

GREEN BUILDING: For your health, seek out low-VOC products

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VOCs, or volatile organic compounds, are chemical solvents that easily become vapors or gases at room temperature and are usually identified by the lovely “new house” or “new car” smell. Many of them are hazardous pollutants, though some have no known side effects. The health effects of volatile organic compounds will depend on nature of the compound, the level of exposure and length of exposure, as well as the sensitivity of the occupant.

On average, indoor air is three times more polluted than outdoor air. VOCs are typically added as binders to building products like OSB, plywood, insulation, carpet and paint. Their side effects can range from watery eyes, dizziness and asthma in the short term and to kidney and liver damage and even cancer in the long term.

Increased awareness of the health risks of such additives has driven a demand for high quality alternatives. Today you can find a variety of low- to zero-VOC product alternatives. Some of which you may already be using, such as Advantech Flooring. Others, such as low-VOC interior paints are increasing in availability. Many builders, once they have tried them, wonder why they waited so long to be free of the strong odor. Almost every manufacturer makes a line of low- to zero-VOC paints. Likewise all major manufacturers of construction adhesives offer a product that is water-based polyurethane, a low-VOC alternative to toxic solvents. For wood floor finishes, also look for water-based polyurethane. They have been tested for durability and wear comparably. Additionally, installers typically prefer them because they dry quickly and don't smell for as long. Even PVC cement has a low VOC alternative.

One of the most common and widely known VOCs is formaldehyde, so looking for formaldehyde-free products (such as insulation) is a great place to start. VOC levels are expressed in pounds per gallon or grams per liter. Interior paint is given a Green Seal if it has VOC content less than 50 g/l (for flat sheen) or 150 g/l (nonflat sheen). If there is no green seal, the VOC content is always printed on the can. Low VOC carpets come with the CRI “green label” or “green label plus.”

It is important to note that low-VOC doesn't mean nontoxic. And it doesn't mean that it won't have any emissions, so if you are building a home for someone that is chemically sensitive, there are many other factors to consider (which is out of the scope of this particular subject).

As a builder, you can control the amount of pollutants that you put into a home, but you cannot control what the homeowner introduces (such as cleansers, air fresheners and cosmetics). You can, however install a mechanical ventilation system to make sure that the home always has a source of fresh air to dilute and exhaust any pollutants that are brought into the home.

For more information, please contact the Western North Carolina Green Building Council. Call the Green Building Hotline at 254-1995 or visit www.WNCGBC.org.

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