12 Chemicals to By-Pass for a Healthy Home

1. Phthalates

Found In: Cosmetics and personal care products, including perfume, hair spray, soap, shampoo, nail polish, and skin moisturizers. They are also used in consumer products such as flexible plastic and vinyl toys, shower curtains, wallpaper, vinyl miniblinds, food packaging, and plastic wrap. Phthalates are also used in wood finishes, detergents, adhesives, plastic plumbing pipes, lubricants, medical tubing and fluid bags, solvents, insecticides, medical devices, building materials, and vinyl flooring.

Toxic Effects: Di(2-ethylhexyl) phthalate is reasonably anticipated to be a human carcinogen. The National Toxicology Program concluded that high levels of one phthalate, (di-n-butyl phthalate), may adversely affect human reproduction or development. [1]

2. PBDEs (Polybrominated Diphenyl Ethers)

Found In: Textiles, electronic equipment, and building and construction materials, cell phones, remote controls, personal computers, wire insulation, communication and building cables, stadium seats, lamp sockets, pipes, electrical equipment, building and construction plastic panels, and back coatings for draperies and upholstery, mattresses, car seats, car seat covers, sofas.

Toxic Effects: Although it was removed from the US market in 2005 products still in use prior to this date are likely to contain these chemicals. Toxicity testing indicates that PBDEs may cause liver, thyroid, and neurodevelopmental toxicity. PBDEs are a concern for children's health.[1] In animal studies, these chemicals have shown some effects on the thyroid and liver, as well as on brain development.[2]

3. Bisphenol A (BPSA)

Found In: Food and drink packaging, water bottles, infant and baby bottles, reusable cups, compact discs, automobile parts, plastic dinnerware, eyeglass lenses, toys and inside linings of metal food cans, bottle tops.

Toxic Effects: Bisphenol A is an endocrine disruptor, which is a chemical that may interfere with the production or activity of hormones in the human endocrine system. U.S. Food and Drug Administration (FDA) and the National Toxicology Program (NTP) have "some concern" for effects on the brain, behavior, and prostate gland in fetuses, infants, and children at current human exposures to BPA. Contact with BPA may burn the eyes, lips, and skin. Inhaling BPA can irritate the nose and throat and cause coughing and wheezing. Exposure can cause headache, nausea, abdominal pain, and vomiting.[1]

4. Perfluorooctanoic Acid (PFOA)

Teflon-Related Chemicals aka PFCs

Found In: Stain resistant carpets and fabrics, nonstick cookware, water repellant clothing, paper plates, paper and cardboard packaging, and in fire-fighting foams.

Toxic Effects: Birds exposed to overheated polytetrafluoroethylene (Teflon) coated cookware develop fatal pulmonary edema and hemorrhages (bleeding). The size of particles associated with the fatal reaction re 25 nanometers (nanoparticle size). Teflon heated to 260ºC (400Fº) or greater releases toxic products. Some studies have reported increases in prostate, kidney, and testicular cancers in humans exposed to high levels of PFOA.[1]

5. Mercury

Found In: Thermometers, barometers, vapor and fluorescent lamps, mirror coatings, dental fillings, batteries, pharmaceuticals, emissions from burning coal, and agricultural chemicals. Energy efficient compact fluorescent light (CFL) bulbs contain small amounts of mercury and should be recycled carefully.

Toxic Effects: High levels of mercury and mercury compounds can cause death or permanently damage the brain and kidneys. If you are pregnant, repeated exposure to mercury may increase the risk of damage to the fetus or cause miscarriage. It can also irritate lungs and cause depression, inflammation of the gums and mouth, coughing, chest pain, and shortness of breath. Short-term exposure to high levels of mercury vapors can cause lung damage, nausea, vomiting, diarrhea, increases in heart rate or blood pressure, skin rashes, and irritation or cloudiness of the eyes.[1]

6. Arsenic

Found In: Arsenic compounds are used primarily in wood preservatives; in pesticides, primarily on cotton plants; as alloying, or tempering, agents for heavy metals; in the manufacture of certain kinds of glass; and in solders and medicines.

Toxic Effects: Arsenic is a known poison; consuming or breathing in large quantities of arsenic can cause death. It has been shown to cause cancer of the skin, lung, digestive tract, bladder, liver, kidney, prostate, and lymphatic and blood systems.
Exposure to arsenic may increase the risk of damage to a developing fetus. Exposure to lower levels of arsenic can cause nausea, vomiting, abnormal heart rhythm, decreased production of red and white blood cells, impaired nerve function, damage to blood vessels, skin warts and corns, and red or swelling skin.[1]

7. Lead

Found In: Lead is used to produce batteries, ammunition, pipes, tank linings, solder, casting metals, building construction materials, roofing, medical devices, and products to shield X-rays and nuclear radiation. It is used in ceramic glazes and crystal glassware. Because of health concerns, lead and lead compounds were banned from house paint in 1978; from gasoline in 1995; from solder used on food cans in 1996; and from tin-coated foil on wine bottles in 1996.

Toxic Effects: Exposure to lead has been associated with lung, stomach, and bladder cancer. Lead can affect almost every organ and system in your body. It can be equally harmful if breathed or swallowed. The part of the body most sensitive to lead exposure is the central nervous system, especially in children, who are more vulnerable to lead poisoning than adults.[1]

8. Nanoparticles

Found In: Toothpaste, cosmetics, eyeglasses, sunscreen, tennis rackets, computer displays and hardware, stain-resistant cushions, and coatings.

Toxic Effects: Tissue studies indicate that nanoparticles, engineered materials about a billionth of a meter in size, could damage DNA and lead to cancer.[3]

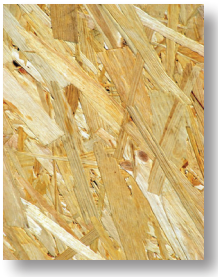
RACHEL CARSON COUNCIL
8600 Irvington Avenue
Bethesda, MD 20817
(301) 214-2400
office@rachelcarsoncouncil.org

9. VOCs (Volatile Organic Compounds)

Found In: Solvents, paints, glues, gasoline, benzene, formaldehyde, moth repellents, air fresheners, hobby supplies, wood preservatives, aerosol sprays, degreasers, automotive products, and dry cleaning fluids.

Toxic Effects: Long-term exposure to volatile organic compounds can cause damage to the liver, kidneys, and central nervous system. Short-term exposure to volatile organic compounds can cause eye and respiratory tract irritation, headaches, dizziness, visual disorders, fatigue, loss of coordination, allergic skin reactions, nausea, and memory impairment.[1]

10. Formaldehyde



Found In: Antibacterial ingredient in cosmetics, household antiseptics, medicines, dishwashing liquids, fabric softeners, carpet cleaners, lacquers, and wood products. It is used as a preservative in some paints, paper coatings, and cosmetics; in the permanent press coating on fabrics and in carpets.

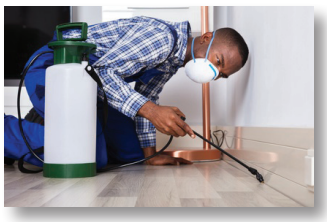
Toxic Effects: Formaldehyde is listed as a human carcinogen in the Fourteenth Report on Carcinogens published by the National Toxicology Program because it causes cancer of the throat, nose, and blood.[1]

11. Triclocarban (TCC)/Triclosan

Found In: Certain antibacterial soaps acting as antiseptic agents, also found in some cosmetics, deodorants and kitchenware.

Toxic Effects: There is little or no evidence that antibacterial soaps and household products help prevent exposure to germs, and they may even pose significant health risks according to the U.S. Food and Drug Administration. Research shows they may be aiding the growth of antibiotic-resistant bacteria as well as disrupting hormone levels, particularly in women and children.[4]

12. Chemical Pesticides



Found In: Products registered with the USEPA as insecticides, herbicides, fungicides, etc., Cockroach baits and traps, insect repellants, rat and mouse poison, flea and tick sprays and collars for pets, disinfectants, products that kill mold and mildew, weed killers, bug and mosquito sprays.

Toxic Effects: Different types of pesticides can affect your health in different ways. Some pesticides are carcinogens, known to cause cancer. Some can cause birth defects. Some affect the nervous system. Some pesticides are endocrine disruptors and affect the body's hormones and endocrine system. Some may irritate the skin and eyes.[1]

1. U.S. National Library of Medicine, 2. Centers for Disease Control and Prevention, 3. Phys.org, 4. Forbes Magazine