

Office and home furniture

Hazards and safety recommendations

Home is our respite; a place where we feel safe. So it may be surprising to learn that indoor air can be two to five times more polluted than the air outside our homes and in some cases even more so. The U.S. Environmental Protection Agency (EPA) estimates that the average person receives 72% of their chemical exposure at home, making indoor air the primary source of environmental pollutants for most of us. So where do these pollutants come from?

The primary sources of indoor air pollutants are building materials and finishes, household cleaners and furnishings. All of these are known to emit airborne chemicals, called volatile organic compounds (VOCs) into the air. And exposure to VOCs has been shown to contribute to a wide range of health concerns; including neurological and reproductive issues, cancer, respiratory ailments, heart conditions and more.

The vast majority of home furnishings (including upholstered and composite wood furniture) contain potentially harmful materials that can off-gas chemicals and release particulates into the air we breathe. Formaldehyde (commonly used in plywood frames and composite wood furniture), flame retardants in foam cushions, glues, dyes and fabric stain treatments have all been found to emit pollutants into our indoor environments. And exposure to these toxins can cause short-and-long term health concerns.

Even if you don't have an immediate reaction to a new piece of furniture, it's important to note that toxins accumulate in the body. So while one individual exposure may be small, over time the impact of repeated exposures can cause health concerns and even escalate our sensitivity to all chemicals.

LET'S TALK ABOUT FORMALDEHYDE

Formaldehyde is one of the leading sources of pollutants in furniture. Our memories of formaldehyde may date back to high school science labs. Recognizable by its distinct, pungent smell, formaldehyde is commonly used today to bond the adhesives in pressed wood products. It's found in particle board, hardwood plywood paneling and medium density fiber board used in shelving, cabinets and furniture. Medium density fiberboard has a higher adhesive-to-wood ratio than other pressed wood products; as a result, it is among the highest formaldehyde-emitting pressed wood products.

There is reason to be concerned. According to the U.S. Environmental Protection Agency, formaldehyde can cause watery eyes, burning sensations in the eyes and throat, nausea, and difficulty in breathing. And a 2014 report by the National Academy of Sciences confirmed formaldehyde as a known human carcinogen. Maine recently adopted a rule that requires manufacturers to report their use of formaldehyde in children's products. However, the rule will not impact the majority of furniture marketed in Maine.

The rate at which formaldehyde is released into the air is accelerated by heat and humidity, so avoid placing that new piece of furniture over or near a heat source and consider using a dehumidifier to help reduce formaldehyde emissions.

There are two primary types of formaldehyde used in furniture— urea-formaldehyde (UF) and phenol-formaldehyde (PF). Products made with urea-formaldehyde emit much higher levels of pollutants than phenol-formaldehyde and it is known as a toxin of particular concern.

FLAME RETARDANTS

Flame retardants in furniture has been an issue of particular concern for many years. And for good reason. Exposure to flame retardants has been linked to cancer, reproductive issues, and brain development in humans and animals. And recent studies found flame retardants were present in the bodies of 97% of Americans tested.

Their usage has grown so rapidly in the past 30 years, that the concentration of flame retardants in couches averaged 4-5% by weight in recent studies, with some testing as high as 10% or more.

One particular chemical, Tris—a suspected human carcinogen that was banned for use in children’s pajamas over 40 years ago—was found in close to half of the couches tested. And many other flame retardant chemicals have not been fully tested to determine their effects on humans, adult or children; particularly over the long term.

So if the flame retardants are in the cushions, why are they causing concern?

The reason is that flame retardants do not stay in the cushions. They are rigid fibers and over time they break down and get into the air, settling as dust on flat surfaces or the floor. This provides one of the major routes of exposure for people and children; we touch those surfaces and the chemically-treated fibers make their way to our mouths. What’s more, there is questionable proof that they keep fires from spreading; and when burned, there is an additional concern from toxic gasses that are emitted. There are safer and healthier alternatives, and an increasing number of manufacturers are responding to consumer demand for greener and healthier products.

SOME TIPS FOR REDUCING YOUR RISK:

Purchase a floor model that has likely done a bit of its offgassing or ask the company to store the piece unwrapped in their warehouse for a couple of months.

Consider high-quality gently-used furniture to limit exposure to off-gassing chemicals.

Trust yourself. If you can smell chemicals and it’s affecting your eyes/throat, get rid of it.

Buy upholstered furniture in the summer months when you can have windows open regularly.

Dust your home (with a wet rag) and vacuum with a HEPA filter to remove flame retardant dust from your home on a regular basis.

SafCo wishes you health and safety!

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