

Laminate Flooring Test Results - Health Issues and Solutions

The U.S. Consumer Product Safety Commission (CPSC) tested formaldehyde levels released from specific types of laminate flooring made in China between 2012 and 2014 and sold at Lumber Liquidators® stores in the United States. CPSC tested the same type of flooring that had some of the highest formaldehyde levels in tests conducted during a recent consumer investigation.

The Centers for Disease Control and Prevention (CDC) and the Agency for Toxic Substances and Disease Registry (ATSDR) estimated (modeled) indoor formaldehyde levels that may be present in typical homes with this laminate flooring. In the model, we used near worst-case conditions so that our conclusions and recommendations would protect public health.

CDC/ATSDR found that exposure to formaldehyde in the CPSC-tested laminate flooring sold at Lumber Liquidators® could cause irritation and breathing problems. However, you can take steps to reduce formaldehyde levels in your home.

Short-term Health Effects

Irritation and breathing problems can happen in anyone, but children, older adults, and people with asthma or other breathing problems are more likely to have these symptoms.

If you installed this type of flooring in a home that already had elevated levels of formaldehyde from other products (like cabinets, furniture, or curtains), your chance of having those symptoms increases.

Long-term Health Effects

Studies of workers who breathe in very high levels of formaldehyde over many years have shown a link to rare cancers. Formaldehyde exposure from the tested laminate flooring would be **much lower** and would last for **less time** than the exposures linked to those cancers. However, whenever you are exposed to a cancer-causing chemical, your cancer risk increases.

We estimated the increased lifetime risk of cancer based on

- Installing flooring with the highest formaldehyde levels
- Breathing in formaldehyde at those levels in the house all day long for two years

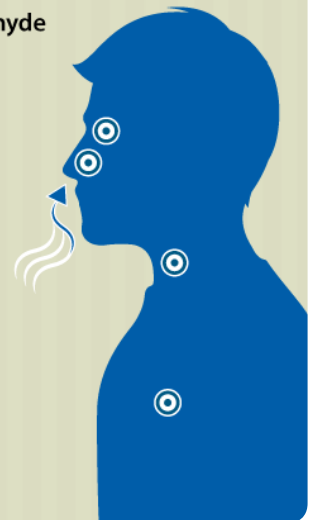
Note: We chose a two-year time frame because several studies have shown that indoor air concentrations of formaldehyde from new building products usually decrease over time, particularly during the first two years.

Exposure to formaldehyde in the tested laminate flooring can irritate

- Eyes
- Nose
- Throat

It can also increase breathing problems for people with health conditions like

- Asthma
- Chronic obstructive pulmonary disorder (COPD)



We estimated the cancer risk to be between 6 and 30 extra cases for every 100,000 people breathing in formaldehyde from this type of flooring all day, every day. To put these numbers into perspective, the American Cancer Society estimates that up to 50,000 of every 100,000 people may develop cancer from all causes over their lifetimes.

The laminate flooring in my home was made in China between 2012 and 2014 and purchased at Lumber Liquidators®. What should I do?

The study only tested formaldehyde levels on a few types of floorboards. Not all laminate flooring releases high levels of formaldehyde. Also, studies have shown that after several years, formaldehyde released by products installed in the home may decrease to levels typically found in most homes. However, if your flooring is new or you have concerns about formaldehyde in your home, you can lower the amount by taking the following steps.

Reduce formaldehyde already in the home.

- Open windows for a few minutes every few days to let in fresh air — unless you have asthma triggered by outdoor air pollution or pollen or you're concerned about safety.
- Install and use exhaust fans as much as possible.
- Keep the temperature and humidity inside your home at the lowest comfortable setting.
- Make your home smoke free. Tobacco smoke contains formaldehyde, so don't allow anyone to smoke in your home.

Choose home products with low or no formaldehyde for future purchases. Look for

- Furniture, wood cabinetry, or flooring made without urea-formaldehyde (UF) glues
- Pressed-wood products that meet ultra-low emitting formaldehyde (ULEF) or no added formaldehyde (NAF) requirements
- Products labeled "No VOC/Low VOC" (volatile organic compound)
- Insulation that does not have UF foam

Reduce formaldehyde from new products.

- Wash permanent-press clothing and curtains before using them.
- Let new products release formaldehyde outside of your living space before you install or use them inside, for example in a garage or on a patio. If possible, keep them out of your living space until you can no longer smell a chemical odor.



Open windows



Use exhaust fans



Control temperature



Make your home smoke free



Wash new items



Air-out new products

Note: Air filters generally don't help lower levels of formaldehyde in your home. Overheating your home to "bake" out the formaldehyde also doesn't work and may even raise formaldehyde levels.

What if I have symptoms?

- First, follow the steps to lower the levels of formaldehyde in your home.
- If you still have symptoms **only** when you're at home, see your doctor to find out what is causing those symptoms. Symptoms include breathing problems or irritation of the eyes, nose, or throat.



If I have this type of flooring in my home, should I get my home tested for formaldehyde?

You don't need to consider getting your home tested unless

- You can still smell strong chemical odors
OR
- You have symptoms like breathing problems and irritation **only** when you're in your home.

If you want to test your home, hire a qualified professional who has the training and equipment to test formaldehyde levels in your home. Note that these tests can be expensive and don't tell you which products are releasing the most formaldehyde in your home.

There are some tests you can do yourself, but results from these home-testing kits can be different based on where you take the air samples and how long you do the testing. You might not be able to compare home testing results to the results of tests done by qualified professionals.

When the results come in, you can talk with the professional about what to do next. Keep in mind that there are no standards for acceptable levels of formaldehyde in your home.

Should I remove the laminate flooring in my home?

That depends.

- **If the flooring was installed several years ago**, the levels of formaldehyde may have gone back to the levels usually found in homes — so there may be no reason to remove it.
- **If you're having symptoms of formaldehyde exposure that go away when you leave your house**, professional air testing may be a good idea. When the results come in, you can talk with the professional about what to do next.

Note that removing flooring, in particular, new laminate flooring, may increase formaldehyde release. Consult a professional before taking any action to remove the flooring.

Lumber Liquidators reported to CDC/ATSDR that laminate flooring from China has not been sold in any Lumber Liquidators retail outlet since May 2015. Contact Lumber Liquidators for more information on their products.

Where can I get more information?

- You can contact CDC/ATSDR for updated information at 1-800-CDC-INFO.
- If you have questions or concerns about the products used in your home, contact the Consumer Product Safety Commission at 1-800-638-2772.
- For information from the Pediatric Environmental Health Specialty Units (PEHSU) on Children's Potential Exposures to Formaldehyde from Building Furnishings, visit

Guidance for Parents and Families

[http://www.pehsu.net/Public Formaldehyde Exposures.html](http://www.pehsu.net/Public_Formaldehyde_Exposures.html)

Guidance for Health Professionals

[http://www.pehsu.net/HealthProf Formaldehyde Exposures.html](http://www.pehsu.net/HealthProf_Formaldehyde_Exposures.html)

- For more details on the laminate flooring testing report, visit <http://www.cdc.gov/nceh/laminat flooring/default.html>
 - For more information on sources of formaldehyde, visit <http://www.atsdr.cdc.gov/formaldehyde/home/index.html>
-