

The Terrible Twelve

The Terrible Twelve: Where They Are Found and What You Can Do

| | BEDROOM | Alternatives and Tips | BATHROOM | Alternatives and Tips | LIVING ROOM AND OFFICE | Alternatives and Tips | KITCHEN | Alternatives and Tips | OTHER (Yard, Garage, Etc.) | Alternatives and Tips |
|-------------------------|---|--|--|---|---|--|---|---|---|--|
| Flame Retardants | Mattresses, furniture, foam pillows, carpet padding, sleep products, curtains, electronics, heating blankets, waterbeds | Use organic mattresses, natural fibers, untreated furniture, down blankets; use pillows made from down, latex, wool, or cotton; wash fabrics first before use. | Hair dryers, heating pads, electrical cords, wires | Towel dry hair; use hot water bottles; wash hands after touching. | Interior foam and surfaces of furniture, pillows, carpet backing and carpet padding; drapes, electronics, indoor dust, toys | Buy untreated furniture and carpets, pillows made from down, latex, wool, or cotton, and drapes made from untreated natural fibers; wet mop. | Plastic appliance casings, heaters, ovens, food contact materials, microwaveable containers | Replace plastic appliances where possible (e.g., replace automatic coffee makers with glass French press or ceramic filter); steam or hand clean ovens. | Appliances, machines, cars, camping equipment, children's car seats | Ventilate well; use untreated camping equipment; wash hands; look for non-treated children's products |
| PFAS | Fabrics, curtains, carpets, clothing, ironing board covers | Use untreated natural fibers, non-stain repellent fabrics, non-permanent press fabrics; avoid "easy care" labels; use non-treated ironing board covers. | Shower curtains, rugs, personal care products, curling irons, dental floss | Use non-treated fabric and plastics, certified organic personal care products, and silk dental floss. | Fabric, drapes, carpets | Use untreated natural fibers, non-stain repellent fabrics, non-"permanent press" fabrics. | Nonstick cookware, candy wrappers, microwave popcorn bags, plastic utensils, pizza boxes, take-out containers | Use ceramic, stainless steel, cast iron, or glass cookware; use parchment paper; cook popcorn on stovetop. | Stain repellent sprays, paints, items treated with water proofing, camping equipment, house paint, luggage, umbrellas, pet products | Use natural oils as a water-repellent; store paints, sprays, and treated items in a safe area away from living space; ventilate; use untreated products. |
| PERCs | Clothing that has been dry-cleaned | Use green or wet dry-cleaning; buy fabrics that do not require dry cleaning. | | | Correction fluid | Use tape. | | | Solvent-based cleaners, industrial lubricants | Use nontoxic industrial lubricants. |

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| Pesticides and Antimicrobials | Antimicrobial clothing, moth repellants, humidifiers, dehumidifiers | Wear untreated clothing; use herbal moth repellants (cedar, peppermint oil) and products not treated with Triclosan; use sun exposure for mold; expose mites to hot, dry heat. | First aid products, soaps, dental care, deodorants, cosmetics, tooth brushes, tooth pastes | Avoid products with “antibacterial” or “antimicrobial” labels; avoid nanosilver products. | Fabrics, plastics, office products, binders | Avoid products with “antibacterial” labels. | Cutting boards, utensils treated with Microban®, food, kitchen towels | Use wood cutting boards, metal and wooden utensils, natural fibers; avoid products with “antibacterial” labels; keep a clean and dry house. | Ear buds, yoga mats, paints, athletic equipment, vacuums, sealants, air filters, bug repellents, lawn care products | Avoid products with “antibacterial” labels; use no VOC paints; only use natural bug repellents with full ingredient disclosure; use borax or diatomaceous earth as an outdoor insecticide; use organic lawn care methods. |
| Polyvinyl Chloride | Water beds, mattress covers, vinyl blinds, bed liners, luggage, shoes, boots, watchbands, clothing, rain coats, toys | Use organic mattresses, PEVA mattress covers, high thread count natural fibers, wood racks, natural toys, and nonvinyl products. | Shower curtains, containers for personal care products and cleaning solutions, diaper covers, medical supplies, gloves, and wallpaper | Use PEVA or natural fiber shower curtains; use containers not labeled as #3 plastic; use nylon or natural fiber diaper covers and latex gloves. | Imitation leather, artificial Christmas trees, photo albums, plastic notebooks/binders, contact paper, checkbook covers, textiles (e.g., some fake leathers), electrical cords | Use natural fibers, buy a natural or metal tree; use nonvinyl (e.g., polypropylene) photo albums, binders, and checkbook covers; use RoHS compliant cords. | Beverage and food containers, plastic food wrap, utensils and cups, table cloths, lunch boxes, some plastic straws | Use glass, stainless, or ceramic food containers, non-vinyl dish drying racks, parchment or soy wax paper, wood and metal utensils, non-PVC cups and lunch boxes, and stainless or glass straws. | Yoga mats, outdoor furniture, home water pipes, flooring, siding, windows, swimming pools, balls, toys, garden hoses, inflatable toys, fencing, gutters, car seats | Use eco-friendly yoga mats, non-PVC products; keep new car windows down for ventilation. |

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| VOCs | Dry cleaned clothing, spot removers, mothballs, air fresheners, mattresses, deodorizers, perfume, carpets, candles and burning candles, plastic blinds, moth-proofed products | Open windows; use “green” dry-cleaning for clothes; use potpourri with essential oils; use natural scents, organic mattresses, natural fiber carpets with CRI Green Label, nonvinyl blinds, and unscented soy or 100% beeswax candles. | Shower curtains, wallpaper, air fresheners, cleaning products, cosmetics, deodorants, nail polish, nail polish remover, colognes, hair spray, alcohol, talc, aerosol sprays, laundry detergent, dryer sheets, antibacterial products, synthetic scents and fragrance | Ventilate frequently; use PEVA or natural fiber shower curtains; deodorize with essential oils or potpourri; clean with vinegar; use unscented, nontoxic personal care products such as baking soda or corn starch for deodorant; use unscented laundry detergent and non-antibacterial products; apply essential oils to clothing instead of skin; add vinegar in rinse cycle as a fabric softener. | New furniture, carpets, drapes, foam, candles, wood burning, furniture polish, fabric/leather cleaner, pressed wood products, art supplies, glues, permanent markers, pet products/beds, pet plastic toys, copiers/printers, thermal paper, hobby products, incense | Open windows; use HEPA filters on furnace or air conditioners; use carbon filter catchers and nontoxic sealant; avoid aerosols; seal VOC products (e.g., paint sealant over wood laminate); use non-VOC office and art supplies, natural fibers for pet toys and beds, and house plants that absorb VOCs; avoid incense. | Gas stoves/ovens, aerosol sprays, pesticides, cleaners, citrus oil cleaners, degreasers, nonstick cookware heated over 450 degrees, self-cleaning ovens, vinyl flooring, granite counter tops (radon) | Maintain appliances in good working order; open windows; use pumps vs. aerosols; use natural cleaning products and natural pest deterrents (peppermint oil, cedar); avoid nonstick cookware; steam or hand clean oven; get regular maintenance for gas appliances; seal flooring and wood as needed (e.g., vinyl or laminate); ventilate; always use exhaust fan when cooking. | Radon in basement, fuel containers, kerosene, fuel oil, petroleum distillates such as paint thinner, paints, polyurethane, pest control products, mineral spirits, solvents, adhesives, PVC cement, paint stripper, sealants/caulking, engine cleaners, plywood, weed control products, foam insulation, vinyl garden hoses, foam board, acetone, damaged ceiling or floor tiles, fireworks, wood particles (sawdust) | Use low/no VOC adhesives, paints, urethanes, cement, cleaners, stains, and strippers; use products according to directions; store safely; never mix products; replace garden hose with non-PVC; exhaust dryer vents to the outside; seal damaged flooring or ceiling tiles; use good ventilation; never idle your car or any engine in garage; use non-coal tar driveway sealer. |

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| Formaldehyde | Clothing labeled “wrinkle-free” and “permanent press,” stain-proof clothing; colorfast or blended clothing, bedding and sheets | Use nontreated 100% silk, 100% linen, 100% polyester, 100% acrylic, 100% nylon, stretch fabric, untreated wool, and untreated natural fibers; wash fabrics before first use. | Nail polish, nail glue, eyelash glue, hair smoothing and straightening products, shampoos, liquid soaps, baby shampoos, pet shampoos, laundry detergents, and mouth wash may contain chemicals that, when combined, release formaldehyde | Avoid formaldehyde and formaldehyde-releasing chemicals: quaternium-15, DMDM hydantoin, imidazolidinyl urea, diazolidinyl urea, sodium hydroxymethylglycinate, 2-bromo-2-nitropropane-1, 3-diol (bromopol). | Pressed wood, plywood, MDF (medium density fiberboard), wallpaper and paints | Use solid wood, non-formaldehyde-treated wood, and no VOC wallpaper and paints; use house plants that absorb formaldehyde. | Combustion from gas or wood; laminated countertops and cabinetry | Maintain your gas stove; use nontoxic laminates; choose solid wood products. | Caulking, sealants, glues, adhesives, wood finishers, insulations, nonmaintained furnaces | Use eco-friendly products; reduce exposure; ventilate well; perform annual furnace maintenance. |
| Radon | | | Aerated from water, particularly in the shower | Test water and install a radon removal system if necessary. | Basement rooms are more likely to have elevated levels. | Test for air levels and treat as needed. | Aeration from faucet and dishwasher; also in some granite counter tops | Have water treated if radon levels are high; install non-granite counters. | Sprinkler system for children’s play if radon levels are high and untreated | Provide children with a wading pool. |

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| Plastics | Waterproofed products like mattress pads/covers, changing pads, pillow protectors, any PVC #3 items, toys, baby teethers | Remove PVC products from the home; use natural fibers; buy high thread count fabric; PEVA shower curtain for bed protector; non-PVC, lead-free toys; silicone or wood teethers; natural wood products | Plastic cups, PVC products (e.g. shower curtain) | Use tempered glass or ceramic cups; stainless steel; store in plastics labeled #1, #2, #4, #5 for any items that may be applied to the skin or ingested; | Furniture, fake leather, toys, pet toys | Solid wood furniture; natural fiber fabrics; paint-free wood, metal, or nonplastic toys, | Styrofoam™ food containers; water bottles, beverage containers, plastic food wraps, popsicle makers, ice cube trays, plates, canned foods and drinks, strainers, coffee makers, water filter pitchers, utensils, mixing bowls, cutting boards, electric kettles | Use glass or stainless steel storage containers and cover with plate or plastic lid; use glass or stainless steel beverage bottles; use parchment paper, soy-waxed paper, silicone lids, beeswax cloth, stainless popsicle makers, stainless ice cube trays, nonplastic plates; replace canned food and aluminum beverage cans with glass; use metal strainers, a French press for coffee, glass pitchers, wooden or metal utensils, glass or metal mixing bowls, wooden cutting boards, metal or glass tea kettles; bring your own nonplastic take-out containers. | Planters, rain barrels, garden hoses | Use clay pots for vegetables and herbs; do not drink from rain barrels; use PVC-Free garden hoses or RoHS compliant. |

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| Heavy Metals | Possible ingredient in pesticides, often without being listed | Use plant-based products, cedar, or cedar oil for pest control. | Nail polish, personal care products | Use certified organic or plant-based products. | Lead wicks in candles, colorants in candles and art supplies | Use candles with cotton wicks; soy or beeswax candles and vegetable-based art supplies made with plant-based materials. | Unfiltered water sources, leaded glass, copper pots, aluminum pots and pans | Test water for heavy metals; use water filters, lead-free glass, and stainless steel, glass, ceramic, or cast iron pots and pans. | Solvents, adhesives, colorants, dyes, pressure treated wood, garden hoses, electrical and extension cords (if made with lead) | Use natural substitutes; ventilate well; wear protective coverings; use lead-free garden hoses and power cords that are RoHS-compliant (lead-free). |
| Harsh Cleaners | Carpet cleaners, deodorizers | Use baking soda, vinegar scrub, lemon juice, and salt; buy certified green cleaners or Ecocert products. | Laundry detergents, bathroom cleaners of all types, (tile, grout, fiberglass, flooring, toilet, etc.) | Use white vinegar spray, baking soda paste, or other homemade cleaning recipes (see Resources section); use vegetable based, products with few ingredients, either fragrance-free or scented with essential oils; use a toilet plunger and avoid bleach. | Furniture polish, fabric/leather cleaners | Use a damp cloth or a damp cloth with olive oil; for fabric, apply baking soda and vinegar mixture, then rinse; use HEPA filters. | Dish soap and dishwasher soap; general cleaners, including metal cleaners, drain cleaners, oven cleaners, and glass cleaners | Use vegetable-based products with few ingredients, either fragrance-free or scented with essential oils, Bon Ami Powder, lemon and salt, or baking soda and vinegar; use a plunger for clogged drains; steam clean ovens or scrub with baking soda paste; use vinegar water for glass. | Grill cleaners, car cleaners | Use soapy hot water for grease; clean with Bon Ami Powder® or lemon and salt. |
| EDCs | <p>Endocrine disrupting chemicals (EDCs) are a large group of chemicals frequently classified as “chemicals of concern.” EDC exposure can come from a variety of sources: cash register receipts; paper money; canned foods, shampoos, body lotions, shower curtains, plastic toys, nail polish, BPA and other phenols, and pesticides, to name but a few. Of the more than 300 individual active ingredients that can be used to formulate pesticides alone, more than 50 are considered endocrine disruptors. Other sources of EDCs include the products mentioned in the chart above: flame retardants, PFAS, PERC, pesticides, BPA, PVC, VOCs, plastics, heavy metals, and harsh cleaners. Because of this overlap, the tips and alternatives mentioned in each category above provide ways to reduce exposure to EDCs as well.</p> <p>For more information, see this scientific statement on EDCs, released by The Endocrine Society, an international scientific community devoted to the field of endocrinology: http://www.endocrine.org/~media/endosociety/Files/Publications/Scientific%20Statements/EDC_Scientific_Statement.pdf</p> | | | | | | | | | |