

Frequently Asked Questions

What is EA?

Estrogens are often called female sex hormones, but they are also found in men. Chemicals are said to have estrogenic activity (EA) when they bind to & activate estrogen receptors in cells.

What are endocrine disrupting chemicals (EDCs)?

Endocrine disrupting chemicals (EDCs) are chemicals that mimic (or block) the action of hormones such as estrogens, androgens, & thyroxins. By far the most common form of hormonal activity in EDCs is EA. Several thousand xenobiotic chemicals are suspected to have EA. The most widely publicized EDC having EA is bisphenol-A (BPA), used to make (and released from) polycarbonate containers, can liners, & other products. Other examples of EDCs having EA are parabens in cosmetics & drugs, alkyl-phenols in soaps & paper products, & phthalates in many soft plastics. In fact, these & many other EDCs leach into the environment from a variety of consumer packaging & products, foods, beverages, cosmetics, & personal care goods, & can be consumed by people or pollute our environment.

Isn't it enough to just avoid a few chemicals, like BPA?

No. Avoiding BPA & few other widely publicized EDCs does not address the other thousands of potentially harmful chemicals having EA that could leach from plastics & other materials into the food & water we consume every day. This is why current legislative attempts to solve this problem by banning chemicals having EA one at a time – BPA, for instance – are not an effective solution.

A recent peer-reviewed study showed that over 90 percent of BPA-free products & materials tested were positive for EA. Companies that respond to short-term market forces, like the push for BPA-free, versus meeting a more comprehensive standard such as EA-free, will likely have to repeatedly reengineer those products to address other chemicals having estrogenic activity.

Why focus on chemicals that have EA?

While some chemicals having EA occur naturally in the body & in some foods, many scientific studies have shown that significant health problems can occur when additional amounts of xenobiotic EDCs are ingested. Eliminating specific chemicals like as BPA one at a time does not reduce or eliminate the presence of many other EDCs with EA. Improved safety can only be ensured when a comprehensive approach is implemented to address EA in consumer products.

What types of consumer products can leach chemicals having EA?

Many modern plastics, silicones, elastomers, processing aids, colorants, additives, & other materials & chemicals used in widely sold products like:

- Baby bottles & sippy cups
- Pacifiers
- Water bottles
- Plastic or silicone lids
- Food containers
- Plastic bags & wraps
- Dental materials
- Diapers
- Medical devices & supplies
- Breast milk pumps & bags
- Personal care & cosmetics
- Filler for supplements
- Tableware
- Soaps
- Food additives
- Animal feed
- Paper & wood
- Metal & paper liners

How are people likely to be exposed to EA?

Chemicals having EA can leach from consumer products & packaging into the water & food we consume, cosmetics we apply, additives in our foods, & many other sources. These & other products can also pose a hazard by leaching estrogenic chemicals into our landfills & water tables, thereby contaminating our environment.

Are chemicals having EA dangerous?

Numerous articles in scientific journals published over many years have reported that chemicals having EA can produce higher rates of some cancers, early puberty in females, diminished fertility, obesity, behavioral disorders, birth defects, & many other health disorders. This is an active research area, where scientists are trying to better understand the scope & magnitude of the health risks. The fetus, newborn, or young child is especially vulnerable to trace amounts of these chemicals. Synthetic chemicals with EA are clearly a significant hazard to be avoided when possible for most people.

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Is FDA approval of materials or products enough to ensure safety?

We don't think so. The FDA & other governmental agencies do not have a standard for EA safety. The US does not employ the "precautionary principle," which states that chemicals must be proven safe in order to be allowed for use. The default assumption in the US is that chemicals are safe unless proven otherwise.

Pesticides & prescription medications go through an FDA approval process, though plastics & other food & beverage packaging can be self-certified by the companies producing them if they are in compliance with FDA regulations on a limited number of specific chemicals. For example, despite public & scientific concern, it is still legal to manufacture many FDA-compliant products with BPA in the USA.

How can the problem of EA be solved now?

We believe consumers should preferentially buy certified EA-free products. Consumer demand will quickly change markets from one-at-a-time chemical-by-chemical avoidance (e.g., BPA-free, phthalate-free, or paraben-free) to the comprehensive solution of EA-free much faster than legislative regulations (e.g., banning all chemicals with EA from use in consumer products). In the past, for instance, consumer safety demands led to retailers & manufacturers eliminating lead in most child products well before any legislation, & more recently switching away from the use of BPA in baby bottles years before the FDA issued vague & inconsistent warnings about this chemical.

Are companies embracing EA-free alternatives?

EA-free solutions-company PlastiPure has talked to many product manufacturers in multiple industries & know that they are largely aware of the research that shows that chemicals with estrogenic activity can readily leach from products & the potential harm that it can cause to humans. While some companies are eager to learn more & investigate solutions, most companies seem to hope that consumers remain in the dark about potential risks of using products that release chemicals having EA. Many firms used this approach (and some still do) when the first concerns about BPA arose. Such attitudes change only when consumers demand that product manufacturers & retailers provide EA-free products.

Should plastic products be avoided completely?

The practical answer to this question is "What would replace plastics?" Plastics have many advantages. They are highly customizable, easy to process, lightweight, low cost, & have clarity, strength, & recyclability. Plastics can be made remarkably safer. Simply avoiding & replacing plastics is not the answer, because scientists have found chemicals having EA in many commercial products that are not plastic, such as glass, metal, silicone, wood, paper, food additives, personal care products, & cosmetics. We believe it is safest for consumers to focus on products that have reliably evaluated by trusted entities & found not to leach EA.

Where can we find data on EA?

Data is published in peer-reviewed scientific journals, some of which *productpure* has provided for download. In addition, some consumer groups, such as the Center for Environmental Health, have published data.

Since many companies have not yet tested their products for EA, are there any general rules of thumb to help consumers who may be purchasing untested products?

While there are many exceptions to these guidelines, models & data from scientists indicate:

- Many colorants & inks leach high levels of EA. Avoid untested colorants & inks when possible, especially colorants that change color with heat/cold.
- Softer plastics such as polypropylene or polyethylene are not as likely to leach as much EA as untested harder & clearer plastics such as polycarbonate (PC), polystyrene (PS), or polyether sulfone (PES).
- Elastomers such as latex, silicone, & synthetic rubbers can leach significant amounts of EA.
- Glass & stainless steel materials tend to not leach EA, but exceptions to these results exist. Also, be aware that a glass bottle may have a lid or straw that can leach EA, or that a metal container may have liners that leach EA.
- Data indicate the most destructive stress to plastics & other materials may be ultraviolet light. UV from different sources such as sunlight can break plastics down creating new chemicals having EA that were not in of the original product. This is one of the reasons companies should not make safety claims on their products without subjecting them simulated long-term environmental stresses.

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If a product tests as EA-free, will it always be EA-free?

Not necessarily. If a company changes the materials or processing of a product it may no longer be EA-free. This is why PlastiPure provides an ongoing certification process for companies to maintain their official PlastiPure-Safe[™] EA-Free status. PlastiPure's EA-free standards will likely become more rigorous over time as new technology allows detection & remediation of ever smaller levels of EA.

How should I evaluate a company that declares their own products to be EA-free?

Consumers should look for transparency in the claims that a product manufacturer makes about their own products. How was their product tested? What were the results? Is this a trusted entity? Will the company publish their methods & data in peer reviewed publications that have a high level of transparency that should let consumers know that they can trust the testing results & EA-free claims? Ultimately, consumers have to make a choice on which studies & standards they trust.

How can families keep children safe while using plastic?

The focus should not be solely on plastics, because many materials & products have tested positive for EA that were not plastics. But as a general rule, look for the PlastiPure-Safe[™] EA-Free seal to ensure that the products that given to children have been tested, encourage favorite retailers & manufacturers to seek out PlastiPure-Safe[™] EA-Free certification, & follow the rules of thumb given earlier.



In the absence of EA-free products on the market, what's out there that is safe enough?

Even if a product has been tested and, at that time, found it to be EA-free, without following a certification process & standard, its ability to maintain EA-free is in doubt without knowing that it will be made the same way consistently & that no potential contaminants will be introduced to the product. This is why for PlastiPure-Safe[™] EA-Free certification; companies must agree not only to use certain materials in their product, but also to follow an approved process & to submit commercial samples for ongoing testing.

I threw out all my old plastic & bought all BPA-free products...why isn't that good enough?

Because simply avoiding BPA does not address the other thousands of potentially harmful chemicals having EA that could leach from plastics & other materials into the food & water we consume every day. Also, the chemicals that are substituted for BPA often have EA themselves, sometimes in very significant amounts. We believe that the PlastiPure-Safe[™] standard is the best.

What will happen to my children if I keep using plastic that isn't EA-free?

No one knows for sure, but many peer-reviewed scientific studies have linked ingestion of chemicals with EA to higher occurrences of a variety of negative health effects, like higher rates of some cancers, altered reproductive functions, early puberty, obesity, learning disabilities, & behavioral changes.

How can I help get safer plastic products to the stores?

Talk to your favorite retailers about carrying productpure & other PlastiPure-certified EA-Free products. Also contact your favorite manufacturers to ask them to work towards achieving the PlastiPure-Safe[™] EA-Free certification. Talk to consumer groups & the press. Be active in promoting the cause of safer, EA-free products online. Keep up with the continuing discussions on these topics & actively participate in sharing information about product safety.

Note that answers given in this FAQ are based on scientific research which provides the basis for our statements.