

Healthy Cleaning Products

Fact Sheet



In a time of drastic change it is the learners who inherit the future. The learned usually find themselves equipped to live in a world that no longer exists. – Eric Hoffer



Building Biology Institute
The science of healthy buildings

Healthy Cleaning Products

There are three words that should always come to your mind when evaluating whether to introduce any modern cleaning product into the home: Volatile Organic Compounds (VOCs). VOCs are carbon and hydrogen bonded compounds that can easily evaporate at room temperature and enter the home's indoor atmosphere as a gas. There is no common chemical structure among VOCs. They can range from short carbon chains to more complex aromatic rings. Prime examples are solvents and chemicals commonly found in contemporary house cleaning products.

Of secondary but no less important concern are SVOCs (Semi-Volatile Organic Compounds), which require temperatures higher than room temperature in order to self-convert to a gas. As with VOCs, when SVOCs exist in product containers that have been opened, breaking their tamper-proof seals, those containers will not fully reseal and will leak VOC and/or SVOC vapors.

Commonly used household products that contain potentially carcinogenic VOCs and/or SVOCs include, but are not limited to: dryer sheets, fabric softener, laundry detergent, carpet cleaners, liquid spray air fresheners, plug-in air fresheners, and solid disc deodorizers (such as those used in commercial airplane toilets).

In a scientific study, these six products collectively gave off nearly 100 VOCs, including three chemicals that the Environmental Protection Agency (EPA) considers "hazardous air contaminants and pollutants" with no safe exposure levels. This list includes the likely human carcinogens acetaldehyde and 1,4-dioxane, as well as methyl chloride, which has been linked to liver, kidney and nervous-system damage in animals. Studies have also found evidence that other chemicals, such as Bisphenol A (BPA), associated with both diabetes and obesity, are still widely produced and found at detectable levels in the environment. BPA in particular has been the focus of many campaigns calling for it to be banned, although it continues to be used to line plastic bottles and food containers.

Exposure to chemicals through everyday household products was evaluated in a study where homes and urine samples were tested for 89 environmental contaminants, including pesticides and chemicals found in plastics, cleaning products and cosmetics. On average, twenty (20) chemicals were detected in each participant. Furthermore, researchers have found that cleaning products and air fresheners can produce formaldehyde (i.e. the chemicals in pine oils and citrus oils react with ozone in the air, producing airborne formaldehyde).

An easy way to prevent exposure to indoor toxins is to avoid using all fragranced products.