

PLASTIC CONSUMER PRODUCTS TO AVOID

The material provides a list of plastic consumer products that are best avoided due to their potential health risks. It also suggests safer alternatives for each type of product. The focus is on reducing exposure to toxic chemicals commonly found in various plastic items.

Here's a list of plastic items to steer clear of, along with safer alternatives:

Products Made from PVC (Polyvinyl Chloride, Recycling Code #3)

Why Avoid: PVC products contain phthalates, lead, cadmium, and organotins, which can harm health. Various studies, including the Center for Environmental Health (CEH) study "[Our Health, PVC, and Critical Infrastructure](#)" have confirmed this. These chemicals can leach out and pose serious health risks. Exposure to PVC and its additives has been linked to a variety of health issues, including endocrine disruption, developmental problems, reproductive harm, and cancer.


Common Items: Vinyl flooring, shower curtains, plumbing pipes, some toys, and certain food packaging.

Safer Alternatives: Look for products made from non-plastic materials like glass, metal, wood, or natural fibres.

Products Made from Polystyrene (PS, Recycling Code #6)

Why Avoid: Polystyrene is made from styrene, a chemical classified as a possible human carcinogen by the International Agency for Research on Cancer (IARC). [Exposure to styrene](#) can occur through various routes, including inhalation, ingestion, or skin contact, leading to potential health issues such as respiratory problems, skin irritation, and effects on the nervous system. Styrene leaches from food packaging,





especially when in contact with hot or acidic foods. Moreover, polystyrene is not biodegradable, meaning it persists in the environment for hundreds of years and [breaks down into smaller particles, contributing to microplastic pollution in oceans and waterways](#).

Common Items: Disposable coffee cups, plastic food containers, foam packaging, and cutlery.

Safer Alternatives: Use paper, glass, stainless steel, or ceramic for cups and food containers.

Products Labeled with Recycling Code #7 (“Other”)

Why Avoid: Recycling Code #7 is a catch-all category for various plastics that do not fit into the other six categories. A study, [“BPA and Phthalates by the Numbers”](#) by Harvard T.H. Chan School of Public Health, provides an overview of the health risks associated with various types of plastics, including those labeled with Recycling Code #7. It highlights that polycarbonate plastics, often found in this category, contain BPA, which has been linked to developmental, reproductive, and metabolic health problems. Bisphenols are endocrine disruptors, meaning they can interfere with the body’s hormone systems. The study emphasizes the importance of identifying and avoiding plastics that contain harmful chemicals to reduce exposure and potential health risks¹.

Common Items: Some baby bottles, water bottles, and food storage containers, medical devices, electronic casings.

Safer Alternatives: Choose bisphenol-free labelled products or use alternatives made from glass, stainless steel or ceramic.

Plastic Food Storage Containers

Why Avoid: Often made from polycarbonate or other plastics that can leach harmful chemicals, especially when heated. The primary concerns include:

Bisphenol A (BPA): Polycarbonate plastics often contain BPA, an endocrine disruptor that can mimic estrogen and interfere with hormone functions. BPA exposure has been linked to [various health issues](#), including reproductive problems, developmental issues in children, and an increased risk of certain cancers.

Phthalates: These chemicals are used to make plastics more flexible. They can leach into food and have been associated with [health problems](#) such as hormonal imbalances, reproductive issues, and increased risk of asthma and allergies.

Microplastics: Over time, plastic containers can degrade and release microplastics, which can be ingested with food. [Microplastics](#) have been found to cause inflammation, disrupt gut microbiota, and potentially lead to long-term health issues.

Safer Alternatives: Use glass or stainless-steel containers. For microwave use, look for products labelled explicitly as microwave-safe and free from harmful chemicals.



Plastic Cooking Utensils and Cutting Boards

Why Avoid: Plastic cooking utensils and cutting boards can degrade over time, especially with frequent use and exposure to heat. This degradation can lead to the release of harmful chemicals, like bisphenols and phthalates, and microplastics into food. [Studies have shown that chopping on plastic cutting boards can generate significant amounts of microplastics.](#) Microplastics and leached chemicals have been found in human tissues, including blood and lungs, and are associated with various health risks.

Safer Alternatives: Opt for utensils and cutting boards made from wood, bamboo, or stainless steel.

Plastic Wrap and Non-Stick Bakeware

Why Avoid: Plastic wrap can contain PVC or PVDC, which can release harmful chemicals. Non-stick coatings can degrade and release toxic substances, including per- and polyfluoroalkyl substances (PFAS). These chemicals are used to make non-stick coatings and are known for their persistence in the environment and potential health risks, including cancer, hormone disruption, and immune system effects.

Safer Alternatives: Use beeswax wraps or glass containers with lids. For bakeware, use glass, stainless steel, or uncoated metal pans.

Disposable Plastic Water Bottles

Why Avoid: Disposable plastic water bottles are often made from polyethylene terephthalate (PET), identified by the recycling code #1. While PET is generally considered safe, there are several concerns associated with its use, particularly when bottles are exposed to heat or reused. PET bottles can leach antimony, a toxic metalloid used as a catalyst in the production of PET. [Studies](#) have shown that antimony can leach into the water, especially when bottles are exposed to high temperatures, such as being left in a hot car or being exposed to sunlight. [Antimony exposure](#) can lead to health issues such as nausea, vomiting, and diarrhea, and long-term exposure may have more severe health effects. Moreover, bottled water can contain microplastics originating from the bottle itself or the cap. [Ingesting microplastics](#) has been linked to potential health risks, including inflammation, disruption of gut microbiota, and potential long-term health effects. Besides antimony, other chemicals used in the manufacturing process of PET bottles can leach into the water, especially when the bottles are reused or exposed to heat. These [chemicals](#) can include phthalates and other plasticizers, which are known endocrine disruptors.

Safer Alternatives: To minimize exposure to these harmful substances, consider using stainless steel or glass water bottles. Avoid reusing PET bottles and store them in cool, shaded areas to minimize leaching.

Plastic Toys

Why Avoid: Plastic toys can pose significant health risks due to the presence of harmful chemicals such

as endocrine disruptors like phthalates and other toxic substances, including flame retardants, heavy metals, and plasticizers. These [chemicals](#) can leach out of the toys and be ingested or absorbed through the skin, leading to various health issues. These risks are particularly concerning for older toys or those that do not meet current safety standards. In 2020, an [international study](#) assessed the chemical compositions of plastic toys and estimated levels of human exposure to these substances. The researchers identified over 100 “Chemicals of Concern” in plastic toy materials that could pose significant health risks to children. The study found that out of 419 chemicals present in hard, soft, and foam plastic materials used in children’s toys, 126 substances could potentially harm children’s health through cancer or non-cancer effects. [These included 31 plasticizers, 18 flame retardants, and 8 fragrances.](#)

Safer Alternatives: Choose toys made from wood or other natural materials. Look for labels indicating compliance with safety standards.

Summary

Many plastic products contain harmful chemicals that can leach into food and beverages, especially when plastics are heated or scratched. For example, [BPA was found in baby bottles](#) in Bangladesh, Bhutan, China, Indonesia, Malaysia, Russia, Sri Lanka, and Tanzania. Toxic [brominated flame retardants were found in children’s toys](#), hair accessories, office supplies, and kitchen utensils sold in Chinese, Indonesian, and Russian markets. [PFAS chemicals were found in synthetic clothes](#) sold in China, Indonesia, and Russia. Exposure to these chemicals has been linked to various health issues, including hormonal imbalances, reproductive problems, developmental issues in children, and an increased risk of certain cancers.

Plastic products, including those used at home, can degrade over time and release microplastics. These tiny plastic particles can end up in food and water, contributing to pollution. In 2024, [a study](#) published in Environmental Science & Technology revealed that Indonesians consume around 15 grams of microplastics each month, roughly the size of an ATM card. This places Indonesia at the top globally for microplastic consumption. Microplastics have been found in human tissues, including blood and lungs, raising concerns about their impact on health. Ingesting microplastics has been associated with inflammation, disruption of gut microbiota, and potential long-term health effects.

By avoiding disposable plastic products, people can significantly reduce the amount of plastic waste that ends up in landfills and oceans. Plastics take hundreds of years to decompose, during which time they release harmful chemicals into the environment.

By choosing safer alternatives, you reduce exposure to harmful chemicals and microplastics, leading to better overall health and well-being. By making conscious choices to avoid certain plastic products and opting for safer alternatives, you can significantly reduce your environmental footprint and contribute to a healthier planet for both humans and wildlife.

Contacts

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