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**MADE SAFE +  
Plastic Pollution Coalition**

# The Healthy Pregnancy Guide

**The Best Tips, Products & Tools for  
a Healthier Pregnancy & Planet**

Written + Researched by **Sydney Cook**

**DIGITAL  
VERSION**

All Product  
Recommendation  
Links, Websites  
& Glossary Terms  
**CLICKABLE**



**MADE SAFE**  
+  
**Plastic Pollution Coalition**

present

# **The Healthy Pregnancy Guide**

The Best Tips, Products, and Tools  
for a Healthier Pregnancy and Planet

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## About MADE SAFE

MADE SAFE® was started by a mom with a mission to make it easy to find products that are scientifically vetted and found to be made with safe ingredients™ that are not known or suspected to harm our bodies, babies or the ecosystem.

With a lack of regulation in the marketplace, the government has left it up to the shopper to decipher product labels. But with over 80,000 substances in use today—many of which are known to cause harm, or are untested—it's impossible for the average shopper to easily know which products to buy.

The answer is MADE SAFE: a prestigious, scientific certification program and consumer education organization. All MADE SAFE certified products have been vetted to meet rigorous standards so that when you see the MADE SAFE seal on packaging, you know that the product is better for people and the planet.

MADE SAFE uses a unique approach that screens products for more than 10,000 harmful ingredients including: carcinogens, endocrine disruptors, harmful flame retardants, high-risk pesticides, toxic solvents or VOCs. Products are also evaluated for their impact on the environment by assessing their ability to harm water, soil, air, and sediment, as well as terrestrial and aquatic life.

This guide is a reflection of MADE SAFE's work to advance the understanding of science around nontoxic living—not just during pregnancy, but each and every day. What does that mean? MADE SAFE certified is better for you and the planet. No compromises.

## About Plastic Pollution Coalition

Plastic Pollution Coalition is the leading global alliance working toward a world free of plastic pollution. For over a decade, our mission has been to galvanize a coalition of businesses, organizations, and people who are not only informed about the plastic pollution crisis but are taking action for change. Our members include concerned individuals looking to take positive steps in their own lives, businesses creating sustainable products, and policymakers and scientists working collaboratively to create laws regulating plastic's harmful effects.

The chemicals used in plastics harm our bodies. These chemicals are implicated in many health concerns ranging from obesity and diabetes to infertility, cancers, early puberty, and more. Chemicals from plastic may leach into our food and into our bodies where they disrupt the body's hormone systems. These chemicals influence fast growing cells, which means turning hormone systems on and off, out of sync with normal development. This is particularly concerning during fast growth periods of life like pregnancy.

The good news is you can take steps to protect your health and the health of future generations today. We have gathered all the info you need to avoid the toxic chemicals in plastic. You can use the advice of our Coalition and scientific advisors highlighted in the guide, while we keep working for the systemic change we all need for a healthier world—for people and the planet.

**MADE SAFE and Plastic Pollution Coalition want to thank the generous sponsors who helped make our guide happen!**



**At healthynest, our mission** is to protect and enrich the full potential of every child, and our focus is neurological safety.

We are a safe space for baby, where new and expectant parents can access everything they need to promote healthy development during pregnancy and the first few years of life, a time when babies make 1 million or more neural connections every second!

Our platform offers access to the brightest minds in the field of child development,

brain-safe and effective care products, and a monthly program that pairs our essentials with science-backed enrichment activities for baby's everyday routines to inspire meaningful connections.

From the founder of Happy Family Organics, Shazi Visram, healthynest is a new standard in care for families everywhere, because baby is soaking it all in.



**Visit us at [www.healthynesting.com](http://www.healthynesting.com)**



  
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 **TRUE BOTANICALS**  
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# How to Use Our Guide

**MADE SAFE + Plastic Pollution Coalition** have partnered on this guide, combining our expertise to offer essential research, recommendations, and resources



**T**his guide is intended to be your companion on your journey toward healthier living. As with all journeys, it's not just about the destination, but the process too. Healthy living isn't a goal to achieve or an accomplishment to check off—it's the way in which you live your life each day. Every decision gives you the opportunity to align yourself with your healthy living journey.

This guide is structured to reflect that this is indeed a journey. We recommend reading the introduction (page 10), “Why Pregnancy Matters” (page 14) and “Big Picture Tips for a Healthier Pregnancy” (page 22) first, to get acquainted with the topic. Our “Big Picture Tips for a Healthier Pregnancy” serve as tenets for help on-the-go, in a pinch, or with questions you find this guide doesn't cover.

Next, choose any one of the sections to start

with—for example, “Kitchen + Diet.” There is no need to go in order. Read through and start incorporating recommendations where you can. Each section includes many tips and product recommendations, as well as easy to-dos to get you started building momentum to make change.

## **Organization of Information**

This guide is organized by areas in your home and daily routine. Each section includes chemicals of concern, what they are and where to find them, along with healthier solutions and product recommendations. While this guide focuses on pregnancy, you'll also find some tips for what's known as the fourth trimester, the few months right after your baby is born, and beyond, at the end of the guide.

If you'd like to know more about a specific chemical, substance, or material mentioned

# INSIDE THE GUIDE

Our top **Tip** is highlighted in blue—start with this tip, then choose others



## SECTION

**You know the age old advice**—drink eight glasses of water a day. It's advice that still stands during pregnancy. (Though some women may need ten glasses; check with your doctor.) Water is essential to our health, so it makes sense that we'd aim for it to be as clean and pure as possible. Water supplies can be contaminated with various substances from toxic chemicals to bacteria. Some of these can come from the main municipal water supply and others can come from your pipes. Take the time to get to know your water; check your city's municipal water quality report to learn more. You may also want to get the water in your home tested further (with the pros or DIY) to ensure you've got healthy hydration. If your water isn't as pure as you'd like, numerous filtration options exist to help you address your home's specific needs. Finally, don't fall for claims that bottled water is cleaner than tap water. The majority of bottled water comes from municipal sources.<sup>108</sup> Plus the plastic bottle is capable of leaching harmful substances into the water. Water supplies can be contaminated with various substances from toxic chemicals to bacteria.



1

The Healthy Pregnancy Guide

## TIPS SECTION

- Reduce your pesticide exposure. Wash skins off conventional fruit and vegetables, incorporate organic or farmer's market items into your diet when possible, or going totally organic. Choose the path that works for you.
- Buy foods with recognizable ingredients. While not all hard-to-pronounce food ingredients are harmful, this rule of thumb can help you spot safer alternatives, especially when you don't have time to (or don't want to) look up an ingredient while standing in the grocery aisle.
- Consult your healthcare provider about proper prenatal nutrition. Numerous guides are available. Read up on seafood sources of omega-3s and other crucial nutrients like iron and zinc to ensure you're meeting your personal dietary needs.

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## Safer Sources SECTION

### FEATURED

**Maternity care and feminine care** **M S \*** **P P C**

### RECOMMENDED

**Badger Balm:** Maternity care

**Pure Kindness:** Body care and skin care **M S \*** **P P C**

**Seventh Generation:** Body care **M S \***

## Concerns SECTION

### Lead

**The concern:** Neurotoxicity, developmental toxicity.

**Found in:** Lead pipes.

### Pesticides

**The concern:** Impacts vary depending on the pesticide and include endocrine disruption and cancer.

**Found in:** Contaminated water supplies.

*For more information on these concerns, see the Glossary of Chemicals of Concern.*



**Safer Sources** can have these labels:

**M S \***

**MADE SAFE Certified**

**P P C**

**Plastic Pollution Coalition member**

and listings without any label are other recommended options

**Maternity care and feminine care** **M S \*** **P P C**

## ENDED

**Balm:** Maternity care

**ness:** Body care and skin care **P P C**

**neration:** Body care **M S \***

Chapters are broken into Sections on specific subjects. Sections begin with an **Overview**

## SECTION

**You know the age old advice**—drink eight glasses of water a day. It's advice that still stands during pregnancy. (Though some women may need ten glasses; check with your doctor.) Water is essential to our health, so it makes sense that we'd aim for it to be as clean and pure as possible. Water supplies can be contaminated with various substances from toxic chemicals to bacteria. Some of these can come from the main municipal water supply and others can come from your pipes. Take the time to get to know your water; check your city's municipal water quality report to learn more. You may also want to get the water in your home tested further (with the pros or DIY) to ensure you've got healthy hydration. If your water isn't as pure as you'd like, numerous filtration options exist to help you address your home's specific needs. Finally, don't fall for claims that bottled water is cleaner than tap water. The majority of bottled water comes from municipal sources.<sup>108</sup> Plus the plastic bottle is capable of leaching harmful substances into the water. Water supplies can be contaminated with various substances from toxic chemicals to bacteria.

## Concerns SECTION

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**Concerns** point out common substances known to be harmful; further detail can be found in the **Glossary** in the back

in any section—including what it is, why to avoid it, and where it's found—refer to the Glossary of Chemicals of Concern, located at the end of the guide. The glossary contains expanded information about their impacts on human and environmental health, as well as scientific references.

## About Our Recommended Products

MADE SAFE and Plastic Pollution Coalition individually assessed products for inclusion within this guide. Products were selected based on the human and ecosystem health of the substances and materials used within or to make the product. They were also assessed for any use of plastic within the product itself and its packaging.

Products carrying the MADE SAFE seal are MADE SAFE certified, which means they are made with safe ingredients not known

or suspected to harm human or ecosystem health. MADE SAFE is a rigorous scientific certification that uses a hazard-based approach to substance evaluation. Certified products have been thoroughly examined by researchers for their compliance with the MADE SAFE 360-degree ecosystem approach.

Products with the Plastic Pollution Coalition icon are members of the Coalition and have committed themselves to work toward a world free of plastic pollution and eliminating single-use disposable plastics, as well as to reduce the plastic footprint within their company.

Recommended brands without labels are neither MADE SAFE Certified nor Plastic Pollution Coalition members, but were selected for their use of safer ingredients or materials and/or their commitment to plastic free packaging.

# The Healthy Pregnancy Guide

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# Introduction

**A**re you pregnant? Trying to conceive? Or just thinking about expanding your family? No matter where you are in the process, preparing and planning for a little one is a time of hope, excitement, wonderment, and anticipation. For many of us, it can also be a time of concern.

If it hasn't already, your primal instinct as a parent may soon kick in, nudging you to look at the world differently. You might start considering more carefully what's best for your developing baby—whether that's your prenatal diet, a healthy nursery atmosphere, or pregnancy-safe skin care. Pregnancy can often be an opportunity to discover just how much there is to learn about preparing a healthy environment for a new baby.

Expectant parents have eternally worried and doted over their developing babies, but in this modern age, prepping for a baby may seem more complicated. Babies today are born into a world contaminated and

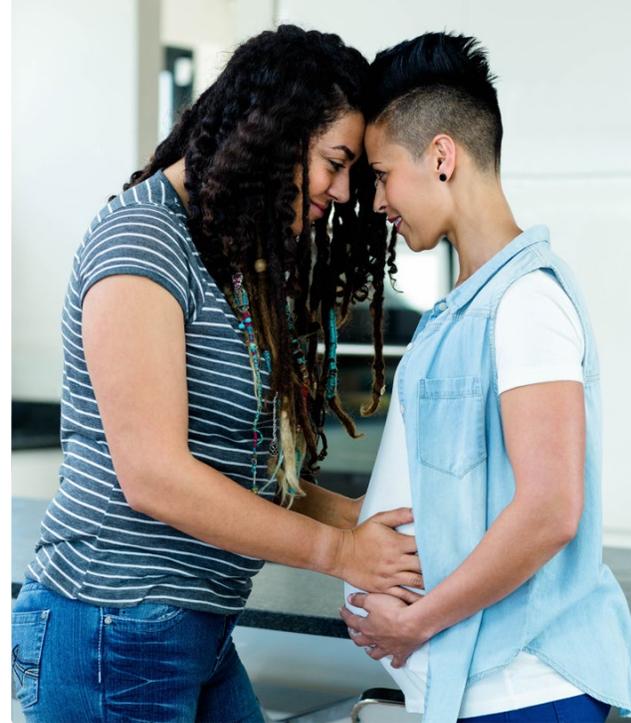




polluted by toxic substances, from the farthest reaches of the planet to your home, the products we use, the foods we eat, and even your own body. The colossal amount of information available about pregnancy and toxic substances in our environment *and* in everyday products can make creating a nontoxic space in which to nurture a baby feel challenging in our polluted world.

It's a lot to think about. And as parents, that primitive need to nurture and protect can leave you with what feels like a million questions and not enough time to find answers before your bundle of joy arrives. That's where this guide comes in—to inspire and empower you to find healthier solutions for you, your developing baby, and the planet. If this is the first time you're considering exposure to toxic substances in everyday products





or how to lighten your load on the planet, preparing for your child is a perfect place to start. In anticipation of your little one, you'll already be nesting, yearning to make the best possible decisions.

Our children will inherit this planet, making environmentally-conscious choices paramount. Multiple studies have demonstrated that actively avoiding certain toxic chemicals reduces their levels in our bodies. This means that every healthy choice you make is meaningful and contributes to a healthier pregnancy, a healthier mom, and ultimately a healthier planet. Every step you take towards a healthier lifestyle counts.

Within this guide, you'll find helpful information, tools, and product recommendations to make those healthier choices. You've already made one decision in the right direction by starting to read this guide... Keep going!



# WHY A HEALTHY PREGNANCY MATTERS



# WHY A HEALTHY PREGNANCY MATTERS

## HEALTH OF BABY

A growing body of research demonstrates that chronic childhood diseases are on the rise. For some of these diseases, there are known linkages to exposures to certain toxic substances. For others, scientists are not yet sure of their connections and causes.<sup>1</sup>

Some of the growing diseases and health complications in children include preterm births,<sup>2,3</sup> early-onset puberty (associated with breast cancer in adulthood),<sup>4</sup> asthma, leukemia and brain cancer, autism spectrum disorder, learning disabilities, type 2 diabetes, and birth defects.<sup>5</sup>

In addition to childhood disease and adverse pregnancy outcomes, research is starting to connect prenatal exposures to certain toxic substances with diseases and conditions that don't manifest until much later in life.<sup>7</sup>

### Critical Windows of Exposure

The development of a baby inside the womb is a highly choreographed dance. Specific developments must take place at very specific times. Just as dancers in a ballet know the exact moment to plié or leap, the body “knows” the precise time to begin developing the heart, central nervous

## EMERGING LINKS IN THE RESEARCH<sup>6</sup>

**Neurological Disorders & Early Puberty**  
are linked to exposure to **Bisphenols in Plastic**.

**Childhood Asthma**  
is linked to exposure to **Air Pollution** and **Phthalates**.

**Issues with Cognitive Development**  
are linked to exposure to **Lead, Mercury, and PFAS**.

**Childhood Cancer**  
is linked to prenatal **Pesticide Exposure**.



system, limbs, and every other part of the human body. While one body part or system may take center stage, others play supporting roles, or may even be taking a break off stage—then the roles shift and shuffle until the dance of development is complete.

Each body part or system has what is called *critical windows of exposure*. Going back to the dance analogy, this is the time when it takes center stage. Critical windows of exposure are periods within development when a specific organ, body part, or system (or multiple) is the most sensitive to exposure to toxic substances. Exposure to different toxic chemicals within critical windows of exposure can have an impact on the development of different body parts, depending on which window and chemical are involved.

### **Small Exposures Matter**

“The dose makes the poison.” You may have heard this old saying, which is a tenet of the field of toxicology. It means that the amount of a toxic substance to which you’re exposed matters. The more of a toxicant you’re exposed to, the more toxic it is.

This way of thinking has been embraced by researchers and regulatory agencies alike. For example, the EPA assesses chemicals through this lens, setting exposure limits with the assumption that low-level exposures are inconsequential for many substances.

However, this age-old adage, which predates many of today’s common toxic substances and researchers’ current knowledge of toxicity, is not accurate for many chemicals currently in use. Therefore, researchers’ and agencies’ approach to toxicity should be re-assessed.

Research suggests that some substances are actually *more* toxic at lower doses than at larger doses. Analysis of toxic responses to increased doses suggests that some substances like lead, air pollution, benzene, tobacco, and ionizing radiation (like x-rays) may actually be more toxic at lower doses.<sup>8</sup>

Endocrine disrupting chemicals (more on these below) often demonstrate toxic responses that go against the “dose makes the poison” paradigm. Numerous endocrine disrupting chemicals have been shown to be potent at low doses.<sup>9</sup>

While more study is needed in this area, emerging research and theories, as well as existing research on endocrine disrupting substances, suggest the importance of considering the potential impacts of low doses.

### **Endocrine Disruptors**

To return back to our dance analogy, if the various body parts in development are the dancers, who is the choreographer? The endocrine system. The endocrine system—the body’s chemical messaging network—is comprised of glands that secrete hormones that are transported throughout the body via the bloodstream. The endocrine system controls almost every function in your body from conception until death, including growth, development, reproduction, metabolism, organ function, and more.

The endocrine system calls the shots, sending the body “cues”—hor-





mones—to direct the body to perform certain functions. The hormones whirling and whisking through the body’s glandular system (the highway for hormones) only need to be present in miniscule amounts in order to deliver their message.<sup>10</sup> You can think of this as the choreographer only needing to whisper a direction to be heard by the dancer.

Numerous substances within everyday products and environmental pollution can interfere with normal hormone signaling. These interlopers, called endocrine disruptors, mimic or compete with hormones in the body to throw normal hormone function out of whack, which can affect numerous bodily systems because of the endocrine system’s far-reaching directorial capabilities.<sup>11</sup> Because the functions that the endocrine system controls are vast, the impacts of endocrine disruptors are wide-ranging. They include altered fetal development, issues with fertility, increased risk of cancer,<sup>12</sup> obesity,<sup>13</sup> and more.

Endocrine disruptors generally only need to be present in infinitesimally small amounts—stage whispers—to interfere with the body’s highly choreographed developmental dance. As touched on briefly above, this is why small exposures matter, especially in the case of endocrine disrupting chemicals.

Numerous endocrine disrupting substances will be mentioned in this guide with tips and recommendations for avoiding them so you have the tools you need to make healthier decisions, but before you dig in, here’s a short list to get you started thinking about them and where they exist in our daily lives: phthalates (plastic, numerous everyday items), BPA and other bisphenols (plastics, canned goods), brominated flame retardants (furniture, mattresses, kitchen items), parabens (personal care), and some pesticides (conventional food, personal care).

As you can see, endocrine disruptors appear in a wide range of consumer goods from plastics and personal care to food and home goods. Read on for more tips on how to spot and avoid these substances.

### **Epigenetics**

Up until recently, researchers considered inheritance to be solely derived from DNA, our genes being the map to what we inherited from our par-



ents. In the growing world of epigenetics, however, there is much more to the story than just your genes.

Epigenetics researchers study how proteins “tag” DNA, a process in which proteins hook on to DNA and act as dimmer light switches. Some proteins turn the lights up, some dim them, and some turn them all the way on or off. Depending on the action (on, off, or somewhere in-between)



and the location on the DNA, this process can have a number of impacts.

What makes the capabilities of these proteins of interest to expecting parents is that they are influenced by the actions that a developing baby’s parents take *before* conception. They’re even influenced by the baby’s grandparents’ lives too!

Some experiences and actions are stronger than others. Diet before conception,<sup>14,15,16,17</sup> prenatal nutrition,<sup>18,19</sup> stress,<sup>20</sup> trauma,<sup>21,22</sup> neglect, and exposure to toxic substances,<sup>23,24</sup> are some of the strongest epigenetic actors, creating a powerful case for the importance of nutrition, loving homes and families, rest and rejuvenation, and other factors in our lives before conception, as well as during pregnancy.

While this area of research is growing, the exact mechanisms of epigenetics and outcomes from various exposures and experiences are not yet fully understood. More research is needed. However, the research that does exist is all the more reason to be mindful of our decisions about health and lifestyle.

### **Knowledge Is Power**

While it can be a big responsibility (and perhaps overwhelming!) to think about the impacts that your choices have on your child, it’s important to remember that knowledge is power, and that power translates directly



to your ability to make wiser, healthier choices whenever possible. There may be things you cannot do, but everything you choose to do matters. Don't despair if you look back on your lifestyle before planning for a baby and wish you might have done things differently. Start creating a healthier future now that you're armed with the knowledge to lead a healthier life for you and your growing child.

## HEALTH OF MOM

### Health and Household and Personal Care Products

So much of the information shared in pregnancy books and guides is about giving birth to a healthy baby. This is a no-brainer; every parent wants the best for their baby. But let's remember mom too!

You may have heard that the average woman uses 16 personal care products a day (men use around 6). Many products contain numerous ingredients and some "fragrance" formulations can contain over 100 ingredients, which means we can be exposed to thousands of unknown and potentially harmful ingredients a day. Additionally, some ingredients may appear in more than one product used daily, increasing exposure.

While the exposures to each of these ingredients may be small on a daily basis, the trouble comes with continued use. Some ingredients build up in the body, bit by bit, with each successive exposure. Remember, endocrine disruptors can promote harmful effects on very small levels.

There's much more to think about than personal care products too—we're exposed to toxic substances through household goods like furniture and mattresses, in renovation processes, through all of the ways plastic appears in our daily lives, and in our diets.

### Small Changes Are Powerful

The good news is that small changes can mean *big* impacts! Take the HERMOSA study for example: When teenage girls avoided certain toxic ingredients, they saw big drops in their body's levels of those ingredients—in only three days!<sup>25</sup> That means that if you give your body a "break" (hopefully a permanent one) from certain toxic substances, your body can likely clear them out.

Another study measured estrogenic activity in post-menopausal women before and after implementing behavior changes to reduce exposure to plastic, which typically contains substances linked to endocrine disruption. Results indicated that 68 percent of women saw decreased estrogenic activity.<sup>26</sup> While these results are preliminary, this study demonstrates how lifestyle changes made to reduce exposure to plastics may mean big positive changes!

Studies like these are hopeful. They show us that every shift we make towards healthier products can contribute to a healthier mom (and partner too)!





## HEALTH OF PLANET

### **Plastic Pollution**

Plastic pollution is a complicated global crisis. Because plastic has significant and pervasive impacts, by choosing healthier and more sustainable alternatives, we help protect our own health and the health of the planet.

### **Polluting Industries**

The chemicals used to make so many of the things we find and use in our homes—from our plastic containers and personal care products to our crib and couch—have been associated with negative impacts to the environment. Often, these chemicals end up in our air, water, and soil. By shopping for products made with safer ingredients and materials, our dollars help shift support from polluting industries to companies working towards a more sustainable economy and future.

### **Thinking Big Picture**

The hard-to-bear reality is that our children are inheriting a world that desperately needs our care. Chances are you're well aware of the issues: plastic pollution, environmental pollution of air and water, toxic chemicals in household products, climate change, and more. We owe it to our children and our children's children to make the world a better place in every way possible. We take such great care to make our homes safe for baby—why not extend our thinking of “home” beyond just our households to our bodies and our home on planet Earth?





# Plastic Pollution Facts

Plastic pollution is a complicated global crisis with wide-ranging impacts. For references to these facts, see the [Glossary of Chemicals of Concern](#)

- Plastic does not biodegrade and, in some shape or form, will outlive you and your baby.
- Plastic contains harmful chemicals linked to human health issues and environmental pollution.
- Plastic, a petroleum product, is inextricably linked to climate change. It emits greenhouse gases at every stage of its lifecycle from fossil fuel extraction to disposal. To truly divest from fossil fuels, the use of plastic must be dramatically reduced.
- Plastic production is rapidly increasing. In the last half-century, it has increased more than twentyfold and is projected to double in the next twenty years.
- The recycling infrastructure is broken: at its peak, less than 10% of plastic was actually recycled.
- Plastic pollution disproportionately impacts fenceline, frontline, and lower income communities.
- Plastic pollution endangers aquatic life by ingestion, entrapment, and entanglement.
- Plastic attracts other toxic chemicals which can stick to and be absorbed into the plastic, especially in marine environments. This compounds their danger.
- Plastic can break down into tiny pieces called microplastics and shed from clothing as microfibers. Both are pervasive in aquatic environments and are even found in our drinking water—both tap and bottled.
- Microplastics can be eaten by small aquatic life that are often eaten by larger aquatic life. This results in microplastics and the toxic chemicals in them building up progressively in the food chain and potentially ending up on our dinner plates.
- Microplastics have been found in our food supply—in seafood, table salt, and even beer. One study projects that people eat the equivalent of one credit card of plastic each week.
- While some plastic is marketed as compostable, most of it ends up in landfills. Even compostable plastics can contain PFAS, “forever chemicals” linked to negative health and environmental concerns.



# BIG PICTURE TIPS FOR A HEALTHIER PREGNANCY

While each section of this guide provides tips that are specific to that part of your home, life, or routine, there are also simple tenets to live by that can help you make healthier decisions, especially on-the-go or in a pinch.



## 1 Refuse single-use plastic.

These are items that are only used once and then thrown away. These are things like: straws, to-go containers and cups, silverware, zip top bags, shopping bags, etc.

## 2 Ditch the plastic.

As much as possible, look for ways to limit your exposure to plastics. Food storage containers, kitchen items and utensils, food packaging, toys, and so much more are made of plastic.

## 3 Keep it natural.

Personal care products and cosmetics are a little more complex, but this is a great rule of thumb for clothing and home goods like furniture, mattresses, window treatments, flooring and rugs. Look for wood and bamboo, as well as natural textiles like wool, organic cotton, hemp, linen, bamboo, and silk.



- 4 Less is more.**

This tip is an oldie but a goodie. Streamline where you can. Do you need a different cleaner for every surface in your home? Or a 10-product beauty ritual? Can you skip that new plastic kitchen gadget when you already have a tool at home to do the trick? Reducing your acquisition of unnecessary products reduces your exposure to toxic substances.
- 5 Cook at home.**

Home cooked meals with fresh whole foods are typically healthier and more nutrient-rich than processed foods and restaurant food. They also typically have a smaller impact on the environment because many don't require packaging.
- 6 Go organic or avoid the most heavily sprayed crops.**

Shopping for organic food and products, when possible, reduces your exposure to pesticides, some of which have been linked to human harm. If you can't shop organic, avoid the most heavily sprayed crops (berries, many fruits, leafy greens, potatoes, celery), wash fruits and vegetables thoroughly, and buy fruit with skins that can be peeled. Frequent farmers' markets when you can. Better yet, grow your own food, if you have the space and time.
- 7 Stick with what you know.**

Buy foods and personal care products with recognizable ingredients. While not all hard-to-pronounce ingredients are harmful, this rule of thumb can help you spot safer alternatives, especially when you don't have time to (or don't want to!) look up an ingredient while standing in the grocery or store aisle. It also helps you get used to reading labels, if you haven't already started.
- 8 Reuse! No need to buy new.**

Treasures can be found in thrift stores, grandma's attic, and garage sales. Items in your own home can take on new roles too. Glass jam and pickle jars make great storage containers, plates can serve as handy covers on a dish holding leftovers, and old plastic kitchen storage containers can serve as closet and office organizers.
- 9 Avoid antibacterials and pesticides.**

Skip products labeled as "antimicrobial" and "antibacterial," which include a wide range of items like cleaners, hand sanitizers, laundry machines and other appliances, clothing, personal care products, and more. Reduce your pesticide exposure by avoiding yard sprays and foggers and pest and weed treatments for home and lawn.



# KITCHEN + DIET



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## GET STARTED NOW!

Interested in implementing the tips from the Kitchen+Diet section now? We've rounded up some changes that are easy and impactful so you can build momentum on your healthy living journey. Once you've checked these off, choose a few more from the Tips for each category.

### Easy + Impactful Changes

- Ditch individually bottled beverages like soda and water, and carry your own reusable bottle instead. (It will help you track hydration as a bonus.)
- Search your kitchen for glass containers that you can reuse for food storage. Think: pickle, pasta sauce, salsa, and jelly jars. If you don't have any, start collecting them with your next trip to the grocery store and begin swapping them in for your old, plastic containers.
- Reduce your pesticide exposure. This can be by peeling the skins off conventional fruit and veggies, incorporating more organic items into your diet when possible, or going totally organic. Choose the path that works for you!



## PLASTICS

**Name any kitchen item.** From plateware to gadgets, odds are it can be made of or with plastic. Utensils, dishes, cutting boards, zip top bags, coffee pods, sponges, food wrap, packaging... the list goes on. Some plastics are obvious like plastic plates, cups, and food storage containers. Others are harder to spot like linings in canned goods, food cartons, to-go containers, boxed beverages, and paper cups for hot drinks bought on the run.

Plastic is made with harmful chemicals. Some of those chemicals are the materials that comprise the plastics themselves, like plastic polymers, and some are the chemicals used in the manufacture of plastics, like plasticizers which are used to make plastic more flexible. Many plastics are capable of leaching these chemicals into the food, beverages or products packaged within them, especially when heated.





## Tips PLASTICS

- **First things first: do an inventory of your kitchen.** Which items that come in contact with food do you use the most? Focus on swapping those out for healthier materials like glass, stainless steel, wood, bamboo, and silicone. (Note that silicone shouldn't be used at high heat.)
- Check your trash and recycling bin. Take note of the places where you use single-use plastics the most. Is it plastic wrap? How about coffee cups and lids? Straws and cutlery? Work on shifting the areas where you use plastic the most to have the biggest impact.
- For plates, serving dishes, and glasses for home use, choose traditional glass over plastic.
- Look for kitchen utensils and gadgets made of materials like bamboo, wood, stainless steel, and 100% food-grade silicone.
- For kitchen storage, choose glass and stainless steel containers.
- Instead of single-use zip top bags, choose wax or 100% silicone reusable storage bags.
- Beeswax and linen wraps make a great alternative to plastic wrap.
- When you're on the go, carry a to-go kit of reusables: coffee cup, water bottle, silverware, and straw, and even your own cloth napkin.
- Wood, silicone, glass, and bamboo make great non-plastic cutting board options.
- Do not heat up plastic! Not in the microwave, with hot water, or otherwise, even if the container says it's microwave safe. Heat can hasten the leaching of toxic substances from plastics. For this reason, we also recommend keeping plastic out of the dishwasher. (Keep this tip in mind once baby comes; skip heating up milk or formula in plastic.)
- Begin to practice the art of the fourth R, "refuse," and leave plastic behind, especially single-use plastics.
- Where possible, opt for unwrapped fresh foods over foods packaged in plastic, cans, or cartons to reduce your exposure to harmful chemicals in the linings.
- Carry reusable shopping bags. Stash them in your car, purse, or backpack, so you'll always have one on-hand.
- Purchase a set of reusable produce bags so you can skip the plastic bags in the produce section.
- Buy in bulk. Bring your own reusable containers or cloth sacks to the grocery store to utilize the bulk section and reduce single-use plastics.





## Concerns PLASTICS

### Phthalates

**The concern:** Endocrine disruption.

**Found in:** Many types of plastic used in numerous kitchen items like utensils and storage. Phthalates are used in plastic manufacturing to make plastic more flexible.

### BPA & Other Bisphenols

**The concern:** Endocrine disruption.

**Found in:** Bisphenols, the class of chemicals to which BPA belongs, are used in many plastic items found in the kitchen from food storage to utensils. Bisphenols are also used as coatings for canned goods and in food packaging.

### Brominated Flame Retardants

**The concern:** Associated with numerous health concerns including developmental toxicity and endocrine disruption.

**Found in:** The use of recycled plastics in various kitchen items has led to contamination with brominated flame retardants.

### Other concerns:

***Polyvinyl chloride (PVC),  
per- and polyfluoroalkyl substances (PFAS).***

*For more information on these concerns, see the Glossary of Chemicals of Concern.*

- “BPA-Free” claims on labels are often meaningless as BPA is likely just swapped out for another chemical within the bisphenol chemical group. Research has linked other members of the bisphenol group to adverse health outcomes.
- Reuse glass bottles from grocery items like salsa, tomato sauce, jelly, and more, so that you can place leftovers in glass, rather than plastic storage containers.
- Stop purchasing bottled or boxed beverages including water and soft drinks. Carry your own reusable beverage bottle instead.
- Visit the farmer’s market. Fresh produce is often packaging-free at the market—and you’re supporting local farmers! Remember to bring your own bags.





## Safer Sources **PLASTICS**

### FEATURED

**Abeego:** Beeswax wrap for food storage **PPC**

**Life Without Plastic:** Food storage, straws, cutlery, drinkware, and other kitchen essentials **PPC**

**SuperBee:** Beeswax wrap for food storage **PPC**

### RECOMMENDED

**Bambaw:** Straws, cutlery sets, and other kitchen essentials **PPC**

**Bambu:** Cutting boards, cooking utensils, straws, and utensils **PPC**

**Bottles for Earth:** Drink bottles and drinkware **PPC**

**Caboo:** Paper products

**Fillgood:** Food storage, straws, utensils, and beeswax wrap **PPC**

**Khala & Co:** 100% vegan plant-based and beeswax wraps **PPC**

**Klean Kanteen:** Drink bottles, drinkware, straws **PPC**

**Lifefactory:** Baby bottles, sport bottles and drinkware

**Loliware:** Straws **PPC**

**Lovers of the Sea:** Utensils, drinkware **PPC**

**Lunch Bots:** Food storage and school lunch containers **PPC**

**Pura Stainless:** Baby, toddler, and sport bottles **MS\*** **PPC**

**Pyrex:** Glass kitchen storage

**Simply Straws:** Straws, mason lids and sleeves, utensils **PPC**

**Stasher:** Food storage **PPC**

**Steelys Drinkware:** Drink bottles, drinkware food storage, straws, and cutlery **PPC**

**To-Go Ware:** Food storage and utensils **PPC**

**U-Konserve:** Food storage and straws **PPC**

**Wisdom Supply Co.:** Food storage, straws, and utensils **PPC**





## Concerns COOKWARE

### Per- and Polyfluoroalkyl Substances (PFAS)

**The concern:** Adverse pregnancy outcomes.

**Found in:** Cookware labeled “non-stick,” Teflon cookware produced before 2013.

### Nanoparticles

**The concern:** Not yet properly assessed for human or environmental impacts.

**Found in:** Ceramic cookware labeled “nonstick.”

### Aluminum

**The concern:** Neurotoxicity.

**Found in:** Aluminum pans, aluminum foil.

*For more information on these concerns, see the Glossary of Chemicals of Concern.*

## COOKWARE

**During pregnancy, a healthy diet is beneficial.** To ensure you’re getting the proper nutrients to support your developing baby’s growth, you’ll probably be thinking critically about your food choices (if you aren’t sure about how to get the nutrients you need, ask your doctor). Additionally, consider that toxins from cookware may end up in your food.

Some cookware is capable of leaching chemicals that are known or



suspected to be toxic to both mom and baby. While this might feel like scary news, you have a lot of control over how your food is prepared at home. By choosing healthier materials like cast iron, stainless steel, and glass, small, healthy choices mean big, positive impacts.

## Tips **COOKWARE**

- Opt for safer cookware. Look for stainless steel, glass, cast iron, and carbon steel.
- Love nonstick coatings but hate the toxic chemicals? Once seasoned properly, cast iron pans resist sticking. (Note: Highly acidic foods can strip cast iron pans of their “nonstick” seasoning and release more iron than you probably want or need in your diet.<sup>27</sup>)
- Avoid products labeled as “non-stick,” even those labeled as “green” or “healthy.”
- Skip ceramic, ceramic-coated, and enameled cookware as glazes can contain heavy metals, especially in vintage pieces, as well as nanoparticle titanium dioxide, which is more commonly found in newer pieces.
- Avoid aluminum cookware, whether completely aluminum or aluminum coated, if the aluminum comes in contact with food.
- While we recommend choosing safer options, if you do continue using aluminum pans, foil, or storage containers, make sure not to use them for cooking, preparing, or marinating acidic foods (pasta sauce, citrus), those with high salt or sugar content, or when using high heat because these can increase aluminum leaching.
- While we highly recommend avoiding all non-stick pans, if you must continue using them, ventilate your kitchen well during their use, cease using them immediately if they become scratched or the coating is flaking or peeling, and use softer utensils like wood or silicone to avoid scratching their surface.
- Need ideas for how to swap out aluminum foil? Try out stainless steel grill baskets or cast iron right on top of the grill; marinate food in glass; make baked potatoes without the foil (you’ll find you really don’t need it!).



## Safer Sources **COOKWARE**

### RECOMMENDED

**All-Clad:** Stainless steel cookware and bakeware

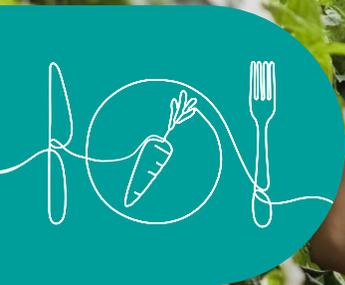
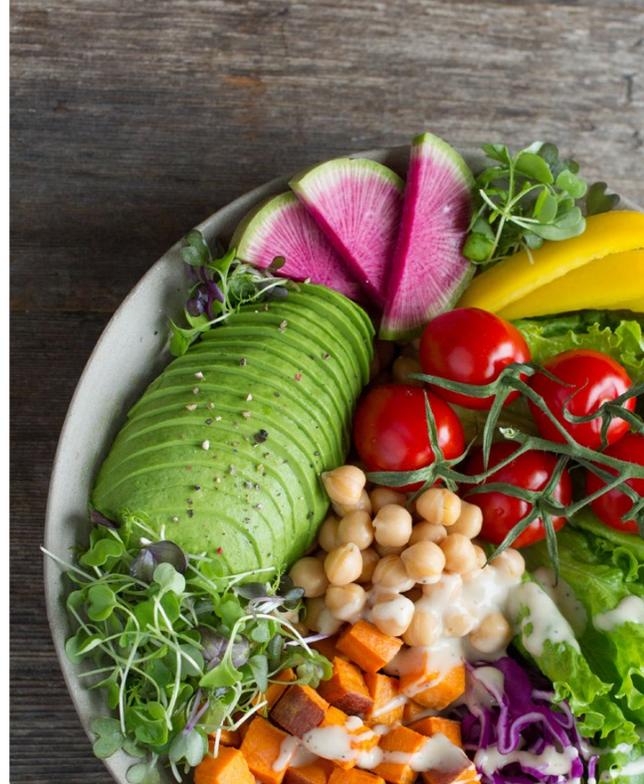
**Pyrex:** Glass bakeware

**Xtrema:** Ceramic cookware and bakeware



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## DIET

**You—and your baby—are what you eat!** One of the biggest ways you can have an impact on your developing child's health is through prenatal diet. With each nourishing, healthful bite of food you put in your body, you choose to nourish your developing baby. It's both a responsibility and a privilege.

This section is not a comprehensive guide to nutrition during pregnancy. We recommend consulting your doctor and reading up on prenatal nutrition. Instead, this guide gives an overview of some of the biggest toxic exposures to avoid in food, how to avoid them, and provides you with tips to eat healthier with baby on board.

### Tips DIET

- Reduce your pesticide exposure. This can be by peeling the skins off conventional fruit and veggies, incorporating more organic or farmer's market items into your diet when possible, or going totally organic. Choose the path that works for you!
- Buy foods with recognizable ingredients. While not all hard-to-pronounce food ingredients are harmful, this rule of thumb can help you spot safer alternatives, especially when you don't have time to (or don't want to!) look up an ingredient while standing in the grocery aisle.
- Eat organic food, when possible. Where can you find organic food? Visit your farmers' market, join a co-op, or visit your local natural grocer. Many grocery stores—large and small—now offer organic selections in produce and packaged foods, some even have store brands that are organic.





## Concerns DIET

### Mercury

**The concern:** Neurotoxicity.

**Found in:** Fish. Some contain higher levels than others.

### Pesticides

**The concern:** Impacts vary depending on the pesticide and include endocrine disruption and cancer.

**Found in:** Conventional fruits, veggies, and grains.

### Polychlorinated Biphenyls (PCBs)

**The concern:** Endocrine disruption.

**Found in:** Fish.

### Microplastics

**The concern:** Effects are not adequately studied, but plastics are known to leach toxic substances.

**Found in:** Seafood, salt, and beer.

*For more information on these concerns, see the Glossary of Chemicals of Concern.*

- If you can't shop organic, avoid the most heavily sprayed crops such as: berries and many fruits with peels we consume, leafy greens, potatoes, and celery. Wash fruits and vegetables thoroughly; peel skins off cucumbers, apples, pears, and other conventional produce with edible skins. Buy foods with skins like bananas and oranges. Finally, look for food grown in the United States, as some other countries permit even more toxic pesticides than those used in the U.S.
- Consult your healthcare provider about proper prenatal nutrition. Numerous guides are available. Read up on seafood sources of omega-3s and other crucial nutrients like iron and zinc to ensure you're meeting your personal dietary needs.
- Cook at home. Meals prepared from fresh, healthful ingredients tend to be healthier, lower in certain contaminants, and more nutrient-dense than foods prepared in most restaurants or convenience stores.





## Tips FOR SEAFOOD

*While it may be tempting to avoid seafood altogether because of contamination issues, it can be an important source of omega-3 fatty acids, nutrients that are necessary for proper fetal development. There are safer, sustainable seafood options.*

- Eat small. Fish higher up in the food chain are more likely to be contaminated (salmon, shark, swordfish, tuna, tilefish, king mackerel, and other predators). Some of your best bets are: sardines, anchovies, and herring.
- Avoid bottom feeders like lobsters, crabs, and other shellfish.
- If you catch your own fish, pay attention to local advisories. Contact the local natural resources agency for tips on eating safely locally.
- Be wary of farmed fish. While some farmed fish are indeed farmed more sustainably, other fish farms contribute to environmental degradation.
- *Seafood Watch* publishes regularly updated guides to help you choose the more sustainable seafood options.
- Ask your health care provider whether you should consume raw fish, like sushi and sashimi. (Remember to avoid undercooked meat and eggs.)
- Non-seafood sources of omega-3s include walnuts, olive oil, flaxseed, chia seeds, and eggs from chickens fed diets high in omega-3s.

## Safer Sources DIET

FEATURED:

**Life Without Plastic:** Reusable produce and shopping bags **PPC**

RECOMMENDED

**Boomerang Bags:** Toolkit to bring reusable bags to your community **PPC**

**Lovers of the Sea:** Reusable produce bags **PPC**

**Wild Minimalist:** Reusable produce and shopping bags **PPC**





## WATER QUALITY

**Water is essential to our health**, so it makes sense that we'd aim for it to be as clean and pure as possible.

Water supplies can be contaminated with various substances from toxic chemicals to bacteria. Some of these can come from the main municipal water supply and others can come from your pipes. Take the time to get to know your water; check your city's municipal water quality report to learn more. You may also want to get the water in your home tested further (with the pros or DIY) to ensure you've got healthy hydration. If your water isn't as pure as you'd like, numerous filtration options exist to help you address your home's specific needs.

Finally, don't fall for claims that bottled water is cleaner than tap water. The majority of bottled water comes from municipal sources.<sup>28</sup> Plus the plastic bottle is capable of leaching harmful substances into the water.



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## Concerns WATER QUALITY

### Lead

**The concern:** Neurotoxicity, developmental toxicity.

**Found in:** Lead pipes.

### Tetrachloroethylene (TCE)

**The concern:** Cancer.

**Found in:** Contaminated water supplies.

### Pesticides

**The concern:** Impacts vary depending on the pesticide and include endocrine disruption and cancer.

**Found in:** Contaminated water supplies.

*For more information on these concerns, see the Glossary of Chemicals of Concern.*

## Tips WATER QUALITY



- Remember that bottled and boxed water is not safer than tap water. Most bottled water comes from municipal sources (rather than natural springs) and is rebottled and sold.<sup>29</sup> Furthermore, harmful chemicals found in bottles can leach into water and boxed water can be lined with toxic substances. Instead, if possible, test your water to ensure it's safe and then carry it with you in a reusable bottle.
- Know your area—contaminants in water supplies are often area-specific. Most municipalities release regular water quality reports. You can create an **Upstream report** and check the water pollution read-out to learn what kind of risks are in your area.
- Test your home's water to know what specific contaminants you might be exposed to. Many testing options are available: at-home or mail-in DIY kits and professional in-home testing. Numerous online guides can help you pick out the right kit. Some cities offer free or reduced kits!
- Filter your water, if possible. Filtration solutions range from simple pitchers to entire-home filtration systems installed by professionals. Testing your water and understanding your results will help you know which filtration route is best for you.
- Consider purchasing a shower head filter, especially if a whole house filtration system is not an option, to avoid breathing in and absorbing harmful substances in the shower.



# CLEANING + LAUNDRY



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## GET STARTED NOW!

Interested in implementing the tips from the Cleaning+Laundry section now? We've rounded up some changes that are easy and impactful so you can build momentum on your healthy living journey. Once you've checked these off, choose a few more from the Tips for each category.

### Easy + Impactful Changes

- Consolidate your cleaning products by choosing a safer all-purpose spray. Even better, choose a refillable product or a concentrate.
- Skip the fragrance! That means air fresheners, laundry detergents, and cleaning products.
- Choose safer alternatives to dry cleaning. Many items labeled “dry clean only” can actually be hand-washed.



## HOME CLEANING PRODUCTS

**In this section, we've got** recommendations to help you clean, well... cleaner.

While it's bad news that cleaning products can contain ingredients that are harmful to people and the planet, the good news is that there are numerous safer options that are easy to find, affordable, and gentle on the environment.



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## Tips HOME CLEANING PRODUCTS



- Go for a safer all-purpose spray. Contrary to cleaning product marketing, you really don't need a different product for every surface or job. A great, nontoxic all-purpose cleaner can do it all from bathtubs to kitchen sinks. Bonus points if the spray bottle is refillable!
- Good old-fashioned vinegar and water work great as a DIY all-purpose cleaner! Simply mix together equal parts vinegar and water in a re-used, clean spray bottle. Easy, effective, and affordable. If you'd like, add about 10 drops of pregnancy-safe essential oils per two cups of vinegar/water mixture for a scented cleaner. Check out other DIY cleaning recipes [here](#).
- For a safer way to freshen the air in your home, diffuse pregnancy-safe essential oils, or DIY your own air-freshening spray or reed diffuser.
- To go fragrance free, but still keep your air fresh, baking soda and activated charcoal both absorb odors.
- Save disinfectants for really icky situations. Most messes don't require a disinfectant; a DIY or safe all-purpose spray can usually do the trick!
- Look for cleaning products with 100% of ingredients listed on the label to avoid mystery ingredients. There are keywords to avoid if you're trying to identify 100% of a product's ingredients: "fragrance," "surfactants," "enzymes" or "preservatives."



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## Concerns HOME CLEANING PRODUCTS

### Triclosan and Triclocarban

**The concern:** Endocrine disruption.

**Found in:** Cleaning products labeled as “antimicrobial” or “antibacterial.”

### Plastic fibers

**The concern:** While they may feel soft like a natural fiber, conventional cleaning wipes are often made of plastic, which contributes to plastic pollution.

**Found in:** Cleaning wipes.

### Ethoxylated ingredients

**The concern:** Contamination with carcinogenic 1,4-dioxane.

**Found in:** Cleaning sprays and dishwasher fluids. Look for chemicals ending in “-eth” and “PEG” on labels. Ethoxylation is not usually disclosed on labels.

### Other concerns:

**Fragrance, isothiazolinone preservatives**

*For more information on these concerns, see the Glossary of Chemicals of Concern.*

## Safer Sources HOME CLEANING PRODUCTS

### FEATURED

**Meliora:** Plastic-free home cleaning, dishwashing, and laundry products **MS\*** **PPC**

### RECOMMENDED

**Bambaw:** Dish brushes **PPC**

**Branch Basics:** Multi-purpose cleaning concentrate **MS\***

**Caboo:** Cleaning Wipes **MS\***

**Cleaning Essentials:** DIY cleaning essentials and how-to **PPC**

**Life Without Plastic:** Dish brushes **PPC**



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## HOME LAUNDRY

**Before you know it, your laundry days** will consist of washing adorable onesies, miniature shirts and pants, and the tiniest socks and booties you've ever seen. In the meantime, establishing healthier laundry habits now will help you get into a routine and find nontoxic solutions you love before baby comes.

Substances in laundry products like detergent and dryer sheets can stick to clothing, coming in contact with our skin throughout the day. The same goes for fragrance ingredients too. In fact, some fragranced laundry products are actually designed to stick to clothing fibers for a longer-lasting scent. That means you might be breathing in fragrance ingredients all day and all night long.

Laundry is also a little-known source of indoor air pollution, especially with top-load washers; humid air saturated with substances from laundry products can leak through the top's edges and enter your air. With nontoxic solutions, this isn't a big deal, but this might make you rethink a conventional selection.





## Concerns HOME LAUNDRY

### Undisclosed ingredients

**The concern:** Because of trade secret laws, the identities of certain ingredients do not need to be disclosed. Without full disclosure of ingredients, it's impossible to know what you might be exposed to.

**Found in:** Look for ambiguous terms on product labels like “surfactants,” “enzymes” or “preservatives.”

### Polyester

**The concern:** Contributes to plastic pollution.

**Found in:** Dryer sheets.

### Other concerns:

**Synthetic musks, fragrance, ethoxylated ingredients**

*For more information on these concerns, see the Glossary of Chemicals of Concern.*



## Tips HOME LAUNDRY

- Opt for fragrance-free laundry detergent to avoid “fragrance.” Note that some unscented products can still contain fragrance ingredients (used to mask scented ingredients), so look specifically for “fragrance-free.” Fragrance-free detergents are best for baby too, so now is a perfect time to find one you like!
- When reading product packaging, take note of terms like “Sensitive” or “Baby Formulated.” They are not standardized terms and can contain the same basic formulations as their counterparts, but with fragrance-masking ingredients or ingredients that have been chemically treated to make them less “harsh.” While not all products marketed in this fashion are harmful, don’t trust the marketing and make sure to read the ingredients list.





- Wool dryer balls are a great substitution for dryer sheets. If you'd like to add a little scent to your clothing, drop a few drops of pregnancy-safe essential oil on the balls.
- Look for detergents with 100% of ingredients listed on the label to avoid undisclosed ingredients.
- Remember that nothing's better than the scent of clothing and sheets dried on the clothesline!
- To whiten whites safely, hang them directly in the sun. For a heavier-duty option, look for options containing sodium percarbonate alongside simple ingredients.



## Safer Sources HOME LAUNDRY

### FEATURED

**Meliora:** Plastic-free home cleaning, dishwashing, and laundry products MS\* PPC

### RECOMMENDED

**Branch Basics:** Multi-purpose cleaning concentrate MS\*

**Cleaning Essentials:** DIY cleaning essentials and how-to PPC

**Coyuchi:** Wool dryer balls MS\*

**Guppyfriend:** Microfiber catchment laundry bag

**Pure Natural Cleaners:** Liquid laundry detergent MS\*



# CLEANERS



## DRY CLEANING

**Dry cleaning isn't actually dry at all.** It's a process that uses chemical solvents other than water to clean fabrics. The most common dry cleaning chemical is tetrachloroethylene, often called TCE.



### Concerns DRY CLEANING

#### Tetrachloroethylene (also called TCE and perc)

**The concern:** Cancer.

**Found in:** Residues left on clothing, air around a dry-cleaned item (the chemical off-gasses from clothing), air within dry cleaners.

*For more information on these concerns, see the Glossary of Chemicals of Concern.*

### Tips DRY CLEANING

- Skip the dry cleaning, where possible. Some clothing labeled as “dry-clean only” can actually be hand washed. This can help you avoid dry cleaning. Numerous guides and tips exist online to help you determine if a dry-clean only piece can be hand washed.
- Be wary of “green” dry cleaners. Most aren't green or safer at all.
- If you must dry clean, consider a cleaner that uses wet-cleaning or liquid carbon dioxide instead of traditional dry cleaning methods.
- If traditional dry cleaning is unavoidable, don't bring your dry-cleaned items in the house. Instead, leave them in the garage for at least two weeks. Make sure to send your partner to pick it up while you're pregnant (or nursing).



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# BATHROOM

## GET STARTED NOW!

Interested in implementing the tips from the Bathroom section now? We've rounded up some changes that are easy and impactful so you can build momentum on your healthy living journey. Once you've checked these off, choose a few more from the Tips for each category.

### Easy + Impactful Changes

- Avoid hand soaps labeled as “antibacterial” or “antimicrobial.” Skip conventional hand sanitizer too.
- Wash your hands with nontoxic soap often, especially before eating. Look for refillable soaps, bar soaps, and those packaged in glass.
- If your shower curtain is PVC, replace it with a better material like hemp, linen, or polyester.



## HAND SOAP + HAND SANITIZER

**Handwashing is a super simple fix** that can help you avoid exposure to harmful chemicals and bacteria! Wash hands thoroughly before eating, before handling food in prep and cooking, before and after using the restroom, after handling your dryer's lint trap, after handling receipts, and after dusting and other cleaning.

While antibacterials—whether in soap or hand sanitizer—may sound like a good idea, they're really not usually necessary, and plain soap and water is just as effective. In fact, the CDC recommends scrubbing hands



for at least 20 seconds as an effective measure against germs. The overuse of antibacterial ingredients has been demonstrated to contribute to superbugs, bacteria resistant to antimicrobials. Additionally, hand sanitizers can increase the absorption rate of some chemicals like BPA. Instead, look for nontoxic soap and hand sanitizer options using our tips below.

## Tips HAND SOAP+HAND SANITIZER

- Avoid products labeled “antimicrobial” or “antibacterial,” and choose soaps with simple ingredients. Look for “castile soap” or saponified plant oils like “saponified coconut oil” or “saponified olive oil” on labels instead.
- Choose bar soap to lessen your contribution to plastic pollution.
- Avoid products labeled “antimicrobial” or “antibacterial.”
- Some eco stores and natural grocers offer hand soap (and more!) in bulk. Just bring in your own container and refill.
- Avoid conventional hand sanitizers. Some brands use alcohol instead, which is a better option. Never handle receipts after using hand sanitizer, as this can increase your skin’s absorption of some chemicals.
- Skip products that list “Fragrance” or similar terms on the label.
- Read labels to avoid isothiazolinone preservatives (methylisothiazolinone and methylchloroisothiazolinone).
- Look for hand soaps packaged in glass or paper. Some companies offer refills as well, so you can save the plastic pump from the landfill.
- Read labels to spot polyethylene glycol compounds. Look for the acronym “PEG,” which is usually followed by a number (ex: PEG-40). Choose healthier options without PEGs.
- Concentrates are a great option as they often don’t contain water and are then diluted by you right at your sink. They save packaging, fossil fuels (lighter weight means lighter shipping), and typically have multiple purposes beyond hand soap.
- Wash your hands with nontoxic soap often! Scrub for 20 entire seconds before eating, before handling food in prep and cooking, before and after using the restroom, after handling your dryer’s lint trap, and after dusting and other cleaning. Remember to turn off the faucet while scrubbing to save water.
- Avoid touching your phone or computer and then your mouth. Handwashing after phone and computer use is always a good idea.
- Remember to wash your hands after handling receipts, as they can contain BPA. Better yet, go paperless!



## Safer Sources HAND SOAP + HAND SANITIZER

### FEATURED

**Meliora:** Plastic-free bar hand soap **MS\*** **PPC**

### RECOMMENDED

**Alaffia:** Liquid hand soaps commonly offered in bulk refills of natural grocers **MS\***

**Branch Basics:** Multi-purpose concentrate **MS\***

**Caboo:** Bath and facial tissues

**Kosmatology:** Foaming hand soap **MS\***

**Soapply:** Liquid hand soap and refills in glass **MS\***



## Concerns HAND SOAP + HAND SANITIZER

### Isothiazolinone preservatives

**The concern:** Endocrine disruption.

**Found in:** Preservatives listed on labels as methylisothiazolinone and methylchloroisothiazolinone.

### Polyethylene Glycol Compounds (PEGs)

**The concern:** Contamination with carcinogenic 1,4-dioxane and ethylene oxide.

**Found in:** Listed on labels as ingredients containing the acronym PEG (ex: PEG-40).

### Other concerns:

**Triclosan, triclocarban, fragrance**

*For more information on these concerns, see the Glossary of Chemicals of Concern.*





## SHOWER CURTAINS

**Chances are, your shower curtain might need a makeover.** Pitch the PVC, one of the most common (and most toxic) shower curtain materials out there. That's because when heated up, PVC can off-gas endocrine disrupting phthalates. Choose natural fibers instead. An easy switch with high impact!



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## Tips SHOWER CURTAINS

- Skip the PVC and look for natural materials instead!
- Look for natural fibers that are naturally water-resistant materials like hemp and linen. Cotton is another option; it absorbs water, but dries very quickly.
- If a natural shower curtain is out of reach, avoid PVC. In that case, even polyester is a better option.
- Remember to keep your shower curtain free of mildew by cleaning per the manufacturer’s guidelines and with a nontoxic cleaner or laundry solution. (See our tips in “Laundry + Cleaning” for healthier cleaning options.)
- Skip the shower curtain and install glass shower doors.

## Safer Sources SHOWER CURTAINS

### FEATURED

**Life Without Plastic:** Hemp shower curtain **P P C**

### RECOMMENDED

**Target:** Cotton shower curtains

**West Elm:** Organic cotton shower curtains



## Concerns SHOWER CURTAINS

### Phthalates

**The concern:** Endocrine disruption.

**Found in:** Shower curtains.

### Polyvinyl Chloride (PVC)

**The concern:** Ability to leach endocrine disruptors.

**Found in:** PVC itself is the material making up many conventional shower curtains.

*For more information on these concerns, see the Glossary of Chemicals of Concern.*



# BEAUTY + PERSONAL CARE



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## GET STARTED NOW!

Interested in implementing the tips from the Beauty + Personal Care section now? We've rounded up some changes that are easy and impactful so you can build momentum on your healthy living journey. Once you've checked these off, choose a few more from the Tips for each category.

### Easy + Impactful Changes

- Skip the salon during pregnancy to avoid exposure to toxic chemicals.
- Look for ingredients you recognize like whole oils and organic ingredients. While this isn't fail-safe, and many hard-to-pronounce ingredients are safe, this is a great tip to get you started reading labels.
- Look for the MADE SAFE seal on products. This is the fastest and easiest way to know if a product is safer for you and your family.



**There's no pretty way to say this:** salons can expose us to chemicals that are just plain ugly. We know, there are so many things you're told to avoid during pregnancy, and with all of the changes you might experience, sometimes you might just want to go to the salon. We get it. But with all of the toxic substances circling around in salon air and what you can be exposed to during certain treatments, we can't stress enough how avoiding the salon is a huge, healthy, important preventive measure for your developing baby. Many women find their hair and nails get stronger, healthier looking, and more beautiful during pregnancy—so who needs the salon anyway?





## Safer Sources SALONS

### FEATURED

**Anmarie Skin Care:** Skin care, body care, hair care, and cosmetics **MS\***

**healthynest:** Body and maternity care **MS\***

**True Botanicals:** Skin care, body care, and hair care **MS\*** **PPC**

### RECOMMENDED

**Buhbli Organics:** Body care, hair care, essential oils, DIY supplies **MS\***

**Captain Blankenship:** Skin care, body care, and hair care

**Clary Collection:** Body care, skin care, hair care, and remedies **MS\***

**Dulse and Rugosa:** Hair care, body care, and skin care **PPC**

**Fillgood:** Re-fillable personal care **PPC**

**Freegirl:** Skin care **MS\***

**Green and Gorgeous:** Hair care **PPC**

**Homemade Betty:** Body care **PPC**

**Kaelen Harwell:** Skincare **MS\***

**Kate McLeod:** Body care **MS\***

**Kosmatology:** Skin care and body care **MS\***

**LOLI:** Skin care, body care, and hair care **MS\***

**Made For Life Organics:** Skin care and body care **PPC**

**Osea:** Skin Care and body care

**Plaine Products:** Body care and skin care **PPC**

**Pleni Naturals:** Skin care and body care **MS\***

**Pure Kindness:** Body care and skin care **PPC**

**Ranavat Botanics:** Skin care and hair care **MS\***

**Rejuva Minerals:** Cosmetics **MS\***

**Soapwalla:** Skin care and body care **MS\***

**S.W. Basics:** Skin care and body care **MS\***





## Concerns SALONS

### Formaldehyde

**The concern:** Cancer.

**Found in:** Nail salons from nail polish, hair salons from chemical hair straightening, and other salon treatments.

### P-phenylenediamine (PPD)

**The concern:** Birth defects.

**Found in:** A primary component of hair dye systems.

### Other concerns:

**Phthalates, parabens, ethoxylated ingredients**

*For more information on these concerns, see the Glossary of Chemicals of Concern.*



## Tips SALONS

- Avoid dye, highlights, straighteners, perms, nail treatments and other chemical treatments while pregnant—whether in the salon or at home.
- Have your friend or partner give you a DIY manicure and pedicure to skip the nail salon when pregnant.
- Do a color-free manicure or pedicure to avoid the use of nail polish and remover.
- If you're in need of a haircut, see if your stylist will come to you. Some are willing to do house calls!
- If you must head to the salon for a haircut, look for salons that use safer products. Some salons advertise their use of organic or nontoxic products. Call ahead or check their website to learn more about the products they're using before you make an appointment to ensure it's not just marketing hype.
- Salon treatments typically marketed towards people of color—like straighteners and perms—can contain more toxic ingredients than other treatments.





## PERSONAL CARE + COSMETICS

**Cleaner personal care** is giving the conventional market a run for its money! The “cleaner” personal care industry has made huge strides in the last decade, as formulators become more and more skilled at creating products that can give us the results we want, without the nasty ingredients. Many cleaner brands are even conducting clinical trials to demonstrate that products can be both safe and effective.

If you’ve read every section up until this point, you may be catching on to a theme: small changes can mean big impacts. This couldn’t be truer for personal care products and cosmetics. Every single swap that you make to a healthier version counts.

You may remember this study from the introduction, but it’s so inspiring, it’s worth mentioning again: When teenage girls avoided certain toxic ingredients, they saw big drops in their body’s levels of those ingredients—



in only three days!<sup>30</sup> That means that if you give your body a “break” (hopefully a permanent one) from certain toxic substances, your body can likely clear them out.

Studies like this one inspire change and fill us with hope. They show that the small changes we make to choose healthier products and live a healthier life can really change us for the better. And what makes this even more hopeful is that personal care is an area where you have a high level of control over what you put on your skin. Numerous healthier, sustainable, and effective options are available—you’re bound to find something you love that’s safer for both you, baby, and the planet.

## Tips PERSONAL CARE + COSMETICS

- Look for the MADE SAFE seal on products, as this is the easiest way to tell if a product is safer for use.
- Remember that less is more. Try weeding out unnecessary products from your routine to reduce your exposure to harmful substances as well as to cut back your consumption.
- Read labels to avoid the top chemicals of concern. Check out the list in this guide (on the previous page) for tips on how to spot them on labels and refer to the MADE SAFE [Hazard List](#), a list of the most toxic offenders across product categories, to learn more about the biggies to look for and avoid.
- Look for ingredients you recognize like whole oils and organic ingredients. While this isn’t fail-safe, and many hard-to-pronounce ingredients are safe, this is a great tip to get you started.
- Only use essential oils that are safe for pregnancy. We recommend following the [National Association for Holistic Aromatherapy](#) guidelines and your health care provider’s advice.
- Choose products packaged in glass, bamboo, or other innovative packaging to reduce your contribution to plastic pollution.
- Some companies offer refillable products! Take advantage of these alternatives to reduce your contribution to plastic pollution.
- Your natural grocer or co-op may offer some personal care products like shampoo and body wash in bulk. Make sure they’re safe for pregnancy and bring in your own container to fill up.



## Concerns PERSONAL CARE + COSMETICS

### Parabens

**The concern:** Endocrine disruption.

**Found in:** Numerous types of personal care and cosmetics including hair products, lotions, cleansers.

**On labels:** Look for and avoid the term “paraben” including methylparaben and ethylparaben.

### Retinol Derivatives + Vitamin A

**The concern:** Developmental toxicity.

**Found in:** Anti-aging creams, but also moisturizers, anti-acne products and foundations.

**On labels:** Avoid vitamin A listed on labels, as well as the prefix “retin,” such as retinyl or retinol.

### BHA + BHT

**The concern:** Endocrine disruption.

**Found in:** Used as preservatives in many personal care products and cosmetics.

**On labels:** Butylated hydroxyanisole (BHA) and butylated hydroxytoluene (BHT).

### Essential Oils

**The concern:** Some essential oils are not safe to use during pregnancy. All essential oils should be avoided during the first trimester.

**Found in:** Many kinds of personal care products from shampoo to facial oils as well as on their own.

**On labels:** Look for the term “essential oil.”

### Other concerns:

**Phthalates, fragrance, isothiazolinone preservatives, ethoxylated ingredients, synthetic musks, formaldehyde, oxybenzone, octinoxate**

*For more information on these concerns, see the Glossary of Chemicals of Concern.*





## Safer Sources PERSONAL CARE + COSMETICS

### FEATURED

**Anmarie Skin Care:** Skin care, body care, hair care, and cosmetics **MS\***

**Natracare:** Maternity care and feminine care **MS\*** **PPC**

**healthynest:** Body and maternity care **MS\***

**True Botanicals:** Skin care, body care, and hair care **MS\*** **PPC**

### RECOMMENDED

**Badger Balm:** Maternity care

**Buhbli Organics:** Body care, hair care, essential oils, DIY supplies **MS\***

**Captain Blankenship:** Skin care, body care, and hair care

**Clary Collection:** Body care, skin care, hair care, and remedies **MS\***

**Dulse and Rugosa:** Hair care, body care, and skin care **PPC**

**Evereden:** Maternity care **MS\***

**Fillgood:** Re-fillable personal care **PPC**

**Freegirl:** Skin care **MS\***

**Green and Gorgeous:** Hair care **PPC**

**Homemade Betty:** Body care **PPC**

**Kaelen Harwell:** Skincare **MS\***

**Kate McLeod:** Body care **MS\***

**Kosmatology:** Skin care and body care **MS\***

**LOLI:** Skin care, body care, and hair care **MS\***

**Lovers of the Sea:** Oral care **PPC**

**Lumineux:** Oral care **MS\***

**Made For Life Organics:** Skin care and body care **PPC**

**Osea:** Skin Care and body care

**Plaine Products:** Body care and skin care **PPC**

**Pleni Naturals:** Skin care and body care **MS\***

**Pure Kindness:** Body care and skin care **PPC**

**Ranavat Botanics:** Skin care and hair care **MS\***

**Rejuva Minerals:** Cosmetics **MS\***

**Soapwalla:** Skin care and body care **MS\***

**S.W. Basics:** Skin care and body care **MS\***

**Seventh Generation:** Body care **MS\***



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# BEDROOM

## GET STARTED NOW!

Interested in implementing the tips from the Bedroom section now? We've rounded up some changes that are easy and impactful so you can build momentum on your healthy living journey. Once you've checked these off, choose a few more from the Tips for each category.

### Easy + Impactful Changes

- Shop for a pillow made of 100% pure latex, organic cotton, wool, or other natural textiles, so that what is closest to you during sleep is made of healthier materials.
- In the quest for safer and more sustainable clothing, start with items that come closest to your skin like underwear, bras, socks, undershirts, and camisoles.
- Go natural when purchasing products designed to be used internally. While this tip isn't universal, it helps when thinking about sexual health products, as plant-derived and natural materials are typically better choices for internal use. Look for organic certified lubricants, wipes, and sex toy cleaners; and sex toys made of borosilicate glass, 100% medical grade stainless steel, polished natural stone, or 100% medical-grade silicone.

## MATTRESSES

**You spend one-third of your life sleeping.** As we sleep, our bodies perform crucial functions. Our glymphatic system removes toxic waste from the brain. Our hormone system promotes the maintenance and repair of muscles and bones. And the production of collagen in our skin can be amped up. During pregnancy, getting a good night's sleep is crucial—for mom and baby. Because sleep is so important to a healthy body and mind, we recommend choosing safe materials to sleep on! This section contains the info you need to make that happen.



BEDROOM

The Healthy Pregnancy Guide



## Concerns MATTRESSES

### Flame retardants

**The concern:** Altered sexual development and neurodevelopment, other adverse pregnancy outcomes.

**Found in:** Usually added to polyurethane foam used in conventional mattresses.

### VOCs

**The concern:** Because a wide range of substances are known as VOCs, the associated health impacts span a wide range.

**Found in:** Can off gas from polyurethane foam in mattresses.

### Conventional cotton

**The concern:** Growing conventional cotton can use heavy doses of potentially toxic pesticides, which can be harmful to the environment.

**Found in:** Linens like sheets and blankets, mattress covers.

### Other concerns:

#### ***Polyester***

*For more information on these concerns, see the Glossary of Chemicals of Concern.*





## Tips **MATTRESSES**

- Choose mattresses made of natural materials like latex, wool, organic cotton, and coil constructions.
- If a new mattress is out of reach, use a topper and pillow to create a barrier between you and the mattress. Look for a topper and pillow made of safer materials like latex, wool, and organic cotton.
- Shop for linens made of natural textiles like organic cotton, wool, silk, and linen.
- Natural textiles are best, so try to forego linens labeled as “easy care,” “no iron,” “soft finish,” or “stain resistant,” as these may use chemical treatments like PFAS.
- Avoid bedding labeled as “antimicrobial” and “antibacterial,” which can contain triclosan, silver nanoparticles, or other potentially harmful substances.

## Safer Sources **MATTRESSES**

### FEATURED

**Naturepedic:** Mattresses, mattress toppers, pillows, and bedding **MS\***

### RECOMMENDED

**Avocado Green Mattress:** Mattresses, mattress toppers, pillows, and bedding **MS\***

**Coyuchi:** Organic cotton and natural textile bedding **MS\***

**Happsy:** Mattresses, mattress toppers, pillows, and bedding **MS\***

**Pact Organic:** Organic cotton bedding

**Target:** Organic cotton bedding

**West Elm:** Organic cotton and natural textile bedding





## CLOTHING

**“Sustainable clothing”** might conjure up images of muted tones, silhouettes much like a burlap sack, and fabrics that feel rough against your skin. While at one point this may have been true, it’s not anymore. Sustainable clothing looks like, well... clothing.

From jeans made with organic cotton and eco-friendly dyes to formal wear made from natural silk, these days, you can find pretty much anything you need made out of sustainable fibers. Thrift stores and vintage shops are also home to gems, and more and more companies are focusing on ethical and sustainable production.

This is amazing news because the truth behind fast fashion provides





## Concerns CLOTHING

### Microfibers

**The concern:** Contribute to plastic pollution because when you wash clothing made of some synthetic fabrics, microfibers are released, run down your drain and into the water supply, eventually making it to our oceans where they cause damage to aquatic life.

**Found in:** Synthetic fibers. Listed on labels as nylon, polyester, rayon, acrylic, spandex, fleece, and more.

### Polyester

**The concern:** Contributes to plastic pollution. Antimony trioxide, a possibly carcinogenic substance used in the manufacturing of polyester, has been detected in the fabric.

**Found in:** Clothing; listed on labels as polyester.

### Fast fashion

**The concern:** Contributes to plastic pollution, burdens landfills, and is taxing on natural resources.

**Found in:** Numerous clothing retailers at all price points offering low quality, trendy, and often inexpensive items.

*For more information on these concerns, see the Glossary of Chemicals of Concern.*

a plethora of reasons why sustainable and ethical are better. What is fast fashion? Fast fashion items are trendy pieces that are cheaply produced on a mass scale. They don't typically have a long life (hello, landfill!) and are not produced ethically or sustainably. Think: pollution, human rights violations and low wages, microfiber-shedding textiles, and manipulative marketing so you'll buy the newest, hottest trend. There's a lot there not to love.

By choosing durable pieces that are made to last, shopping for sustainable fabrics, looking for ethical companies with high labor standards, and shopping your local vintage or thrift shop, you're doing a whole lot of good for workers, yourself, the planet, and future generations. It's a win, win, win, win.





## Tips CLOTHING

- Start with purchasing the basics. These are also usually closest to your skin and sensitive areas: underwear, bras, socks, undershirts, and camisoles.
- Choose natural textiles like organic cotton, linen, hemp, wool, and silk. Another sustainable textile option is Tencel.
- Where possible, shop for high quality pieces that are built to last instead of throw-away fast fashion.
- Since some maternity clothing can only be used for a limited time period, consider shopping at thrift stores to reduce plastic pollution and avoid contributing to fast fashion. Or ask friends who are new fellow moms if you can raid their closet for maternity clothing they no longer need. You could even host a clothing swap!
- Avoid clothing labeled as “stain resistant,” “easy care,” “no wrinkle,” or other similar terms, as these have likely been chemically treated.
- Breathable natural fabrics are always a great choice, especially during pregnancy.
- Look for companies with publicly declared ethics on sustainability and labor to support people and the planet.
- Use microfiber-catching laundry bags to wash synthetic clothing you already have in your closet or those you purchase from thrift stores.
- By choosing durable pieces that are made to last, shopping for sustainable fabrics, looking for ethical companies with high labor standards, and shopping your local vintage or thrift shop, you’re doing a whole lot of good for workers, yourself, the planet, and future generations.

## Safer Sources CLOTHING

### RECOMMENDED

**Amour Vert:** Organic cotton and Tencel clothing

**Coyuchi:** Organic cotton casual wear, sleepwear and robes **MS\***

**Eileen Fisher:** Women’s organic cotton and natural textile clothing

**Etsy:** Online source for vintage and secondhand clothing

**Hanna Andersson:** Organic cotton underwear and sleepwear

**H&M:** Conscious Collection offers organic and sustainable clothing

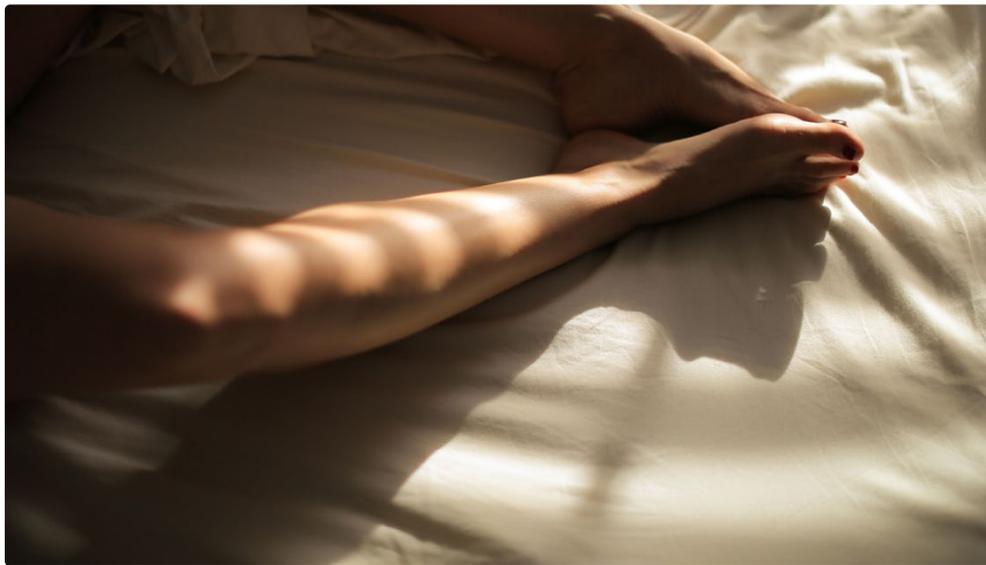
**Pact Organic:** Organic cotton underwear, basics and clothing

**Poshmark:** Online secondhand clothing marketplace

**thredUP:** Online consignment and thrift store

**Guppyfriend:** Microfiber catchment laundry bag





## SEXUAL HEALTH PRODUCTS

**When it comes to healthier living,** one of the most commonly overlooked types of products are sexual health products. It's clear that the things that enter our bodies can impact our health, which is why so many of us opt for healthier food and product choices where we can. What's not so obvious is that substances of concern can enter the body through the vagina. The vagina can rapidly absorb chemicals without metabolizing them, which means that substances can head right into the bloodstream without being broken down.<sup>31</sup> This makes the vagina an important and direct route of exposure to potentially harmful substances.

Like the personal care industry, the sex toy industry is largely unregulated, despite these products frequently being inserted into the body. Manufacturers often label products as “For novelty use only” as a means to avoid taking responsibility for injuries and health impacts associated with the use of toxic or harmful sex toys—even though their design, packaging language, and place of sale highly suggest they are to be used internally for sexual health or pleasure.

One thing that's important to keep in mind when choosing sexual health





## Concerns SEXUAL HEALTH PRODUCTS

### Flavor

**The concern:** Contains undisclosed ingredients that have been associated with human harm.

**Found in:** Lubricants, massage oil, condoms, etc. Listed as “artificial flavor” on labels.

### Polyvinyl Chloride (PVC)

**The concern:** Ability to leach endocrine disruptors.

**Found in:** Sex toys, including those labeled as simply “jelly rubber.”

### Trimethyltin Chloride

**The concern:** Neurotoxicity.

**Found in:** Sex toys.

### Other concerns:

**Parabens, isothiazolinone preservatives, fragrance, triclosan, phthalates, toluene**

*For more information on these concerns, see the Glossary of Chemicals of Concern.*

products is that healthy vaginas are “self-cleaning.” The vagina works hard to keep the balance of bacteria just right, so it really just wants to be left alone to work its magic. Most discharge is healthy and can vary during pregnancy, especially as you get closer to labor. Because vaginal discharge and cervical fluid ebbs and flows, this can be mistaken as a health issue, but it’s normally just your body responding to changes in hormones. This means that feminine washes, soaps, sprays, and douching are generally unnecessary, and in fact, can actually be harmful to vaginal health. See our tips on the following page on how to support your body’s natural balance.

## Safer Sources SEXUAL HEALTH PRODUCTS

### RECOMMENDED

**AH! YES:** Personal lubricants **MS\***

**Good Clean Love:** Personal lubricants, massage oils **MS\***

**Sustain Natural:** Condoms



## Tips SEXUAL HEALTH PRODUCTS

- Go natural. While this tip isn't universal, it helps when thinking about sexual health products as plant-derived ingredients are typically better choices for internal use. Looking for organic certified lubricants, wipes, and sex toy cleaners is a shortcut for finding safer options.
- Read product labels to avoid parabens, isothiazolinone preservatives, triclosan, and other harmful ingredients (see Beauty + Personal Care for more chemicals of concern) that can be found in wipes, lubricants, feminine washes, and sex toy cleaners.
- Avoid products with “fragrance” or “artificial flavor” listed on labels to avoid undisclosed ingredients.
- Soap should not be used internally. A little gentle soap is usually OK externally, and that's enough; no internal cleaning is necessary. (Always discontinue the use of any product that causes irritation).
- Douching is not recommended by many health groups, unless necessary in certain health conditions. (If you are concerned about a health issue, make sure to speak with and heed the advice of your healthcare provider.)
- Look for nontoxic lubricants that are pH-matched to the vagina to protect its natural microbiome.<sup>32</sup>
- When possible, buy sexual health products like lubricants, condoms, and toys from reputable sources that pride themselves on offering body-safe options, as they are likely to already have done some product vetting themselves.
- Look for sex toys made of 100% medical-grade silicone, borosilicate glass, 100% medical-grade stainless steel, or polished natural stone (ex: quartz). Ensure all of these are clearly labeled as such to avoid a mixture of materials. Purchase sex toys with 100% of the materials disclosed.
- If a healthier sex toy made of the materials mentioned above is out of reach, use a safer condom over the toy.
- Opt for nontoxic sex toy cleaning methods. Many toys can safely be boiled for 5-10 minutes or run through the dishwasher on the top rack with safe dishwashing detergent. Others can be cleaned using gentle soap and water. Harsh disinfectants are typically not necessary. Follow all manufacturer guidelines to choose the right cleaning method.
- Choose sex toys with rechargeable batteries to keep old batteries out of the landfill.



# HOUSEHOLD



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## GET STARTED NOW!

Interested in implementing the tips from the Household section now? We've rounded up some changes that are easy and impactful so you can build momentum on your healthy living journey. Once you've checked these off, choose a few more from the Tips for each category.

### Easy + Impactful Changes

- Choose solid wood furniture for your home and baby's nursery. This can be vintage, thrifted, from grandma's attic, or brand new.
- Dust with a damp cloth and vacuum frequently with a high-quality vacuum or wet-mop.
- Use a welcome mat and remove your shoes immediately upon entering your home.



## FURNITURE + HOME GOODS

**With baby on board, even furniture** can hold meaning and excitement. That rocking chair isn't just a chair, but a place where you'll rock your little one to sleep and where you'll sit (or sleep) during late night feedings. A dresser morphs into a changing table. A crib becomes a





## Concerns FURNITURE + HOME GOODS

### Formaldehyde

**The concern:** Cancer.

**Found in:** Furniture made from particle board, composite wood, plywood, and pallets can off-gas formaldehyde.

### Per- and Polyfluoroalkyl Substances (PFAS)

**The concern:** Adverse pregnancy outcomes.

**Found in:** Stain repellent fabrics on furniture, carpet, window treatments, etc.

### Other concerns:

**Flame retardants, VOCs, toluene**

*For more information on these concerns, see the Glossary of Chemicals of Concern.*

backdrop for a first smile, giggle or word. This potential makes shopping for the nursery and your home feel loaded with significance and so much joy.

The furniture in a nursery and your home can be a healthy stage for the lifetime of memories headed your way. This section provides you with the knowledge you need to find solutions that are safe for mom and baby, and sustainable for future generations too.



## Tips FURNITURE + HOME GOODS

- Shop for furniture with no added flame retardants. To ensure there are no flame retardants, ask the manufacturer.
- Note that a tag that states that a piece of furniture complies with TB117-2013, a piece of California legislation regulating flame retardants, does NOT mean it is necessarily flame-retardant free. Always ask the manufacturer to ensure the piece is made without flame retardants.
- We recommend avoiding particle board, composite wood, plywood, and pallets, especially in bedrooms and the nursery. Choose solid wood instead.
- When selecting new wood furniture, look for pieces certified to be from responsibly managed forests.
- Look for 100% wool or natural fiber area rugs. Ask the manufacturer to make sure it doesn't have any chemical treatments. Rugs labeled as "stain resistant" have often been treated, but some use chemical treatments if not labeled as such. Make sure to learn what the backing of the rug is made of too; does it contain plastics, PFAS, flame retardants, or any other substances that raise red flags?
- In furniture, look for latex or fabric fill, instead of foam.
- Choose furniture with textiles certified by GOTS or Oeko-Tex.
- If brand new furniture made with solid wood is currently out of reach, look for used or vintage solid wood furniture.
- Thrift stores, vintage shops, and hand-me-downs can be great sources of safe furniture. Pieces with good bones can be reupholstered (with safe textiles and latex fill) to give them new life.
- Ensure that any painted furniture that you thrift or take from grandma's attic hasn't been painted with lead paint; inexpensive testing kits are available at many hardware stores.
- Skip plastic furniture. While they can be very affordable, they typically aren't durable, which means they get to the landfill faster than furniture made of other materials. You get what you pay for with plastic furniture!
- For organization and storage, shop for natural baskets; bins made of natural fibers, wood or metal; and metal or wood storage racks and drawer systems.
- Reminder! The most sustainable option might be something you already have. Can that wood dresser be repurposed into a changing table? Does grandma's rocker just need a cushion in order to be transformed into a nursery rocker? You might be surprised to learn that you may already have what you need if you think creatively.





## INDOOR AIR QUALITY

**Most of us spend 90 percent of our time indoors!** That's huge in two ways: One, it means that indoor air pollution really matters, and, two, that even though we often can't control outdoor air pollution, we have huge power and control over the air in our homes.

While most people are familiar with outdoor air pollution, you may not know that our homes can be equally as polluted. It's just that the sources are different. Sources of indoor air pollution include fragranced products like candles and air fresheners, cleaning products, furniture, shower curtains, dry cleaning, and more. We can bring outdoor air pollution into indoor air by tracking in dust and residues on our shoes and clothing.

There are numerous simple and effective steps you can take to make the air in your home cleaner!



## Concerns INDOOR AIR QUALITY

### Fragrance

**The concern:** Contains undisclosed ingredients that have been associated with numerous health impacts like reproductive harm.

**Found in:** Candles, air fresheners, room freshening sprays, reed diffusers, dryer sheets, laundry detergent, etc.

### Synthetic musks

**The concern:** Endocrine disruption.

**Found in:** Conventional and fragranced cleaning products, laundry detergent, dryer sheets.

### Formaldehyde

**The concern:** Cancer.

**Found in:** Off-gassing furniture.

*For more information on these concerns, see the Glossary of Chemicals of Concern.*



## Tips INDOOR AIR QUALITY

- Open your windows on good outdoor air quality days to air out your home.
- Choose safe cleaning products like those listed earlier in this guide.
- Use a vacuum with a HEPA filter to suck up settled particles to avoid recycling them into the air, and vacuum often. Old, inefficient vacuums can just kick up pollutant particles that have settled instead of sucking them up, so make sure your vacuum is in good condition. If you can't or don't use a vacuum, wet mop.
- Dust frequently with a cloth dampened with water or a nontoxic cleaner. A wet cloth is needed so you don't kick up dust. This is a great habit to get into now, as it's crucial for crawling babies too! Use cloths made of natural fibers like cotton. Microfiber towels are typically made of synthetic fibers that don't break down and release plastic microfibers during washing.
- Avoid fragranced products where possible. See our tips in "Cleaning + Laundry" for healthier and fresher air.
- Hand wash items instead of dry cleaning, as dry cleaning chemicals are a source of indoor air pollution.
- Beware of vinyl, including in flooring, blinds, and shower curtains. Choose natural materials instead.



# OUTDOOR AIR POLLUTION

**We typically cannot control** the quality of the air in our area, but with the guidance in this section you can reduce your exposure to outdoor pollution as much as possible. We also provide some big-picture tips to help you do your part in reducing outdoor air pollution for cleaner air for all of us.



## Tips OUTDOOR AIR POLLUTION



- Remove shoes before you or guests enter your home to avoid tracking in pollutants.
- Use a welcome mat to keep contaminants out of the home and, subsequently, indoor air.
- Place a large indoor rug made of natural materials inside the doors of your home. Sometimes guests won't take off their shoes, and if you have pets, this gives them a place to "wipe off" from the outdoors and will help keep what they bring in to a minimum.
- If needed, purchase an air filter with a certified HEPA filter. Look for a filter that does not produce ozone and that can filter out particulate matter as small as 2.5 PM.
- Dust with a damp cloth to keep dust particles from becoming airborne.
- Consider exercising indoors at a gym on low air quality days.
- Walk, bike, take public transit or carpool instead of driving solo to reduce your contribution to emissions produced from driving.
- Support companies with sustainable business practices to reduce your contribution to air pollution.
- Buying healthier products and services can reduce your contribution to air pollution. For example, by choosing safer alternatives to traditional dry cleaning, you help work towards reducing the amount of tetrachloroethylene in the air, a chemical considered a hazardous air pollutant by the EPA. This is true with every industry mentioned in this guide, including plastics, food, furniture, mattresses, and personal care.

## Concerns OUTDOOR AIR POLLUTION

### Air pollution

Air pollution contains various chemical groups suspended in the air like sulfur oxide, nitrogen oxides, carbon monoxide, volatile organic compounds, chlorofluorocarbon, ozone, polycyclic aromatic hydrocarbons, and more.

**The concern:** Asthma, respiratory issues, and heart disease.

**Found in:** Numerous geographical areas. Check the daily air quality forecasts in your area.

*For more information on these concerns, see the Glossary of Chemicals of Concern.*



# HOUSEHOLD HAZARDS

**Home is a place of safety, comfort and joy.** It's where we come to relax, where we connect with our loved ones, and where we can feel comforted in hard times. Even after your baby is grown, we hope they will look back on their childhood home, seeing it as a place of safety and comfort. Read on to learn how to keep your home safe from household hazards like lead and radon.



## Concerns HOUSEHOLD HAZARDS

### Lead

**The concern:** Neurotoxicity, developmental toxicity.

**Found in:** Lead paint.

### Radon

**The concern:** Lung cancer.

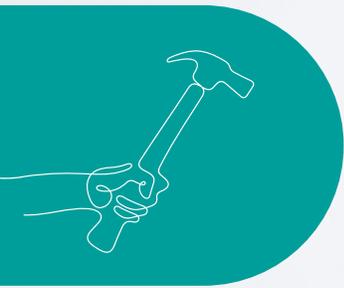
**Found in:** The first three levels of some homes and basements.

*For more information on these concerns, see the Glossary of Chemicals of Concern.*

## Tips HOUSEHOLD HAZARDS

- Know your home: Does it contain walls covered in lead paint? Use lead pipes? Sit in a radon hotspot? Knowing your home will ensure you find the right course of action for you and your family.
- Test your home or apartment for lead paint if you live in a home built before 1978. If your home contains lead paint, heed the advice of a professional to determine if you should remediate. If remediation is necessary, the home is not safe for children or pregnant women during clean up.<sup>33</sup>
- Find out whether your apartment or home has been tested for radon, an invisible radioactive gas found in soil and rock. This might have been done through a previous home inspection or your landlord may have already tested.
- Test your home or apartment for radon, especially if you live in an **EPA Radon Zone**. Heed the advice of a professional for remediation. (The EPA recommends testing for radon on the first three levels.)<sup>34</sup>





## RENOVATING

**Parents-to-be often find themselves nesting**, which can sometimes mean considering a renovation, especially for the nursery. Because renovations typically use toxic substances, we recommend avoiding renovating if possible. If you must renovate, follow our tips below.





## Tips **RENOVATING**

- Do not renovate during pregnancy.
- If you're reading this guide because you're considering getting pregnant, now is the perfect time to renovate—before your pregnancy!
- If you must renovate, it is not recommended that pregnant mothers be involved in helping with or doing any part of the process, and should stay elsewhere during renovation.
- Choose safer materials like low- or no-VOC paints and water-based varnishes.
- Check wallpaper materials and choose low-VOC adhesives; avoid vinyl wallpaper.
- Opt for natural floors like wood and tile instead of luxury vinyl. The healthiest flooring options include hardwood, bamboo, cork, and tile. Add an area rug made from natural fibers like wool or cotton for coziness.
- Look for all wool or natural fiber carpets and rugs. Ask the manufacturer to make sure it doesn't have any chemical treatments. Carpets and rugs labeled as “stain resistant” have often been treated, but some use chemical treatments that may not be labeled as such.
- Check out our tips for purchasing safer furniture in the “Furniture + Home Goods” sub-section above.





## Concerns RENOVATING

### Volatile Organic Compounds (VOCs)

**The concern:** Because a wide range of substances are known as VOCs, the associated health impacts span a wide range.

**Found in:** Paint, new furniture, varnishes, sealants.

### Polyvinyl Chloride (PVC)

**The concern:** Ability to leach endocrine disruptors.

**Found in:** Wallpaper (especially temporary wallpapers), wall decals, flooring like luxury vinyl, blinds, some windows.

### Per- and Polyfluoroalkyl Substances (PFAS)

**The concern:** Adverse pregnancy outcomes.

**Found in:** Carpeting and rugs, especially those labeled as “stain resistant.”

*For more information on these concerns, see the Glossary of Chemicals of Concern.*



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+



**OUTDOORS**

## GET STARTED NOW!

Interested in implementing the tips from the Outdoors section now? We've rounded up some changes that are easy and impactful so you can build momentum on your healthy living journey. Once you've checked these off, choose a few more from the Tips for each category.

### Easy + Impactful Changes

- Skip chemical lawn treatments—professional or DIY.
- Choose a safer sunscreen containing non-nano titanium dioxide or zinc oxide. (See page 84 for recommendations.)
- Avoid bug-repelling foggers and coils.



## PESTICIDES + LAWN TREATMENTS

**Some people love lawn care.** Some people think it's a chore. No matter how you see it, this guide will provide you with tricks and tools to make your green greener. Choosing healthy lawn treatments is important because they're not just about those single blades of grass or patches of dandelions. With safer choices, you reduce your exposure to potentially harmful substances and keep them from entering the environment too.



+





## Concerns PESTICIDES + LAWN TREATMENTS

### High-Risk Pesticides

**The concern:** Impacts vary depending on the pesticide and include endocrine disruption and cancer.

**Where outdoors:** Weed killers, professional and DIY lawn treatments, pest treatments and repellents, garden treatments, etc.

### Glyphosate

**The concern:** Cancer.

**Where outdoors:** Weed killers, professional and DIY lawn treatments, pest treatments, garden treatments, etc.

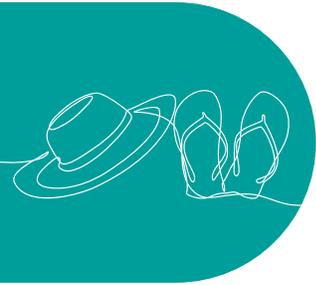
*For more information on these concerns, see the Glossary of Chemicals of Concern.*

## Tips PESTICIDES + LAWN TREATMENTS



- Forgo professional chemical lawn treatments, as they can use high-risk pesticides.
- Choose grasses and plants that are native to your area. They usually require less maintenance because they're adapted to your climate and require less water than traditional grass.
- Don't mow as deeply. Slightly longer grasses, around 3 inches or more, grow deeper roots, which means more resilient grass that doesn't need as much water. Longer grass can also shade out weeds.
- Forgo professional chemical treatments, as they can use high-risk pesticides. If you prefer the professionals for lawn care, seek out a company that uses environmentally-friendly practices and no high-risk pesticides.
- Use a rain barrel to capture storm water for watering.
- Start a compost pile. Use on your garden, on patches of your yard that need a little love, or just to get rid of food scraps in a way that's regenerative for the planet.
- Water better. The best time to water is when dew is still on the ground and temperatures are cooler. In most places, that's before 9 am.
- Grow food! If you don't already have a garden, turn a part of your yard into a food source, if you are able.





## SUNSCREEN

**Be sun savvy.** With sun exposure, it's about balance and protection. On one hand, vitamin D is a crucial nutrient you get almost exclusively from sun exposure. On the other hand, too much sun *is* too much, which can lead to skin cancer or skin damage. This section provides you tips on safe sun and how to choose nontoxic sunscreens.



### Concerns SUNSCREEN

#### Oxybenzone

**The concern:** Endocrine disruption. **Found in:** Sunscreen.

#### Octinoxate

**The concern:** Reproductive toxicity. **Found in:** Sunscreen.

#### Nanoparticles

**The concern:** Nanoparticles have not properly been assessed for their potential effects on human health.

**Found in:** Some mineral sunscreens containing titanium dioxide or zinc oxide.

*For more information on these concerns, see the Glossary of Chemicals of Concern.*



## Tips SUNSCREEN

- Choose sunscreens made with either non-nanoparticle titanium dioxide or zinc oxide as the active ingredients.
- Avoid the strongest sun, which is typically between 10 am and 2 pm.
- Use protective clothing like long sleeves and hats for added protection.
- Choose a broad-spectrum sunscreen, which protects against both UVA and UVB rays.
- Remember that beach umbrellas don't protect you from the sun, they just create the illusion of shade. The sun actually reflects off nearby sand.
- The bulk of vitamin D is absorbed through the skin from the sun; very few foods contain significant amounts of Vitamin D. So, if you completely avoid the sun, you'll be missing out on this crucial nutrient the majority of Americans are deficient in. Just don't overdo it. Consult your doctor to learn how to safely get Vitamin D from the sun. And when you do cover up, make sure to use a nontoxic sunscreen.
- Don't be fooled by the term "reef safe" on packaging. Some sunscreens wearing this label actually contain ingredients known to contribute to reef degradation because there are no legal requirements for the term.

## Safer Sources SUNSCREEN

### FEATURED

**True Botanicals:** Everyday facial sunscreen **MS\***

### RECOMMENDED

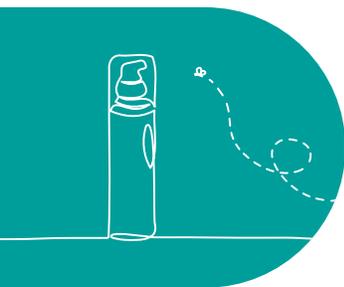
**Babo Botanicals:** Sunscreen for adults and children **MS\***



# BUG REPELLENT

That mosquito buzzing around your head might be bothersome, but what's more bothersome are toxic chemicals in bug spray. There are safer ways to keep the bugs at bay!

Conventional insect repellents contain a mix of active ingredients that are listed on the label, and inert ingredients that often aren't. Both categories can include chemicals linked to human and environmental harm.



## Concerns BUG REPELLENT

### DEET

**The concern:** Seizures, irritation.

**Found in:** Active ingredient in conventional bug sprays.

### Permethrin

**The concern:** Physiological and behavioral changes.

**Found in:** Bug repellent treated clothing.

*For more information on these concerns, see the Glossary of Chemicals of Concern.*

## Tips BUG REPELLENT

- Avoid yard bug repellent foggers and coils.
- Avoid DEET, permethrin, and cyfluthrin, when possible.
- Plant-based alternatives are safer solutions, but because they often contain essential oils, make sure to talk with your doctor to find the safest options.
- Mosquitoes are worst at dawn and dusk.
- Mosquito netting works well for camping, strollers, and on the porch.
- Prevent mosquitoes by keeping your yard free of standing water.
- Cover up exposed skin with long sleeves, long pants, and tall socks.
- *A note on Zika and other mosquito and tick-borne illnesses:* Knowing your area and if you are at risk for a mosquito-borne or tick-borne illness can help you make the best bug repellent choice for your and your family. If you think you are at risk, heed the advice of the CDC, WHO, or your doctor.



# SELF-CARE



## GET STARTED NOW!

Interested in implementing the tips from the Self-Care section now? We've rounded up some changes that are easy and impactful so you can build momentum on your healthy living journey. Once you've checked these off, choose a few more from the Tips for each category.

### Easy + Impactful Changes

- Prioritize pregnancy-safe exercise. Thirty minutes of exercise combats stress.
- Connect physically. Hugging or kissing someone you love and trust can help you de-stress.
- Remember that self-care doesn't need to be fancy or expensive—just find something you love doing and do it, even just for a few minutes a day.

## STRESS

**We all know that chronic or high-intensity stress** isn't good for us—whether pregnant or not. But what is stress, really? Stress is the body's physiological and psychological response to stressors, the catalysts that create stress in our lives.

Most often when we think of the causes of stress, we think of external stressors like money, career, relationships, discrimination, big life changes like moving, and more. However, internal stressors can be just as stressful; these are things like worry, shame, body image, and other inner turmoil we face.

When we encounter a stressor, our body responds both physically and physiologically. It's the automatic fight or flight response, which puts our body in overdrive, a state that isn't healthy to be in long-term.

When the body physically perceives that the threat is gone, the body returns to its baseline, completing what some researchers call a stress response cycle. Just knowing mentally that stress is over often isn't enough; the body must “know” it as well. And in situations where we face chronic stress (work, worry, etc.), the stressor may never fully go away, which emphasizes the need for habitual de-stressing.<sup>35</sup>



Even if we face stressors that never go away, there are effective tools for helping the body cope, effectively “tricking” the body into registering that our stress is over. That way, even if we continually face a difficult situation day after day, our bodies don’t have to bear the brunt of our stress. Physical activity is the most effective trick, but other strategies work too: deep breathing (like meditation), laughter, quality time with loved ones, and human contact.<sup>36</sup>

Each of us deserve healthy bodies that aren’t stuck in a state of stress, whether you’re a mom or a dad, expecting, or hoping to be expecting—or none of the above. So remember to take time to de-stress during pregnancy, and during every stage of life too. You deserve it.



## Tips SELF-CARE DURING PREGNANCY

...and they're all highlighted because they're *all* Top Tips!

- Prioritize your favorite pregnancy-safe activities and hobbies.
- Build a network of support through family, friends, and your partner.
- Prioritize pregnancy-safe exercise. Thirty minutes of exercise combats stress.<sup>37</sup> This is especially crucial if you live a high-stress lifestyle. Talk with your doctor to learn what kind of exercise is suitable for your pregnancy. Many women who are regular exercisers get the greenlight to continue their regular form of exercise. But get the OK from your doc, as exercise isn’t safe for all pregnancies. Some activities that are generally safe during pregnancy include: walking, yoga, swimming, and low impact aerobics.
- Connect physically. Hugging or kissing someone you love and trust can help you de-stress.<sup>38</sup>





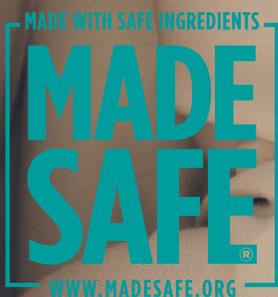
# Tips for Self-Care in Pregnancy and Beyond

Remember that self-care can take many forms. While bubble baths and journaling can be a balm for the soul, so can establishing healthy boundaries, meal planning to make sure you're eating well, turning off your phone for a few hours, giving yourself permission to say "no," and talking kindly to yourself. Self-care doesn't have to be glamorous! It just needs to feel good and support you mentally and physically.

- Practicing yoga
- Meditating or breathing deeply
- Getting a prenatal massage—professional, from a partner, or a self-massage
- Taking a warm bath with nontoxic bath products
- Journaling
- Putting on a nontoxic face mask
- Walking in nature or a park
- Dancing
- Petting or snuggling with a beloved pet
- Calling a close friend or loved one to chat
- Taking a (much-deserved) nap
- Writing a friend or family member a good old-fashioned letter
- Enjoying a cup of tea
- Listening to music or a podcast you love
- Making yourself a healthy organic smoothie or fruit-infused water
- Laughing hard!
- Allowing yourself to have a good cry
- Spending quality time with a friend or loved one



# PREPARING FOR BABY



## GET STARTED NOW!

Interested in implementing the tips from the this section now? We've rounded up some changes that are easy and impactful so you can build momentum on your healthy living journey. Once you've checked these off, choose a few more from the Tips for each category.

### Easy + Impactful Changes

- Prioritize avoiding plastics that your baby will put in their mouth like teethingers, bottles, and toys.
- Read the [Healthy Baby Guide](#) from Plastic Pollution Coalition and MADE SAFE to get you started on your journey in planning for your little one.
- Choose healthy sleep gear, including a nontoxic mattress, bedding and sleepwear. See the [Healthy Baby Guide](#) for product recommendations.



## WELCOMING YOUR LITTLE ONE

You've read through the guide and hopefully you're feeling empowered to make decisions towards a healthier pregnancy. But what about when baby arrives?

Our [Healthy Baby Guide](#), presented by MADESAFE and Plastic Pollution Coalition will provide you with the information you need to make healthy decisions once your little one enters this world. We've gathered our favorite tips from the guide to get you started in preparing for the Fourth Trimester.





## Tips WELCOMING YOUR LITTLE ONE

- Read the **Healthy Baby Guide** from Plastic Pollution Coalition and MADE SAFE, an essential guide containing tips, tools, and product recommendations.
- Prioritize reducing plastic by cutting back on your use of plastics wherever possible, especially for products that infants will put in their mouths (teethers, bottles, toys, etc.). 100% medical-grade silicone pacifiers and teethers are safer options.
- Choose healthy sleep gear, including a nontoxic mattress, bedding, and sleepwear. Look for safer materials like organic cotton and wool.
- Avoid plastics in the kitchen. Think: bottles (choose glass or stainless steel instead), plates and silverware, food packaging like squeeze pouches, and more. Remember that canned goods can be a source of BPA and other bisphenols. This includes formula and baby food!
- Remember not to heat up food or liquids (including breast milk!) in plastic.
- Follow our suggestions to choose healthy products for baby.
- If you've followed our suggestions on greener cleaning, keep up your routine. Nontoxic cleaning products are just as important once your baby arrives.
- Store breast milk without plastic. Our favorite hack: freeze breast milk in a metal ice cube tray. To free up space to make more cubes, frozen cubes can be removed from the tray and stored in a jar or glass storage container for when needed.
- It's very difficult to find a plastic-free breast pump. Some medical-grade silicone options exist, which are safer than traditional plastics. If you elect to use a breast pump containing plastic, make sure to transfer all breast milk immediately to a safer container like glass or stainless steel. Alternatively, breast milk can be expressed by hand into sterilized glass bottles.
- Opt for safer furniture for the nursery. Follow our tips from earlier in this guide to make healthier furniture and household good choices.



## Safer Sources WELCOMING YOUR LITTLE ONE

### FEATURED

**healthynest:** Baby and parent personal care, diapers, and enrichment activities **MS\***

**Lullaby Earth:** Crib mattresses and pads **MS\*** **PPC**

**Natracare:** Baby wipes and maternity care **MS\*** **PPC**

**Naturepedic:** Crib mattresses, baby bedding, changing pads, and other nursery essentials **MS\*** **PPC**



### PREPARING FOR BABY

## The Healthy Pregnancy Guide

# Make a Difference



## MADE SAFE:

For nontoxic living tips and news on the latest certified products, follow us on [Facebook](#), [Instagram](#), [Twitter](#), and sign up for our [monthly newsletter](#). Shop for **MADE SAFE certified products** to keep you and your family protected and to support a safe and sustainable future.

## Plastic Pollution Coalition:

Join the movement for a world free of single-use plastic pollution and its toxic impact! Join our global Coalition as an **individual**, **organization**, or **business**.



## OTHER RESOURCES

To learn more about the various topics discussed in this guide, check out these top resources, curated by Plastic Pollution Coalition and MADE SAFE staff. Remember to consult your health care provider before beginning the use of any new products, especially when pregnant.

### BOOKS

*A Compromised Generation: The Epidemic of Chronic Illness in America's Children* by Beth Lambert and Victoria Kobliner

*Children and Environmental Toxins: What Everyone Needs to Know* by Mary M. Landrigan and Philip J. Landrigan

*Plastic Soup: An Atlas of Ocean Pollution* by Michiel Roscam Abbing

*Plastic-Free: How I Kicked the Plastic Habit and How You Can Too* by Beth Terry

*Our Stolen Future: Are We Threatening Our Fertility, Intelligence, and Survival? A Scientific Detective Story* by Theo Colborn, Dianne Dumanoski, and John Peterson Myers

*Raising Elijah: Protecting Our Children in an Age of Environmental Crisis* by Sandra Steingraber

*Slow Death by Rubber Duck: The Secret Danger of Everyday Things* by Rick Smith and Bruce Lourie

*What's Making Our Children Sick? How Industrial Food Is Causing an Epidemic of Chronic Illness, and What Parents (and Doctors) Can Do About It* by Michelle Perro and Vincanne Adams

*Sicker, Fatter, Poorer: The Urgent Threat of Hormone-Disrupting Chemicals to Our Health and Future ... and What We Can Do About It* by Leonardo Trasande

*Zero Waste Home* by Bea Johnson

*Life Without Plastic: The Practical Step-by-Step Guide to Avoiding Plastic and Keep Your Family and the Planet Healthy* by Chantal Plamondon and Jay Sinha

### ONLINE

**Six Classes Approach to Reducing Chemical Harm** is a resource from Green Science Policy Institute

**Plastic Pollution Coalition Resources** is a rich and diverse catalogue of information on plastic pollution from books and videos to curriculum, reports, art, and more.

**MADE SAFE** offers extensive resources on toxic substances in everyday products as well as solutions for healthier living. We publish reports, fact sheets, guides, and blogs about harmful chemicals and materials and provide nontoxic lifestyle tips and tools. MADE SAFE's Hazard List, a compilation of the worst toxic offenders across product categories, is a valuable resource on common hazards in the marketplace. MADE SAFE Certification screens products to meet rigorous human and environmental safety standards. Find Certified products including personal care, baby products, bedding and mattresses, feminine care, and more at [madesafe.org](https://www.madesafe.org).

### RETAILERS

**Fillgood:** Refillable personal care and home cleaning, as well as a resource for green home essentials

**Life Without Plastic:** Products for plastic-free living including kitchen, bath and body, kids and babies, and more

**West Elm:** Resource for more sustainable furniture, home furnishings, and home textiles

**Wild Minimalist:** Products for zero waste living including cleaning, bath and beauty, bags, and more

# GLOSSARY OF CHEMICALS OF CONCERN

**1,4-Dioxane:** See “Ethoxylated Ingredients”

## Air Pollution

**What is it?** Air can be polluted both indoors and outdoors. Outdoor air pollution contains various chemical groups suspended in the air like sulfur oxides, nitrogen oxides, carbon monoxide, carbon dioxide, volatile organic compounds, chlorofluorocarbon, ozone, polycyclic aromatic hydrocarbons and more.

Indoor air pollution comes from off-gassing materials like furniture, polyurethane mattresses, flame retardant chemicals, flooring, wallpaper, paint, and air fresheners. Other sources include cleaning products, personal care products, wood-burning stoves, cigarettes, vacuum cleaners, cooking, the dryer, and a vehicle parked in a nearby garage. Because these sources vary so wildly, the pollutants they emit also highly vary, but include volatile organic compounds (VOCs), phthalates, benzene, flame retardants, polycyclic aromatic hydrocarbons, and more.

**Concerns:** Exposure to air pollutants like these can cause health issues like asthma,<sup>39</sup> respiratory issues, cancer, heart disease, premature death,<sup>40</sup> and obesity.<sup>41</sup>

## Aluminum

**What is it?** Aluminum is a heavy metal used in cookware, aluminum foil, pesticides, medicines, and even in medical devices. More than 25 different aluminum compounds are used in cosmetics.

Aluminum can be transferred from cookware, including aluminum cooking pans,<sup>42,43</sup> as well as aluminum foil.<sup>44,45,46</sup> The release of aluminum increases under certain conditions—cooking acidic foods, foods with high salt content,<sup>47,48,49</sup> and potentially foods with higher fat content<sup>50</sup> and those exposed to higher temperatures.<sup>51,52</sup>

**Health Concerns:** Aluminum can be a

neurotoxin in high doses and in occupational settings.<sup>53</sup> Short-term toxicity studies suggest healthy people are capable of excreting small amounts of aluminum.<sup>54</sup> However, the total weekly intake established by the European Food Safety Authority, the maximum acceptable amount that can be consumed each week, is easily surpassed by consuming food items that come in contact with aluminum goods, including cookware, foil, and food storage containers.<sup>55</sup> Because children weigh less than adults, they can surpass weekly limits more easily.<sup>56</sup>

Scientists do not currently understand how aluminum is absorbed through the skin, and therefore cannot assess the risk aluminum presents through using personal care products.

**Artificial Flavor:** See “Undisclosed Ingredients”

**Benzophenone-3:** See “Oxybenzone”

## Butylated Hydroxyanisole (BHA) and Butylated Hydroxytoluene (BHT)

**What are they?** BHA and BHT are closely related chemicals used as preservatives in personal care products and food.

**Concerns:** BHA is classified as a potential and known carcinogen<sup>57,58</sup> and endocrine disruptor.<sup>59</sup> BHA has also been linked to reproductive and developmental toxicity in animals.<sup>60</sup> Limited research is available on BHT; however, it is closely related to BHA and a toluene-based ingredient (see: “Toluene”).

**BHT:** See “Butylated hydroxyanisole (BHA) and Butylated hydroxytoluene (BHT)”

## BPA and other Bisphenols

**What are they?** Bisphenols, a chemical class, are components of plastic, generally to provide structure, rigidity and to make them clear. BPA belongs to the bisphenol group. There are more than fifty bisphenol structures. Bisphenols are found in numerous household products including water bottles,

food storage containers, utensils, plates, cups, and to-go cups. Bisphenols are also used as coatings for canned goods, food packaging, and in receipts. Other bisphenols—like BPS and BPF—are often used as substitutes for BPA in items labeled as “BPA-Free,” so don’t let their marketing fool you.

**Concerns:** The bulk of the data on bisphenols exists on BPA, which is why there has been such a push by companies to replace it. BPA has been linked to hormone disruption and early puberty.<sup>61,62,63</sup> Exposure to BPA has also been linked to inflammation,<sup>64</sup> ovarian and breast diseases,<sup>65</sup> female and male infertility,<sup>66</sup> breast cancer,<sup>67</sup> childhood neurological disorders,<sup>68</sup> and more.<sup>69</sup> Numerous other bisphenols<sup>70,71</sup> have been linked to hormone disruption and early puberty as well, suggesting that many members of the bisphenol group are likely as problematic as BPA.

Researchers have found that BPA is capable of migrating from packaging into foods and liquids.<sup>72</sup> High heat (like the microwave or dishwashers) and extreme cold (like the freezer) can cause BPA to leach more quickly.

## DEET

**What is it?** DEET, also known as N,N-diethyl-meta-toluamide, is a chemical used in products designed to repel bugs like sprays, wipes, clothing treatments, and similar products for pets.

**Concerns:** Large doses of DEET have been linked to skin blisters and irritation, seizures, memory loss, headaches, and joint stiffness.<sup>73</sup> DEET is associated with neurotoxicity.<sup>74</sup> It is also likely persistent in the environment<sup>75</sup> and somewhat toxic to aquatic life.<sup>76</sup>

## Brominated Flame Retardants:

See “Flame Retardants”

## Ethoxylated Ingredients

**What are they?** In a process called ethoxylation, ethylene oxide is added to other ingredients to make them less “harsh.” This process can form 1,4-dioxane as a by-product. Neither ethylene oxide nor 1,4-dioxane are intentionally added ingredients, which

means that neither will be listed on ingredient labels, but can still be present within a product. Look for and avoid ingredients with “PEG” or “polysorbate” on the label (See “Polyethylene Glycol Compounds”) and ingredients that end in “eth.”

**Concerns:** Ethylene oxide is associated with multiple types of cancer.<sup>77</sup> 1,4-dioxane is also a known<sup>78</sup> and suspected<sup>79,80</sup> carcinogen.

## Flame Retardants

**What are they?** Flame retardants are chemicals added to products to slow their flammability to allow people more time to get out of a fire. However, the efficacy of flame retardants is debated, as they may not actually be effective in preventing fires from escalating or provide significantly more time for an exit in the event of a fire. (Note that when used correctly, natural materials like cotton and wool can meet national flammability standards without the risk that comes from chemical flame retardants.) Flame retardants are usually added to polyurethane foam in mattresses and furniture. They are also added to children’s pajamas and electronics.

One subclass of flame retardants, brominated flame retardants, have been detected as a contaminant in recycled plastic products, including kitchen items.<sup>81,82,83</sup> Brominated flame retardants are common in household dust.<sup>84</sup> Brominated flame retardants can be transferred from plastic kitchen utensils containing them into food.<sup>85</sup>

**Concerns:** Flame retardants have been linked to many different health impacts. Different flame retardants are associated with different health impacts. Some of the effects that flame retardants have been linked to include: altered sexual development,<sup>86,87</sup> altered neurodevelopment, and other adverse pregnancy outcomes. Flame retardants are also associated with fertility issues,<sup>88</sup> endocrine disruption,<sup>89,90</sup> lower IQ,<sup>91,92</sup> hyperactivity,<sup>93</sup> thyroid dysfunction,<sup>94</sup> and cancer.<sup>95</sup>

Many flame retardants are persistent in the environment,<sup>96</sup> meaning they don’t break down; can bioaccumulate (build up in animals’ tissues), and biomagnify (accumulate

progressively within organisms' bodies up the food chain).<sup>97</sup>

Brominated flame retardants have been associated with developmental neurotoxicity,<sup>98</sup> altered fetal development,<sup>99,100</sup> thyroid and liver dysfunction,<sup>101</sup> hyperactivity,<sup>102</sup> and obesity.<sup>103</sup> In the environment, some brominated flame retardants are likely toxic to some aquatic life,<sup>104</sup> highly persistent and bioaccumulative.<sup>105</sup>

## Formaldehyde

**What is it?** Formaldehyde is a naturally-occurring compound; however, it is synthesized for use in numerous products including formaldehyde-releasing preservatives in personal care; salon treatments like Brazilian Blowouts; nail polish; furniture made from particle board, composite wood, plywood, and pallets; and fertilizers and pesticides. **Concerns:** Formaldehyde is a known carcinogen,<sup>106,107</sup> and short-term health impacts include irritation to eyes, nose and throat.<sup>108</sup>

## Fragrance

**What is it?** "Fragrance" is an umbrella term for what can be more than 100 ingredients within a fragrance formulation. Because fragrance is designated a trade secret by the U.S. Food and Drug Administration, the ingredients do not have to be listed on labels. Fragrance is found in numerous conventional products from shampoos and scented candles to body wash and cleaning products. On packaging, fragrances can also be listed as "parfum," "eau de toilette," "natural fragrance," and other similar terms.

Fragrances can be found in personal care products, cosmetics, cleaning products, feminine care products, sexual health products, and more.

**Concerns:** Because fragrance ingredients are not disclosed on packaging, their identity is unknown, making it impossible to know what you might be exposed to. However, common fragrance ingredients include phthalates, synthetic musks, and oxybenzone (see the entries for each of these ingredients within this glossary).

## Glyphosate

**What is it?** Glyphosate is an herbicide designed to kill weeds and is used on crops and in at-home lawn care. It is one of the most commonly used herbicides in the United States. Glyphosate residues have been detected in numerous food items including bagels, honey, flour, and infant formula.<sup>109</sup> Glyphosate is found in Roundup, a common trade name herbicide formulation produced by Monsanto/Bayer.

**Concerns:** Some controversy exists about the health concerns associated with glyphosate. Evaluations of carcinogenicity by the U.S. EPA in the mid-1980s deemed glyphosate "possibly carcinogenic." In the early 1990s, this determination was amended and the agency has now deemed that there is "no evidence that glyphosate causes cancer."<sup>110</sup> Investigations into the EPA's flip-flop findings contend that glyphosate producers may have played a role.<sup>111</sup> In contrast, the International Agency for Research on Cancer determined that glyphosate is probably carcinogenic.<sup>112</sup>

Some investigations into glyphosate producers have found manipulation of data, scientific literature, journalists, media, and researchers.<sup>113</sup> Glyphosate producer Bayer/Monsanto currently faces over 18,000 lawsuits filed by individuals suing over allegations that Roundup has caused non-Hodgkin lymphoma.<sup>114</sup>

## Isothiazolinone Preservatives

**What are they?** These ingredients are preservatives found in numerous products including personal care, cleaning products, and sexual health products. They have become more prevalent, serving as substitutions for triclosan, which is now banned for use in hand soaps. Two of the most commonly used ingredients in this class are methylisothiazolinone and methylchloroisothiazolinone. **Concerns:** Both methylisothiazolinone and methylchloroisothiazolinone are known irritants, sensitizers, and causes of contact allergies.<sup>115,116</sup> Methylchloroisothiazolinone is toxic to aquatic life.<sup>117</sup> Methylisothiazolinone is a potential endocrine disruptor.<sup>118</sup>

## Lead

**What is it?** Lead is a heavy metal that is naturally-occurring in the earth's crust. In homes, lead can be found within lead water pipes. In products, it can be found in jewelry, some glazed cookware (especially colored cookware), and color cosmetics. Lead in paint used in children's toys is banned in the United States; however, some other countries don't have such restrictions. Lead may also be found in antique toys made before the U.S. ban.

**Concerns:** Exposure to lead in pregnant women has been linked to miscarriage and low birth weight.<sup>119</sup> Lead is a potent neurotoxin associated with developmental issues,<sup>120</sup> and learning, language and behavioral problems.<sup>121</sup> Researchers have determined there is no safe level of lead.<sup>122</sup>

## Mercury

**What is it?** Mercury is a heavy metal found in fish, skin lightening creams, and in clays.

**Concerns:** Mercury is a potent neurotoxin<sup>123</sup> associated with developmental issues.<sup>124</sup>

## Methylchloroisothiazolinone:

See "Isothiazolinone preservatives"

## Methylisothiazolinone:

See "Isothiazolinone preservatives"

**Microfibers:** See "Plastic Fibers" and "Microplastics"

## Microplastics

**What is it?** "Microplastic" is a blanket term for any type of plastic that has been broken down into tiny pieces. Microplastics are pollutants that can either enter the environment already broken down (like microfibers from synthetic fibers or microbeads) or break down once they enter the environment as a result of exposure to sun, currents, winds, and tides (like litter, straws, water bottles, fishing nets, etc.).

Microplastics are ubiquitous in marine environments, including our oceans,<sup>125</sup> bays,<sup>126</sup> lakes,<sup>127</sup> and drinking water.<sup>128</sup> They have

also been detected in Arctic snow; these findings suggest that our atmosphere might actually be transporting microplastics.<sup>129</sup>

**Concerns:** Because conventional plastics are not biodegradable,<sup>130</sup> microplastics will remain in the environment. Microplastics can be consumed by both small and large aquatic life.<sup>131</sup> Larger predators can eat smaller animals that have consumed microplastics; this allows microplastics to build up in animals progressively with each level of the food chain.<sup>132</sup> Research is emerging that microplastics may threaten marine animals.<sup>133</sup>

Researchers have also found that marine animals that are typically eaten by people—seafood—can contain microplastics.<sup>134</sup> Microplastics have also been found in salt and beer. One study projects that people eat the equivalent of one credit card a week of plastic.<sup>135</sup>

Because there is not adequate research on the impacts of consuming microplastics on humans, the risks are unknown<sup>136</sup> and more research is needed.<sup>137</sup> However, substantial research indicates that microplastics are capable of leaching toxic substances, so it's very possible that ingesting microplastics could be harmful to people. Within marine environments, plastic attracts other toxic chemicals that can stick to it.<sup>138</sup>

Plastic, a petroleum product, is inextricably linked to climate change. Plastic production emits greenhouse gases at every stage of its lifecycle from fossil fuel extraction to plastic waste management through incineration.<sup>139</sup> To truly divest from fossil fuel, a finite and non-sustainable resource, the use of plastic must be dramatically reduced.

Plastic production is rapidly increasing. In the last half-century, it has increased more than twentyfold and is projected to increase twofold in the next twenty years.<sup>140</sup>

Finally, plastic pollution is a social justice issue; it disproportionately impacts people of color and people with lower incomes.

## Nanoparticles

**What are they?** Nanoparticles can be 1,000 times smaller than the width of a human hair. In household goods, they're most com-

monly found in sunscreens in the form of nanoparticle titanium dioxide and zinc oxide. Nanoparticle titanium dioxide is used in the coating of some quasi-ceramic pans, from which it can be released when scratched, nicked or dinged.<sup>141</sup> Nanoparticle silver is also used in some personal care, cleaning, and first aid products.

**Concerns:** Nanoparticles have not yet been properly assessed for their potential effects on human health or the environment; researchers don't yet understand the impacts that nanoparticles could have on people and the environment. However, the research that does exist indicates that nanoparticle silver<sup>142</sup> and titanium dioxide may be harmful to aquatic life. Nanoparticle titanium dioxide may be implicated in coral reef degradation.

Additionally, because of their infinitesimally small size, nanoparticles may be more chemically reactive and therefore more bioavailable, meaning the particles are fast tracked into the body.<sup>143</sup>

## Octinoxate

**What is it?** Octinoxate is very commonly used in sunscreens as a UV filter that protects against UVB rays, but not UVA rays. On packaging, it may also be listed as OMC, methoxycinnamate or ethylhexyl methoxycinnamate.

**Concerns:** Octinoxate is linked to reproductive toxicity<sup>144</sup> and endocrine disruption.<sup>145</sup> Octinoxate was banned by the state of Hawaii in 2018 because it's harmful to coral reefs.

## Oxybenzone

**What is it?** Oxybenzone, otherwise known as benzophenone-3, is one of the most commonly used sunscreen ingredients. It appears in sunscreens, but also in "fragrance" to protect the formulation from breaking down in sunlight.

**Concerns:** Oxybenzone is linked to endocrine disruption,<sup>146,147,148</sup> organ system toxicity,<sup>149</sup> contact allergies,<sup>150</sup> and photoallergies (when light is required to elicit an allergic reaction).<sup>151</sup> Oxybenzone is very harmful to aquatic life, which is why it was banned by the state of

Hawaii to protect coral reefs.<sup>152</sup>

## Parabens

**What are they?** Parabens are preservatives that are used in numerous types of personal care products from cosmetics to toiletries, as well as sexual health products like feminine washes, lubricants, and sex toy cleaners. On labels you can spot them with the word "paraben" as a suffix (ex: butylparaben, benzylparaben, ethylparaben).

**Concerns:** Some parabens are linked to reproductive and developmental harm.<sup>153,154,155,156</sup> Parabens disrupt the endocrine system by mimicking estrogen in the body. Parabens are also linked to breast cancer.<sup>157,158</sup>

## Per- and Polyfluoroalkyl Substances (PFAS)

**What are they?** PFAS are a diverse chemical group consisting of over 3,000 individual PFAS, with the primary purpose of water, stain, and grease resistance.<sup>159</sup> They can be found in numerous products including textiles, carpet, paints, adhesives, cookware, to-go containers, linings of food packaging, computers, cell phones, automobiles, mattresses, microwave popcorn bag linings, papers used at bakeries and delis, and much more. PFAS is known to be used in "green" compostable to-go containers; it has therefore been detected in municipal compost.<sup>160</sup>

PFOA, also known as C8, is a member of the PFAS family. PFOA was one of the primary components of Teflon until 2013. Now, the primary component is polytetrafluorethylene (PTFE).

**Concerns:** Various PFAS have been linked to a wide range of health effects through epidemiological studies: pregnancy-induced hypertension/pre-eclampsia, increased risk of thyroid disease, increased risk of decreased fertility, liver damage, and more.<sup>161</sup> PFOA<sup>162,163</sup> and PFOS, two PFAS, are potentially carcinogenic.<sup>164</sup> Other potential toxic effects include endocrine disrupting capabilities,<sup>165</sup> developmental and reproductive toxicity,<sup>166</sup> liver damage,<sup>167</sup> and immune suppression.<sup>168,169</sup>

Various PFAS are persistent in the environment, meaning they don't break down.<sup>170</sup>,<sup>171</sup> For example, PFOA persists in the body for approximately eight years.<sup>172</sup> Some are also bioaccumulative, building up in the tissues of animals and humans.<sup>173</sup> PFAS readily breakdown into persistent compounds that easily move into the environment, contaminating groundwater.<sup>174, 175</sup>

## Permethrin

**What is it?** Permethrin is a pesticide most frequently used to treat bug-resistant clothing, mosquito netting, and outdoor gear. It is frequently used in bug sprays and worldwide as a pesticide for crops. Permethrin is used in over-the-counter lice treatments, as well as in flea shampoos and treatments for pets. **Concerns:** Permethrin is associated with neurotoxicity,<sup>176</sup> and at high doses, seizures.<sup>177</sup> One animal study demonstrated that newborn exposure to permethrin impaired working memory.<sup>178</sup> Orally, permethrin is classified as a likely carcinogen by the EPA.<sup>179</sup>

**Pesticides:** See "Glyphosate," "DEET" and "Permethrin"

## Phthalates

**What are they?** Phthalates are a class of chemicals that play different roles in different products. In plastics, they're used as plasticizers, which are chemicals that can make plastics softer and more flexible. In some personal care products, they're used as solvents and to provide flexibility in products like nail polish and hairspray. In "fragrance," they help scents stick around longer. Phthalates are found in plastics packaging used for food storage, and kitchen items. They are also commonly used in vinyl products like shower curtains, flooring, raingear, and waterproof mattresses. In personal care products, phthalates are found in fragrance formulations, nail polish, hair spray, and other products, including cosmetics. Phthalates are also used in sexual health products like sex toys. Phthalates do not often appear on labels especially

in home goods and when they are part of "fragrance."

**Concerns:** Substantial evidence has linked phthalates to numerous health concerns, most of which are the result of endocrine disruption, as this class of chemicals has the ability to interfere with the hormone system in numerous ways.<sup>180</sup> Some of the outcomes of their endocrine disrupting abilities include developmental toxicity<sup>181,182,183</sup> and harm to the female and male reproductive systems.<sup>184,185,186</sup> Some phthalates have been linked to cancer.<sup>187,188</sup>

**Plastic:** See "Microplastics" and "Plastic Fibers"

## Plastic Fibers

**What are they?** While many synthetic fibers may feel soft to the touch—they are actually different forms of plastic. For example, polyester is synonymous with PET, the plastic used to make water bottles. Polyester clothing and water bottles go through different manufacturing processes to create different textures and structures. Synthetic fibers that are forms of plastic include nylon, acrylic, polyester, polypropylene, and more. **Concerns:** The primary concern with synthetic textiles is environmental health. Plastic has the ability to break down into polluting microfibers when washed in the home or on a commercial scale like in textile production (see "Microplastics").<sup>189,190</sup> Microfibers often reach water sources where they pollute oceans, rivers, lakes and drinking water.<sup>191</sup> Each year, about two million tons of microfibers are discharged into the ocean.<sup>192</sup> Additionally, because many synthetic fibers are not readily biodegradable, when they end up in a landfill, they do not break down easily. This is especially concerning with the increase in fast fashion clothing.

## Polychlorinated Biphenyls (PCBs)

**What are they?** PCBs are a large family of highly chlorinated chemicals that were used for industrial purposes, primarily in electrical applications, but also as plasticizers

in plastics, pigments, and paints.

**Concerns:** PCBs were banned for production in the late 1970s due to health concerns;<sup>193</sup> however, because they are typically very persistent in the environment, they are still present in our environment today. PCBs are linked to numerous health impacts including cancer, adverse reproductive effects like low birth weight, serious impacts on the immune system, learning impairments, hormone disruption, and more.<sup>194</sup>

## Polyester

**What is it?** Polyester is made from polyethylene terephthalate, the same substance used to create plastic bottles and product packaging. The substance undergoes different methods in production to yield a different outcome—a soft textile (polyester) or a rigid substance (plastics). Polyester is used to make clothing and linens, as well as home goods like curtains, furniture, and mattresses. In personal care products, polyester is used to make wipes—baby, makeup removing, sexual health and so on. Polyester is the dominant fiber used in textiles, making up approximately half of all global textile sales.<sup>195</sup>

**Concerns:** Polyester is not readily biodegradable, which presents a hazard to the environment. When washed, polyester sheds microfibers, which are tiny fibers of plastic that are released into waterways (See “Microplastics” and “Plastic Fibers”). Polyethylene terephthalate is the main fiber that makes up microfiber pollution.<sup>196</sup> Polyester’s lack of biodegradability in tandem with the emissions it creates from production make fashion one of the most polluting industries.<sup>197</sup>

In addition to environmental concerns, PET may pose some human toxicity risks. Antimony trioxide, a substance classified as possibly carcinogenic,<sup>198</sup> is used as a common catalyst in the production process of polyester.<sup>199</sup> Detectable levels of antimony have been found in various polyester textiles.<sup>200,201</sup> Research has demonstrated antimony trioxide’s ability to migrate from polyester textiles to sweat<sup>202</sup> and saliva.<sup>203</sup> One

set of researchers concluded that this may present a risk to people who wear polyester frequently and for long periods.<sup>204</sup>

## Polyethylene Glycol Compounds (PEGs)

**What are they?** Polyethylene glycol compounds, or PEGs for short, are a group of ingredients that serve a number of functions in products, including thickeners, surfactants and penetration enhancers. These can be found in numerous types of products including hand soap, shower products, cosmetics, and cleaners.

**Concerns:** PEGs are made using a chemical called ethylene oxide, in a process called ethoxylation. This process can cause contamination with ethylene oxide, a chemical associated with multiple types of cancer.<sup>205</sup> Ethoxylated ingredients like PEGs can also be contaminated with 1,4-dioxane, a carcinogen.<sup>206</sup> Because both ethylene oxide and 1,4-dioxane are not intentionally added in the process, you won’t find them listed on labels.

## Polyvinyl Chloride (PVC)

**What is it?** Polyvinyl chloride is a type of plastic, also called PVC or vinyl, and is used in plastics #3 and #7. PVC can be found in numerous household goods including shower curtains, flooring (e.g. luxury vinyl), toys, product packaging, kitchen items, car interiors, and more. In personal care products, it’s found in numerous types of products, especially fragrances, creams, and lotions.

**Concerns:** PVC is widely known as the most toxic plastic for health and the environment. PVC releases numerous toxic substances in production including dioxins, phthalates (see: “Phthalates”), vinyl chloride, lead and other heavy metals, and more.<sup>207</sup> Pollution is one of the primary environmental concerns with PVC. It is non-biodegradable, and therefore contributes to plastic pollution of the ocean, air, soil, and water. In terms of health concerns in the home, PVC can leach phthalates (see: “Phthalates”), which are endocrine-disrupting compounds used to make PVC more flexible.

## **P-phenylenediamine (PPD)**

**What is it?** A primary component of hair dye systems. PPD is a coal-tar color, derived from petroleum.

**Concerns:** PPD is linked to skin irritation, eye irritation and asthma,<sup>208</sup> convulsions, and coma. Animal studies have linked PPD to some endocrine disrupting capabilities.<sup>209</sup> When mixed with hydrogen peroxide, another common hair dye component, a mutagenic compound can be formed that can alter genetic material, which can cause cancer.<sup>210</sup>

## **Radon**

**What is it?** Radon is a radioactive gas that exists in soil and rock, resulting from the natural decomposition of uranium. It does not have a color, taste, or smell. Radon typically enters the home through the basement, via cracks in the foundation, and then is typically trapped within the home. While radon exposure is a serious issue, there are very effective and inexpensive ways to remediate elevated radon levels.<sup>211</sup>

**Concerns:** Exposure to elevated levels of radon is associated with lung cancer, in both non-smokers and smokers.<sup>212</sup>

## **Retinol Derivatives and Vitamin A**

**What are they?** Vitamin A is actually not a single substance, but rather a group of related substances, including retinol, retinal, retinoic acid, and more. Vitamin A and related compounds are most commonly used in “anti-aging” products. On labels, they can be spotted with the prefix “retin” like retinyl, retinal, retinoic, as well as the term “Vitamin A.” Retinoic acid is found in prescription-only treatments for acne.

**Concerns:** Retinoic acid has been linked to developmental toxicity.<sup>213</sup> Retinoic acid and retinyl palmitate have been associated with photocarcinogenicity, which is the potential to cause cancer when exposed to sunlight.<sup>214</sup> Using too many products containing Vitamin A can create a harmful surplus of the vitamin, which is linked to birth defects, liver damage, and other health impacts.<sup>215</sup>

**Synthetic Fibers:** See “Plastic Fibers” and “Microplastics”

## **Synthetic Musks**

**What are they?** Synthetic musks are fragrance ingredients that are designed to mimic musky scents derived from animals. Synthetic musks are used in personal care products, fragrances, perfume, cleaning products, laundry products, and more. Common synthetic musks include galaxolide and tonalide.

**Concerns:** Galaxolide and tonalide are potential endocrine disruptors.<sup>216</sup> They are capable of building up in our bodies.<sup>217</sup> The health impacts of synthetic musks are varied because there is a wide range of musks within this class.

## **Tetrachloroethylene (TCE/Perc)**

**What is it?** Tetrachloroethylene also goes by the names TCE and perc. TCE is the primary chemical used in dry cleaning. TCE can stick around in dry cleaned clothing,<sup>218</sup> from where it vaporizes into the surrounding air.

**Concerns:** TCE is a probable carcinogen<sup>219</sup> and has been classified as a known toxin.<sup>220</sup> Perc can enter the body through inhalation and from contact with skin.<sup>221</sup> Once it enters into the body, because it’s bioaccumulative, it likes to stick to fat.<sup>222</sup>

## **Toluene**

**What is it?** Toluene is a petrochemical solvent that is used in nail polish and treatments, hair dyes, adhesives, sexual health products like toys, paint thinners, tobacco, and also found in ambient air in many nail salons and as an environmental pollutant.

**Concerns:** Toluene is linked to short-term problems like headaches, confusion, fatigue,<sup>223</sup> and eye, nose, and throat irritation;<sup>224</sup> and long-term impacts like kidney and liver damage,<sup>225</sup> reproductive harm,<sup>226</sup> and developmental toxicity.<sup>227</sup>

## **Triclosan and Triclocarban**

**What are they?** Triclosan and triclocarban

are germ-killing ingredients, most frequently used in hand sanitizer, toothpaste, and cleaning products. They are also found in cosmetics, deodorants, mouthwash, toys, mattresses, furniture, as well as sexual health products like sex toy cleaners. Triclosan and triclocarban are frequently found in products labeled or marketed as “antimicrobial” and “antibacterial,” but can also be found in other products marketed without such terms.

**Concerns:** Triclocarban and triclosan are both also associated with endocrine disruption.<sup>228,229,230,231</sup> In particular, triclosan has been linked to numerous effects resulting from endocrine disruption,<sup>232</sup> including some adverse reproductive outcomes.<sup>233,234,235,236</sup> Triclosan is associated with possible increased risk of breast cancer,<sup>237,238</sup> and has been shown to contribute to resistant bacteria.<sup>239</sup> Due to environmental and health concerns, triclosan and triclocarban were banned from hand soaps, but they are still allowed for use in many other products.

### Trimethyltin Chloride

**What is it?** Trimethyltin chloride is an organotin compound used in the manufacture of plastics, particularly PVC; the treatment of wood to control fungi, bacteria and insects; in paints; sexual health products; and in leather and textiles.<sup>240</sup>

**Concerns:** Trimethyltin chloride is considered a reproductive hazard<sup>241</sup> and linked to irreversible neurotoxicity outcomes in development.<sup>242</sup> The substance is considered highly toxic through all routes of exposure. In animal studies the substance has been linked to acute toxicity, bioaccumulation, learning impairments, and neural degeneration.<sup>243</sup> Trimethyltin chloride is capable of accumulating in the body.<sup>244</sup>

In a study assessing health risks from various chemicals in sex toys, researchers determined that exposure to trimethyltin chloride through sex toys was a health risk for pregnant and breastfeeding mothers. They also determined there was a minor risk of neurological effects on adults.<sup>245</sup>

Research on aquatic life is limited, but existing research indicates trimethyltin chloride is likely toxic to aquatic life.<sup>246</sup>

### Undisclosed ingredients

**What is it?** Undisclosed ingredients are exactly what they sound like—ingredients with identities that are not disclosed on packaging. These ingredients hide behind many different terms, including fragrance, parfum, eau de toilette, preservatives, flavor, artificial flavor, natural flavor, surfactants, enzymes, and more. (For more info, see “Fragrance.”)

**Concerns:** Without disclosure of ingredients, it’s impossible to determine what you may be exposed to from using a product. While not all undisclosed ingredients are harmful, without disclosure, it’s impossible to determine whether there are ingredients of concern in a product. For example, ingredients within “Fragrance” have been linked to endocrine disruption, cancer, reproductive toxicity, and more. We recommend avoiding undisclosed ingredients as you cannot determine if they’re pregnancy-safe.

**Vitamin A:** See “Retinol Derivatives and Vitamin A”

### Volatile Organic Compounds (VOCs)

**What are they?** VOCs are organic chemicals that can easily become a gas; these gases are usually invisible to the eye and are very common in indoor environments like home, offices, schools, and childcare facilities. VOCs are emitted from polyurethane foam in mattresses and furniture cushioning, furniture, renovation materials, paints, fragranced products, perfume, dry cleaning, adhesives, cleaning products, copy machines and printers, and more.

**Concerns:** Many VOCs are known to be harmful to human health. Because there are numerous VOCs within this class of chemicals, their impacts are varied. However, some include irritation, headaches, dizziness, fatigue, organ damage, and cancer.<sup>247</sup>

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