



Formaldehyde – Reward’s Commitment to You

Formaldehyde in Wood Products

Formaldehyde is used as an adhesive in most pressed and engineered wood products, including cabinets, shelving, furniture, plywood, and floor coverings. However, the level of formaldehyde emitted by these products can vary widely depending on the type of adhesive used, how much adhesive is present in the product, and how long ago the product was manufactured (formaldehyde emissions decline over time). Products like laminate flooring and cabinets that are made of press board, MDF or HDF, which are infused throughout with glue, tend to have higher formaldehyde emissions than products like plywood and engineered flooring, which are layers of natural wood glued together, containing far less adhesive.

Adhesives that are high in formaldehyde are less expensive than low-formaldehyde or zero-formaldehyde adhesives. Some manufacturers and importers cut costs by using those higher formaldehyde adhesives. We don't.

Formaldehyde in wood products is impossible to avoid completely. All wood, even wood that is totally free of any glues or coatings, naturally emits some formaldehyde. That naturally occurring formaldehyde is one and the same chemical as that which is emitted by the adhesives. Some species of wood naturally emit more than others.

Testing has shown that in some instances, pressed wood products made with formaldehyde adhesives may actually emit lower levels of formaldehyde than those made with formaldehyde-free adhesives. Most formaldehyde adhesives are cured with heat, which flashes off much of the formaldehyde from both the adhesive and the wood itself. Most formaldehyde-free wood adhesives are cured without heat, leaving all of the naturally occurring formaldehyde in the wood. For this reason, when assessing the potential health risk of a product, it's most important to look at the actual product emissions after manufacturing and not the type of adhesive used.

California Air Resources Board (CARB) Phase II Standard

In 2012, the State of California took the unprecedented step of limiting the amount of formaldehyde that a wood product can legally emit to 0.05ppm. To put this in perspective, there was a time not long ago when the German E1 Standard (0.1ppm) was considered the gold standard even within the green building community. The CARB Phase II standard is now the strictest formaldehyde emissions standard in the world outside of Japan. We applaud it, not only because it protects our health, but also because it has leveled the playing field for companies who had always paid the extra cost to make sure our products were safe.

Putting the Risks in Perspective

There is no question that formaldehyde can be harmful. Some people, when exposed to formaldehyde at high levels, can experience watery eyes, burning sensations in the eyes and throat, nausea, and difficulty in breathing. Very high concentrations may trigger attacks in people with asthma. Chronic exposure at high levels has been shown to cause cancer in animals, and there is some evidence to suggest that chronic exposure at high levels may increase the risk of nasopharyngeal cancer in humans. According to the State of California, for most individuals, the lowest observed level of effects occurs at exposures ranging from 0.1 to 3.0 parts per million (ppm). OSHA sets guidelines for employee exposure to formaldehyde at much higher levels: 0.5ppm – 1.0ppm, depending on the timeframe.



Formaldehyde has received media attention over the years when certain products were found to have high levels of formaldehyde, such as urea formaldehyde insulation in the 1970's, the FEMA trailers after Hurricane Katrina, and more recently, laminate flooring sold by a national retailer that was labeled as being CARB II compliant when in fact it was not. But it is important to put the risks posed by formaldehyde in wood products into perspective, and to realize how complicated it is to assess our total risk.

Formaldehyde is everywhere in nature. It is a normal by-product of many natural processes, including digestion, decomposition, and the combustion of organic material. The human body emits significant amounts of formaldehyde when we exhale. Formaldehyde is also present in a wide range of other products that we use every day. Sources include gas and wood burning stoves, gas heaters, vehicle exhaust, tobacco smoke, glues, paints, cleaning products, preservatives, paper product coatings, cosmetics, insecticides, and permanent-press curtains and clothing.

Consider these facts:

- Every time a baby exhales, they emit approximately 500 times the proposed level of formaldehyde that is acceptable according to the EPA.
- The World Health Organization has estimated that the average adult ingests nine times more formaldehyde each day from food than they inhale from all airborne sources combined.
- The standard human body, through natural metabolic processes, generates and disposes of about 45,000 mg of formaldehyde every day. This means that a person would have to breath air from CARB Phase II particleboard for over 61 YEARS just to equal the amount that a body naturally generates and consumes in 24 hours.

Despite these figures, we agree that it is important to limit the amount of formaldehyde added to our indoor environment by man-made products. At Reward Hardwood Flooring, we are committed to doing just that.

Our Guarantee

We strive for total customer satisfaction. Not only do we want you to be satisfied with the look and ease of installation of our flooring, we want you to have peace of mind. Rest assured that our flooring is as safe as it is attractive. All Reward Hardwood products easily meet the CARB Phase II standard, and while we are sometimes offered the opportunity to cut costs by using higher formaldehyde glues, we never do. Not only are our suppliers' factories CARB Phase II certified, but we also take the extra step of conducting periodic tests on random samples from our inventory, which we send to certified American test laboratories to confirm that we are consistently exceeding the CARB II standard. This added layer of safety has a cost, but you are worth it. At Reward Hardwood Flooring, we are 100% committed to protecting the health and well being of our customers.

