

# How to Detox From Plastics and Other Endocrine Disruptors

The soles of your shoes, the fabric of your clothing, your contact lenses, your chewing gum, your phone, food containers, mattresses – all are made with plastic. It's everywhere. It's in our salt and it's in our water. Plastic may be the most insidious and enduring product we've ever produced.

While plastic improves our daily life in countless ways, it is also suffocating our planet and causing catastrophic pollution, much of it hidden and microscopic. Just how bad is it?

Bottled water samples were collected and analyzed by scientists over a ten-month investigation. The study analyzed 259 bottles from 19 locations in nine countries across 11 different brands and found an average of 325 plastic particles for every liter of water being sold.

*In one bottle of Nestlé Pure Life, concentrations were as high as 10,000 plastic pieces per litre of water. Of the 259 bottles tested, only 17 were free of plastics, according to the study.” – Drinking Bottled Water Means Drinking Microplastics*

This study comes just after a damning study of plastic found in sea salt brands was published in the scientific journal *Scientific Reports*. They analyzed seventeen commercial salt brands from eight different countries on four continents for plastic particles. They found plastics in all but one brand.

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## BPA's Replacement, BPS, Likely No Better

BPA is the starting material for producing polycarbonate plastics. We found out it leaches into the ground and water and causes all kinds of problems. Of course, the manufacturers denied and lied until the mounting evidence was incontrovertible. Then BPS was developed, and was a favored replacement; they thought BPS was more resistant to leaching. But BPS is leaching. Nearly 81 percent of Americans have detectable levels of BPS in their urine. Once it enters the body it can affect cells in ways that parallel BPA.

## Microplastics, Endocrine Disrupters, and the Environment

Microplastics are most likely, to varying degrees, already in all of our drinking water and in all of our bodies. Microplastics absorb toxic chemicals linked to cancer and other diseases and release those chemicals into animals that consume it, like fish and humans who eat those fish. Experts say since these fibers have been found in most of our water supply, they have to be in our food as well. From fish to organic vegetables, microplastics are everywhere. At this time, there is no known way to completely filter or contain them.

Plastic waste doesn't biodegrade. Instead, it breaks down into smaller pieces of itself, down to the nanometer scale (one billionth of a meter). Science knows that particles of this size migrate through intestinal walls and travel to lymph nodes, glands, and bodily organs.

Plastic is toxic. It has been proven to cause cancer. Plastic toxicity weakens the immune system, metabolism, and affects people's skin, weight, behavior, and much more. Plastic particles will leach into food and drink and is also absorbed through skin and lungs. Plastics leach endocrine disruptors, meaning plastic screws up our hormonal system.

Most plastic products, from dishes to plastic bags to food wraps, have been proven to release estrogenic chemicals. These chemicals are endocrine disruptors that act like the sex hormone estrogen, according to a study in Environmental Health Perspectives. Excessive estrogen, estrogenic chemicals, and other endocrine disruptors have been linked to cancer, fertility problems, male impotence, heart disease, and many other conditions.

Endocrine disruptors (EDs) are chemicals that mimic our own hormones. They bind hormone receptors and disrupt the body's normal hormonal actions. Endocrine disruptors may cause a more powerful response than the natural hormone would have or a diminished response. In some cases, they cause a completely different response than its natural counterpart would have created. EDs are typically measured in parts per trillion, which is indicative of the fact that very small amounts can have a disrupting effect on us. EDs are very stable. They don't break down quickly. This is, in large part, why they are in so many products. They also get stored in our fat cells. They tend to stick around for a long time.

The dangers of plastics have not been studied adequately, and the plastic industry has no desire or intention of doing so. A study looking into the effects of BPA on rat testicles found

that lipoic acid exerted antioxidant effects that can protect against BPA damage. In the study, BPA was shown to reduce testosterone, testicular weight, protein content, antioxidant activity, and beneficial enzyme activity, while damaging the mitochondria. Fetal exposure to BPA has been associated with obesity, altered reproductive function, and cancers later on in life. BPA was accidentally discovered to be carcinogenic when medical researchers came to find that rats were getting cancer during a study for something else. They found out that it was caused the BPA in the water bottles. And now we are supposed to trust BPA free plastics?

## How to Avoid Plastic Toxicity

Many manufacturers have stopped using BPA to harden plastics, replacing it with “BPA-free” alternatives like the most common replacement, BPS (Bisphenol S).

*Our research showed that low levels of BPS had a similar impact on the embryo as BPA. In the presence of either BPA or BPS, embryonic development was accelerated. Additionally, BPA caused premature birth.” –Nancy Wayne*

You probably can't avoid plastics. Even if you go to another planet plastic is going to take you there and contaminate that ecosystem. But you can limit plastic consumption and keep your body in a homeostasis state that detoxifies itself at all times. And the good news is that with the right diet and a healthy body, BPA and BPS can be flushed out of your system quickly, some say within 24 hours. A properly working body can process and dispel a lot of toxins. An unhealthy body rids itself of toxins at a slower rate than the toxins are consumed and produced.

# Ways to Limit Plastic Contamination & Plastic Use

1. Keep your home clean, and vacuum regularly
2. Filter tap water
3. Always avoid artificial fragrances
4. Stay away from warm or hot plastics, don't even breathe near them
5. Avoid canned foods
6. Avoid conventional personal care products like shampoos, soaps, moisturizers, makeup
7. Avoid conventional and big-ag produce (pesticides and herbicides have plastic residues)
8. Cook your own foods using whole-food ingredients
9. Stop using plastic straws, even in restaurants
10. Purchase food, like cereal, pasta, and rice from bulk bins and fill a reusable bag or container
11. Use paper or your own reusable shopping bags, bulk goods bags, and bring your own mesh produce bags (FYI: I suspect that many paper bags contain BPA and BPS)
12. No more chewing gum, it's made of plastic
13. Buy boxes and glass instead of plastic bottles whenever possible
14. Use a reusable bottle or mug for your beverages or coffee and soda refills (but you don't drink that crap, do you?)
15. Boycott any restaurant that still uses styrofoam – Why is that still a thing?
16. Use matches or invest in a refillable metal lighter – avoid the plastic disposable ones
17. Eat real, whole foods – fresh foods equates to less packaging and less previous plastic contact
18. Don't use plasticware ever, bring your own if need be
19. Use cloth diapers – disposable diapers are extremely toxic to the environment and your baby
20. Make your own cleaning products

21. Pack your lunch in glass containers and reusable bags.
22. Use a razor with replaceable blades instead of a disposable razor
23. Find other disposal products that can be replaced by their non-disposable counterparts
24. Avoid seafood
25. Avoid cheap supplements and be wary of sports supplements

## Also, Avoid BPA receipts!

*Did you know that some receipts contain 250 to 1,000 times the amount of BPA typically found in a can of food? If that isn't scary enough, BPA transfers readily from the receipt to skin and cannot be washed off. Different types of receipts contain varying levels of BPA. If you aren't sure whether or not a merchant uses BPA in their receipts, either ask directly or let them know early in the transaction that you will not need your receipt. Gas station receipts are particularly notorious for containing huge amounts of BPA."*

– Home Maker Chic

## How to Detoxify Plastic Byproducts

To eliminate BPS, BPA, and other plastic residues from the body, one must first and foremost, make sure your gut is not leaking! A healthy gut microbiome will breakdown toxins into inert substances. See *How To Heal Your Gut* for more on that.

The second most important thing you can do is consume lots of salads like these. Incidentally, salads are part of building a healthy gut microbiome. A large salad with 15 different vegetables and herbs will chelate toxic chemicals from the body while providing nutrition and feeding a healthy, diverse microbiome.

Also, eliminate heavy metals and other toxins as well. Toxins tend to disrupt the endocrine system. The endocrine system is your hormonal system (click to learn more), which includes glands like the thyroid, adrenals, and the pancreas. Heavy metal toxicity and other toxins will also inhibit the body's ability to detoxify other chemicals including plastic residue.

Most people living on a modern, refined diet suffer from candida overgrowth, and consequently, a leaky gut. Ingesting pesticides, GMOs, antibiotics, alcohol, and other toxic foods kill our natural, beneficial gut microbiome. The refined sugars and flours we ingest feed the microbes that survive our toxic lifestyles. These microbes thrive in our toxic bodies because they feed off of simple sugars and weak cells. They also feed off of plastics, heavy metals, and all kinds of toxins. And they are not the microbes that optimize our health. The best gut bacteria just happen to like the healthiest foods. Nature wouldn't work if it were any other way.

The diet I recommend may sound extreme. It's the same diet I advocate for those suffering from cancer, diabetes, depression, any other autoimmune disease or infection, or for those who just want to detoxify. If you are sick, no amount of supplements will fix that. But with the right diet, supplements will radically speed up the process of getting well. If you want to live life disease free, save the following articles:

- *Detox Cheap and Easy Without Fasting – Recipes Included*
- *Start Eating Like That and Start Eating Like This – Your Guide to Homeostasis Through Diet*
- *How to Make the Healthiest Smoothies – 4 Recipes*
- *More*

Even if you're not feeling ill in any way, detoxifying plastic or anything else is done best with raw, fresh vegetables. The right salad will chelate heavy metals, BPAs, BPS, and more,

all while replenishing the minerals we need. Garlic, parsley, cilantro, and many other foods show promising chelation properties, but their effects alone are weak. The trick is to combine many healthy foods with their many health benefits for a holistic approach. Taking a few cloves of garlic a day will not significantly reduce levels of toxins any more than taking a supplement. In other words, don't underestimate the importance of the right diet. It must contain a wide variety of fresh, whole foods.

## **Supplements for BPA and BPS, Heavy Metal Detox, and Other Endocrine Disrupters**

Without a proper diet, the right supplements will work, but only to a certain extent, and only for a little while. On the other hand, supplements taken with a healthy diet can radically speed up healing time.

### **Plastic Detox Supplement Stack**

- Abzorb or Syntol AMD
- SF722
- Elmnx (diatomaceous earth, bentonite clay)
- Total Nutrition Formula

With a proper diet, the following is probably overkill (but if the budget allows it...):

- IndolPlex
- Calcium D-Glucarate
- Activated Charcoal

Keep reading for an explanation of these supplements:

### **Probiotics**

1.) Get thee some probiotics – pronto. I'm not talking celebrity endorsed yogurt here. Chose fermented foods like kimchi, natural sauerkraut, and kefir. A refrigerated,



concentrated probiotic supplement helps. Drink kombucha. *Bifidobacterium breve* and *Lactobacillus casei* were found to extract BPA from the blood of mammals and were excreted out through the bowels. That is very good news!

Beneficial bacteria strengthen the gut and help break down chemicals like BPA so they can be cleared out. As a bonus, they break down pesticides, another major endocrine-disruptor, and other toxins as well. Probiotics are becoming well known for breaking down endocrine-disruptors and other toxins in the body.

My recommendations (pick one depending on the budget):

- Syntol AMD (powerful probiotic with prebiotics and enzymes)

## **Activated Charcoal (AC)**

Chelators are small molecules that bind very tightly to metal ions. Activated charcoal is proven to attach to heavy metals including beneficial macrominerals, so mineral supplementation is recommended when consuming activated charcoal, though this can be mitigated with a healthy diet like as mentioned above.

Activated charcoal is highly negatively charged. It seems to bind with positively charged particles. Pathogens typically have a high positive charge associated with them, and so do plastics. Activated charcoal filters have shown to remove BPA from water, but I don't see any research on its ability to filter BPA from the body, but I think it works.

My recommendation:

- Activated Charcoal

## **Bentonite Clay**

Like activated charcoal, bentonite clay is negatively charged. Unlike charcoal, bentonite clay provides minerals and other

nutrients to the body while it sucks out toxins, as it helps repair the intestinal tract.

My recommendation:

- Shillington's Intestinal Detox
- If clay slows down bowel movements you may also need Shillington's Intestinal Cleanse

## **Diatomaceous Earth (DE)**

Another chelator, and much more. Any self-respecting eco-friendly health-nut has a bag of food-grade DE somewhere. Take it with water to kill pathogens in your gut, and use it outside or indoors for pest control.

Food grade DE is approximately 80-85% silica. Life cannot exist without silica. Most people are silica-deficient.

There are tons of uses and benefits of using DE. Read more: *Diatomaceous Earth – Mother Nature's Secret Weapon: What Is It, How to Use It*

## **Chlorella**

Chlorella has a well-documented history of helping remove heavy metals and other toxins like dioxin from the body expeditiously. Its high concentration of chlorophyll and fiber seems to be a big part of its exceptional detox benefits. It's almost certain, considering the mechanism, that Chlorella (and spirulina) help pull out BPAs and other plastic residue.

Chlorella is a good source of protein, GLA, and phytochemicals, B12, B2, B3, iron, magnesium, Beta Carotene, and a bunch of powerful phytochemicals. Chlorella stimulates the growth of friendly bacteria. Furthermore, chlorella's cell walls act to absorb toxic compounds within the intestines, restoring proper gastrointestinal pH and helping to promote normal peristalsis. And it is another chelator, as it is also very negatively charged, attracting positively charged

molecules.

*Phytochemicals found within Chlorella pyrenoidosa support the complex network of enzymatic reactions that drive the human detoxification system. This detoxification network involves the Phase I and Phase II enzymatic reactions that take place in nearly all cells in the body, though they are concentrated in the liver cells. Phase I detoxification reactions change non-polar chemicals that are not water-soluble into relatively polar, water-soluble compounds. The Phase I process can result in the formation of reactive chemicals that are typically more toxic than the original compounds. Phase II detoxification is necessary therefore to add chemical groups to the toxic intermediates to make them water-soluble so that they may easily be excreted via urine and/or feces. Phase I and Phase II detoxification pathways must remain functional for the removal of toxins from the body. This research focuses specifically on the Chlorella pyrenoidosa species of green algae recognized for its detoxification properties. – King Hardt Academy*

## **Spirulina**

Chlorella is green algae, but spirulina is more of a blue-green in color. These two algae have a lot in common. Chlorella's green hue demonstrates that it's richer in chlorophyll than spirulina, and chlorella is said to have stronger detoxification properties. But spirulina is an even better source of protein, and it offers iron, B1, B2, B3, B6, B12, calcium, potassium, zinc, and a host of microminerals.

My recommendation:

- Total Nutrition Formula (contains spirulina and chlorella)

**Related: Total Nutrition – Make your own Homemade Multivitamin**

## **and Mineral Formula**

### **Enzymes**

Digestive enzymes break down food. Metabolic enzymes, also known as systemic enzymes, break down foreign proteins, fibrin, and other toxins, and they clean the blood of impurities. Consider the ramifications of this. Probiotics and enzymes together help breakdown nearly everything in the gut that doesn't belong. Read more about systemic enzymes [here](#).

My recommendation:

- Abzorb

### **Indolplex – DIM**

Diindolylmethane (DIM) is naturally present in cruciferous vegetables such as cauliflower, cabbage, broccoli, and brussels sprouts. It helps metabolize estrogens and hormone-disrupting estrogen mimics. Indolplex is a dietary supplement that contains a patented, bioavailable form of diindolylmethane.

My recommendation:

- Indoplex

### **Calcium D-Glucarate**

Calcium glucarate (calcium d-glucarate, calcium saccharate) supports the glucuronidation detoxification process.

*Glucuronidation is a major metabolic reaction, and mainly takes place in the liver, for disposal of a variety of endogenous (such as TH) and exogenous substrates (such as PCBs).*

*Comprehensive Handbook of Iodine, 2009*

Calcium glucarate is naturally found in fruits and vegetables,

especially cruciferous vegetables. Calcium glucarate helps rid the body of toxins and excess hormones while it protects our cells from carcinogens.

My recommendation:

- Calcium D-Glucarate

## Conclusion

My family and I do avoid it as often as we can. Years ago, I spent considerable time trying to completely eliminate plastic from my life. I found that my overall environmental footprint went up a little. Plastics make things so easy and convenient that sometimes it just doesn't make any sense to do without it. I'm careful, but plastics don't scare me. The body can handle a remarkable toxic load when the diet is right. I trust my diet to eliminate the BPA, BPS, and whatever else gets in there that shouldn't be.

That said, I cannot wait for the day when our plastics come from hemp or some other sustainable alternative. There are much better options available to us if we can just get out from under this petroleum-based economy.

## Recommended Reading:

- *Holistic Guide to Healing the Endocrine System and Balancing Our Hormones*
- *Sugar Leads to Depression – World's First Trial Proves Gut and Brain are Linked (Protocol Included)*
- *Detox Cheap and Easy Without Fasting – Recipes Included*
- *Start Eating Like That and Start Eating Like This – Your Guide to Homeostasis Through Diet*
- *How to Make the Healthiest Smoothies – 4 Recipes*

## Sources:

- Image courtesy of *Endocrine Disruptors* by Business As

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- *Plastic Contaminating Water* – Rodale's Organic Life
- *Invisibles – The plastic inside us* – Orb media
- *7 Ways to Drain BPA from the Body* – Activist Post
- *BPA-Free Plastic Containers May Be Just as Hazardous* – Scientific America
- *Transport and release of chemicals from plastics to the environment and to wildlife* – NCBI
- *The ameliorative effect of black tea extract and quercetin on bisphenol A-induced cytotoxicity* – Research Gate
- *Nutrients that Protect Against BPA* – Beyond Health News
- *Toxicology and Industrial Health* – Sage Journals
- *Maternal nutrient supplementation counteracts bisphenol A-induced DNA hypomethylation in early development* – PNAS
- *Chlorella vs. Spirulina, Which Algae is the Best?* – Radiant Life Catalog