



## **Hazardous Home?**

By Dr. John Mamana

With the warm hazy days of summer finally upon us, air conditioners are turned up, windows sealed shut and busy executives spend more time indoors than out. Alarming, recent EPA studies estimate indoor air quality to be 3 to 5 times more toxic than outdoor air, mainly due to the toxic emissions of paints and finishes. In fact, the EPA considers VOC emissions to be one of the top five hazards to human health.

What is a VOC? Volatile organic compounds are defined by the EPA as "...any organic compound that participates in a photochemical reaction, except those that have negligible photochemical reactivity." The term "organic" can be confusing because most people relate VOCs to toxic man-made products, yet organic simply means a compound containing carbon. Using this characterization, everything from plants to petroleum emit VOCs – in fact, the majority of VOCs arise from the leaves of plants and emissions from cars. Paints, stains, and architectural coatings are the second largest source.

In general, VOCs are not acutely toxic but do have chronic effects due to long term off-gassing. A 1999 study (Sparks et al.) estimated that less than half of the VOCs in applied paint are off-gassed in the first year, while some were found to be offgassing five years after application – leading to a slow but consistent exposure.

These low level yet harmful chemicals found in most paint can irritate eyes, nose, throat, skin, and lungs. Many EPA-identified VOCs are carcinogenic and associated with lung diseases such as asthma, bronchitis, and emphysema. Because professional painters and artists are exposed to higher concentrations of VOCs, they often suffer from permanent respiratory, nervous system, liver, or kidney damage.

How can you protect yourself and your family from toxic air? Using low-VOC paint is highly recommended and well worth the additional cost. Although legislation is increasing, some low VOC paint brands market themselves as Green Seal certified while others who meet certain LEED standards do not have to adhere to the Green Seal requirements. This means that paint labeled as low or zero level VOC still may contain toxic ingredients such as biocides and fungicides as well as other chemicals that affect the heart, kidney and nervous system. However, these greener paints will produce



lower odors and reduce toxins that cause allergy and chemical sensitivities. Also look for paint described as high-hide because it requires fewer coats and subsequently emits fewer chemicals. Make sure to maximize fresh air circulation for several days while keeping in mind that fumes rise, so ceilings and loft spaces will need additional ventilation.

Remove most furnishings if feasible as drapes, upholstered furniture and carpet will absorb and later give off gas pollutants. If you believe you may have long term exposure to toxic inside air conditions, contact your doctor at Executive MD for a full health review.

John Mamana, M.D.

Executive MD

[John@ExecutiveMD.com](mailto:John@ExecutiveMD.com)

703-260-6455