

Here is some info on PVC water pipe (used for molds) and a very important question on which I can find no definitive answer.

Does ANSI/NSF Standard 61 mean no Phthalates in PVC pipe and does this mean “ food safe “?

Polyvinyl Chloride

A study printed in the "Journal of Environmental Engineering" found that, in homes built before 1977, installed PVC pipes were found to leach polyvinyl chloride into drinking water at levels above the maximum allowed contaminant level. Levels were tested at dead-end pipe segments, where water stagnates. The study recommends installation of manual or automatic flush valves to reduce concentrations.

Phthalates

The Centers for Disease Control (CDC) notes that PVC contains phthalates, which can leach from plastics and, in animal studies, demonstrated the capacity to cause liver and reproductive system damage. The CDC warns that short-term exposure to phthalates shows little toxicity in adults; animal studies indicate that continuous exposure to phthalates is toxic, even at low doses. Infants, in particular, do not process phthalates well.

Safety Standards

Newer plastic plumbing components are marked to show that they meet the current standards for potable water. Compliant pipe is stamped with the codes NSF-PW or NSF-61, ensuring that these pipes meet the American National Standards Institute (ANSI) standards for potable or drinking water. This standard evaluates the contaminants or impurities of materials that come in contact with drinking water.

How to Avoid Phthalates (Even Though You Can't Avoid Phthalates)

What Are Phthalates?

For several years now we've been hearing about the mysterious, ubiquitous, and hard-to-spell chemical compounds known as phthalates (pronounced f-THAL-lates), which are used to make plastics flexible and as lubricants in cosmetics.

There are many [types of phthalates](#), among them DBP (di-n-butyl phthalate), DEP (diethyl phthalate), DEHP (di-(2-ethylhexyl) phthalate or bis (2-ethylhexyl) phthalate), BzBP (benzylbutyl phthalate), and DMP (dimethyl phthalate). You aren't likely to see any of them listed on a label, so don't bother memorizing these names.

Where Are Phthalates Used?

You've probably heard that phthalates are commonly found plastic food and beverage containers, but it turns out their presence extends far beyond that. **In fact, about a billion pounds of phthalates are produced every year**, and their use is so widespread that they are nearly impossible to avoid entirely. Indeed, [95 percent](#) of us have detectable levels of phthalates in our urine.

You'll find phthalates in perfume, hair spray, deodorant, almost anything fragranced (from [shampoo](#) to [air fresheners](#) to [laundry detergent](#)), nail polish, insect repellent, carpeting, vinyl flooring, the coating on wires and cables, shower curtains, raincoats, plastic toys, and your car's steering wheel, dashboard, and gearshift. (When you smell "new car," you're smelling phthalates.) Medical devices are full of phthalates — they make IV drip bags and tubes soft, but unfortunately, DEHP is being pumped directly into the bloodstream of ailing patients. Most plastic sex toys are softened with phthalates.

Phthalates are found in our food and [water](#), too. **They are in dairy products, possibly from the plastic tubing used to milk cows**. They are in meats (some phthalates are attracted to fat, so [meats and cheeses](#) have high levels, although it's not entirely clear how they are getting in to begin with). You'll find phthalates in tap water that's been tainted by industrial waste, and in the [pesticides](#) sprayed on conventional fruits and vegetables.

Where Phthalates Are Not Found

Weirdly, not all soft plastic contains phthalates. Most plastic wraps, water bottles, and food containers are phthalate-free. But don't breathe a sigh of relief just yet. Plastic wrap, for instance, typically contains DEHA (di(2-ethylhexyl) adipate), which — while not technically a phthalate — is chemically [very close](#) to DEHP and has been associated with [liver tumors](#) in rodent studies. My advice is to eschew plastic as much as possible (more on this below).

7 Ways to Avoid Phthalates

I don't know about you, but I'm freaked out. Eliminating all phthalate exposure might be impossible, but we can certainly greatly reduce the burden with the following strategies.

1. **Stay away from fragrance.** Unfortunately, you will very rarely see phthalates listed on a product label — particularly if you're worried about a rubber ducky or a vibrator. Luckily, there are clues. When it comes to cosmetics, the word "fragrance" or "parfum" on a label almost always means phthalates. What you want to see are claims like: "no synthetic fragrance" or "scented with only essential oils" or "phthalate-free." And always use only [natural air fresheners](#)

2. **Crack the code.** Plastic products with recycling codes [3 and 7](#) may contain phthalates or BPA. Look for plastic with recycling codes 1, 2, or 5.
3. **Ditch hand-me-down plastic toys.** Happily, several types of phthalates are [now banned](#) from children's toys, [teethers](#), bottles, and feeding products. But these laws only took place in 2009, so anything made of soft plastic that was manufactured before that probably contains phthalates (think rubber duckies, not Legos).
4. **Avoid plastic whenever possible,** and never heat your food in plastic. Foods that are higher in fat — meats and cheeses, for instance — are particularly prone to chemical leaching. Even BPA or phthalate-free plastic may [contain harmful chemicals](#). Opt for glass food storage containers, and choose bottles and sippy and snack cups that are mostly stainless steel, silicone, or glass.
5. **Eat organic produce, meat, and dairy.** Phthalates are used in pesticides and are also found in sewage sludge that is used in conventional agriculture. Neither is permitted on certified organic produce, and pesticide-treated animal feeds are [not allowed](#) in organic meat and dairy production.
6. **Invest in a water filter.** Granular activated carbon filters [should remove](#) DEHP, which is the type of phthalate used in water pipes. Unfortunately, some sources [claim](#) that a percentage of water may pass through the carbon without filtration. A [nano-filtration system](#) is more expensive but possibly more reliable way to [filter out phthalates](#).

More HDPE info

<http://pprc.org/index.php/2015/p2-rapid/is-high-density-polyethylene-hdpe-a-good-choice-for-potable-water/>