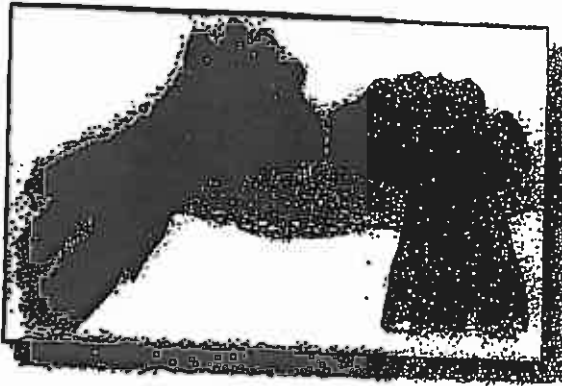
How can I improve the air quality in my mobile home?

To protect yourself from formaldehyde exposure:

- Open windows as much as possible to let in fresh air.
- Try to keep the temperature inside mobile homes at the lowest comfortable setting.
- Run the air conditioner or dehumidifier to control mold.
- Also, spend as much time outdoors in fresh air as possible. This is especially important for families with children, elderly people or those with chronic diseases such as asthma.

To control mold:

- Fix water leaks to help keep mold away.
- Clean away any mold you see or smell detergent and water.



In addition:

- Be sure to bring in fresh air when you use cleaning products and insecticides. To do this, open windows or run the air conditioner. Be sure the air conditioner is bringing in air from outside.
- Do not smoke, and especially do not smoke indoors.
- If you smell gas, do not light any flames or sparks and leave the trailer right away.
- If you have health concerns, see a doctor or another medical professional.

You will need to make a choice about the mobile home offered to you.

There is no federal standard for formaldehyde in indoor air. Houses in the United States generally have a level of about 10 to 50 ppb

For mobile homes with higher levels (50-80 ppb):

The formaldehyde level in this mobile home is above that usually seen in houses but is below the levels that usually cause acute health effects in sensitive people. There are benefits to reducing the level. While you are in the mobile home, please follow the steps listed in this flyer to improve the air quality.

For mobile homes with medium levels (10-50 ppb):

The formaldehyde level in your mobile home was not in the highest range but there are still benefits to reducing the level. While you are in the mobile home, please follow the steps listed in this flyer to improve the air quality.

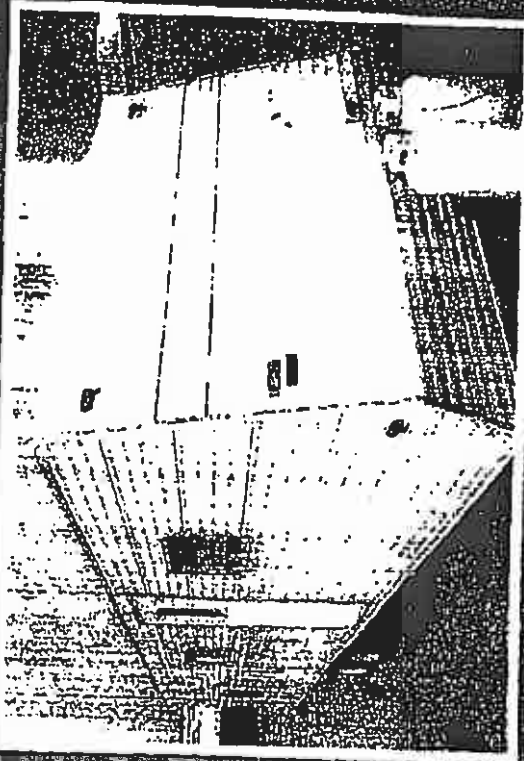
For mobile homes with low levels (below 10 ppb):

Even though the formaldehyde level in your mobile home was low, you can still improve the air quality by following the steps listed in this flyer.

Where can I find help?

If you would like more information about indoor air quality and your health or about CDC's study of formaldehyde in trailers and mobile homes, please call CDC toll-free at 1-800-CDC-INFO.

If you have questions about your mobile home, please call FEMA at 1-866-562-2381 (TTY 1-800-462-7585).



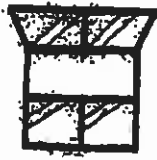
Indoor Air Quality and Health in FEMA Temporary Housing *For Trailer Residents*

The Centers for Disease Control and Prevention (CDC) is responding to your concerns about air quality and formaldehyde in FEMA trailers.

You can take these steps to improve your indoor air quality:

1. Breathe fresh air

- **Open windows** when you can to let in fresh air.
- **Spend as much time as you can outside**, in fresh air.



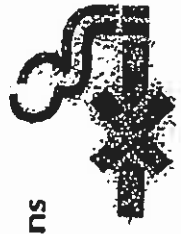
2. Control mold

- **Clean your bathroom and kitchen** often to fight mold.
- **Fix any water leaks** in your trailer.
- **Clean up any mold you see or smell** with a mix of no more than 1 cup of bleach mixed with 1 gallon of water. Never mix bleach with ammonia.
- **Close windows and run your air conditioner (AC) or your dehumidifier** to help control mold. This will reduce dampness that helps mold grow.



3. Other ways to improve the air in your trailer

- **Clean often** to get rid of dust and pet fur, which can bother your nose and throat.
- **Try not to use bug sprays.** When used in small spaces like FEMA trailers, the poisons that kill bugs also can bother your nose and throat or make you sick.
- **Do not smoke inside.** Tobacco smoke contains chemicals that can bother your nose and throat and make you or anyone else who breathes it sick.



Who is most likely to get sick from bad indoor air?

- People with asthma
- People with allergies
- People with lung disease such as bronchitis or emphysema
- People with heart problems or disease
- Children
- Elderly people

How do I know if I've been exposed to formaldehyde?

If you have been exposed to formaldehyde you'll have symptoms like those caused by mold or tobacco smoke:

- Eye, nose and throat irritation (burning, itching, tearing, and sore throat)
- Skin rash
- Chest tightness, coughing and shortness of breath

These can also be symptoms of flu or allergies. If you have these symptoms, please see a doctor, if you can.



About CDC

CDC is a federal public health agency based in Atlanta, GA. Our mission is to promote health and quality of life by preventing and controlling disease, injury and disability.

What is CDC doing to help you?

CDC is testing FEMA trailers and people to learn more about air quality in the trailers and how it affects health.

- We are testing the air in trailers for indoor air pollutants, including formaldehyde. CDC will test trailers in Louisiana and Mississippi. A computer will pick the trailers. Every trailer has the same chance of being picked. CDC cannot take volunteers for these tests.
- We are also working with FEMA trailer families to study children, chosen at random. We want to learn about health problems linked to indoor air quality. We should be able to give you the results from our tests next year (2008).

CDC will not be able to test every trailer or every child living in a FEMA trailer. We want to do our studies quickly so that we can answer your questions quickly.

To learn more

if you would like to know more about indoor air quality and health, please call us toll-free at

1-800-CDC-INFO.

If you have questions about moving out of your trailer, please call FEMA toll-free at

1-866-562-2381 or (TTY) 1-800-462-7585).