



EWG'S GUIDE TO ENDOCRINE DISRUPTORS

8 hormone-altering chemicals and how to avoid them

Have you heard about the male frog exposed to an herbicide found in tap water and how it ended up with female anatomy?

The herbicide that caused that dramatic change to the frog's body was atrazine, one of a large handful of harmful **endocrine disruptors** that can also cause health problems in humans. The substances can be found in food, water and many consumer products. They interfere with the hormone system and can cause nervous system damage, cancer and other health harms.

It's difficult to avoid exposure to these toxic chemicals, but it's not impossible.

Consult this guide to endocrine disruptors to find out what they are and how best to avoid them.

1. Pesticides

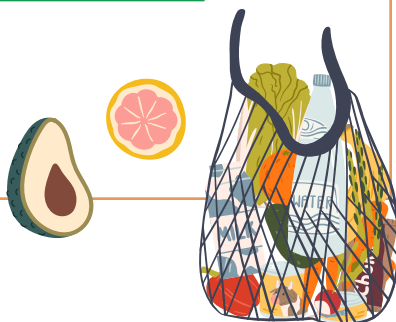
Many affect the hormonal system, including atrazine and organophosphate pesticides

Used for: discouraging weeds and pests on non-organic crops, preventing fungus, and drying crops to speed the harvesting process.

How they can harm you: Pesticides are associated with impacts on fertility and birth outcomes, nervous system damage, cancer and other health harms.

What you can do: Buy organic when you can – it contains less pesticide residue.

Get more info: Consult [EWG's Shopper's Guide to Pesticides in Produce™](#).



2. Phthalates

Used for: making plastic more flexible and as stabilizer in fragrance to extend scent.

How they can harm you: Phthalates are associated with problems of the reproductive and respiratory systems, liver and kidney, and normal human development.

What you can do: Dust and vacuum frequently, with a HEPA filter when possible, to lower risk of exposure. Avoid anything made of **vinyl** – flooring almost certainly contains phthalates – and flexible vinyl, PVC 3. Steer clear of products containing the mystery ingredient **“fragrance.”** Found in a wide range of personal care products and cleaners, it's usually a mystery brew of thousands of chemicals.

Get more info: Consult [EWG's Skin Deep®](#) and [Guide to Healthy Cleaning](#) to find safer products.

3. Parabens

Used for: artificially preserving many food and personal care products like cosmetics.

How they can harm you: Parabens can disrupt hormones in the body, harming fertility and reproductive organs, affecting birth outcomes, and raising the risk of cancer.

What you can do: Read labels carefully to make sure you avoid ingredients whose name includes parabens, like butyl and propylparaben.

Get more info: Whenever possible, use EWG VERIFIED™ personal care products and cleaners, and search Food Scores and the Healthy Living app for healthier options.

4. Perchlorate

Used for: rocket propellants, munitions, fireworks, airbags in vehicles, matches and signal flares. It builds up in soil, so it can be found in food and water.

How it can harm you: It can disrupt the thyroid system and reduce thyroid function.

What you can do: It's not easy to eliminate your exposure entirely, but certain kinds of filtration will help you avoid it in your drinking water.

Get more info: Consult our Tap Water Database to find out whether perchlorate is in your water and what kind of filter is best to use.

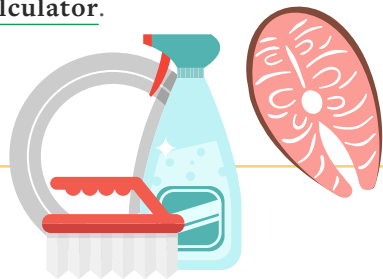
5. Heavy metals

Used in: a wide variety of personal care and cosmetic products, such as lipstick, whitening toothpaste, eyeliner and nail color. Some are added intentionally, and others are contaminants. They're also used for a variety of industrial uses, and then accumulate in food and water. Some also occur naturally in the environment.

How they can harm you: Heavy metals can lead to a range of serious health harms, including harm to the brain, kidneys and the developing fetus, as well as obesity and metabolic disruption.

What you can do: Monitor consumption of foods known to contain heavy metals, like rice and certain types of fish, plus baby and toddler foods, like apple juice and baby food.

Get more info: Consult our EWG guides to avoid heavy metals – Skin Deep®, the Tap Water Database, and EWG VERIFIED™ cleaners and Consumer Guide to Seafood and seafood calculator.



6. PFAS

PFAS as a class

Used for: making products resist heat, oil, stains, grease and water. It's also an ingredient in firefighting foam.

How they can harm you: PFAS have been shown to cause birth defects, harm to the liver, lower fertility, high cholesterol, obesity, hormone suppression, other reproductive and developmental issues, and cancer. Studies suggest they also reduce vaccine efficacy.

What you can do: Avoid stain- and water-resistant treatments on clothing, bedding and curtains. Steer clear of nonstick utensils, cookware and other objects in the kitchen – look for cast iron, stainless steel, glass and wood instead.

Get more info: Look for EWG VERIFIED™ personal care, cosmetics and cleaning products to make sure they don't contain intentionally added PFAS. Consult our Tap Water Database to find out whether your water contains the chemicals and, if so, what kind of water filter will remove them.

7. BPA

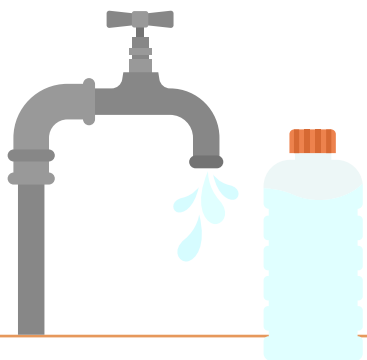
Plus BPA alternatives

Used in: some canned foods, from which they migrate into food. **Bisphenol A, or BPA**, can also be found in thermal paper used for receipts, sport water bottles from before 2012 and baby bottles, sippy cups from before 2011 and pacifiers.

How it can harm you: BPA and its substitutes can cause learning and behavioral problems, infertility, brain, nervous system and heart abnormalities, diabetes, obesity, changes to the DNA, cancer and other serious disorders.

What you can do: Eat fresh foods instead of canned. Steer clear of plastic wrap and canned foods. Never heat food in a microwave using plastic containers – use glass in the microwave and stainless steel for storage. Avoid shatterproof plastic, PC 7, which can contain BPA. Avoid takeout for the same reason. And just say no to most receipts, which are made of BPA-containing thermal paper.

Get more info: Find out how to [filter your water](#) to lower your consumption of BPA.



8. Oxybenzone

Used for: Ultraviolet, or UV, filters like **oxybenzone** are found in many sunscreens and other products with sunscreen protection factor, or SPF, to protect against sunburn and other skin-damaging effects caused by excess sun exposure.

How it can harm you: Studies by FDA scientists show many UV filters can be absorbed into the body after a single sunscreen application, with higher levels detected in those that are reapplied. Oxybenzone can interfere with the endocrine system at the cellular level, and studies show associations between exposure during pregnancy and birth outcomes and birth weights, plus increased risk of breast cancer and endometriosis in exposed adults.

What you can do: Sunscreens are intended to be used every day for a lifetime, so it's essential they be safe and effective. Only two sunscreen ingredients on the market in the U.S. currently qualify – zinc oxide and titanium dioxide, and EWG's best-scoring sunscreens contain these active ingredients. Study the ingredients labels of sunscreen and other SPF products and avoid any whose active ingredients include oxybenzone.

Get more info: Consult [EWG's Guide to Sunscreens](#) to find safer and effective sunscreens and other SPF products for [daily, recreational](#) and [baby and kid use](#). You can also find out more about [specific ingredients hazards](#).

AN URGENT NEED FOR FEDERAL ACTION

Individuals shouldn't have to shop their way out of the problem of toxic chemicals in their food and water and the products they use every day. **It's up to the government to step in and regulate or ban them.** The Biden administration is taking steps in that direction, but progress is slow. The administration must move more quickly to protect us from harm.