




[Sign In](#)

[Become a Member](#)

 Find the Best....

[BECOME A MEMBER](#) | [DONATE](#)

[Health](#) / [Food](#) / [The Plastic Chemicals Hiding In Your Food](#)

The Plastic Chemicals Hiding in Your Food

CR tested popular fast foods and supermarket staples for bisphenols and phthalates, which can be harmful to your health. Here's what we found—and how to stay safer.

By Lauren F. Friedman

January 4, 2024



Photo: Sarah Anne Ward

By the time you open a container of yogurt, the food has taken a long journey to reach your spoon. You may have some idea of that journey: From cow to processing to packaging to store shelves. But at each step, there is a chance for a little something extra to sneak in, a stowaway of sorts that shouldn't be there.

That unexpected ingredient is something called a plasticizer: a chemical used to make plastic more flexible and durable. Today, plasticizers—the most common of which are called phthalates—show up inside almost all of us, right along with other chemicals found in plastic, including bisphenols such as BPA. These have been linked to a long list of health concerns, even at very low levels.

Consumer Reports has investigated bisphenols and phthalates in food and food packaging a few times over the past 25 years. In our new tests, we checked a wider variety of foods to see how much of the chemicals Americans actually consume. The answer? Quite a lot. Our tests of nearly 100 foods found that despite growing evidence of potential health threats, bisphenols and phthalates remain widespread in our food.

Get phthalates out of our food!

Tell the FDA to take action now to protect our families. Sign the petition. [Read the full petition.](#)

First Name	
Email	
Zip	

Sign The Petition

By submitting this form, I agree to the terms of Consumer Reports' [Privacy Policy](#) and [User Agreement](#).

ON THE HEALTH
OF PLASTIC

Reduce Your
re to Plastic in Food
(everywhere Else)

Food Companies Are
Using One Toxic
Chemical With Another

Big Problem With

Plastic Products
Are Potentially Toxic
Chemicals

It's Plastic

The findings on phthalates are particularly concerning: We found them in almost every food we tested, often at high levels. The levels did not depend on packaging type, and no one particular type of food—say, dairy products or prepared meals—was more likely than another to have them.

For example, we found high levels in, among other products, Del Monte sliced peaches, Chicken of the Sea pink salmon, Fairlife Core Power high-protein chocolate milkshakes, Yoplait Original French vanilla low-fat yogurt, and several fast foods, including Wendy's crispy chicken nuggets, a Chipotle chicken burrito, and a Burger King Whopper with cheese. Organic products were just as problematic: In fact, the highest phthalate levels we found

were in a can of Annie's Organic cheesy ravioli.

Yet some products had much lower levels than others. A serving of Pizza Hut's Original Cheese Pan Pizza, for example, had half the phthalate levels of a similar pizza from Little Caesars. Levels varied even among products from the same brand: Chef Boyardee Big Bowl Beefaroni pasta in meat sauce had less than half the level of the company's Beefaroni pasta in tomato and meat sauce.

"That tells us that it's widespread as these chemicals are, there are ways to reduce how much is in our foods," says James E. Rogers, PhD, who oversees product safety testing at CR. Read more about [how CR tested foods for phthalates and bisphenols](#) (PDF).

The trouble is, there are so many ways these chemicals enter our food.

Early efforts to limit exposure to them focused on packaging, but it's now clear that phthalates in particular can also get in from the plastic in the tubing, conveyor belts, and gloves used during food processing, and can even enter directly into meat and produce via contaminated water and soil.

There are few regulations restricting the use of these chemicals in food production, or requiring that manufacturers test foods for them. But our guide can help you learn how plasticizers get into your food, how to reduce your exposure, and how key changes by industry and regulators could make our food safer.

In This Article

[**The Problem With Plastic Chemicals • High Risks Even at Low Levels • What Our Tests Found • Making Food Safer**](#)

The Problem With Plastic Chemicals

Bisphenols and phthalates in our food are concerning for several reasons.

To start, growing research shows that they are endocrine disruptors, which means that they can interfere with the production and regulation of estrogen and other hormones. Even minor disruptions in hormone levels can contribute to an increased risk of several health problems, including diabetes, obesity, cardiovascular disease, certain cancers, birth defects, premature birth, neurodevelopmental disorders, and infertility.

Those problems typically develop slowly, sometimes over decades, says Philip Landrigan, MD, a pediatrician and the director of the Program for Global Public Health and the Common Good at Boston College. "Unlike a plane crash, where everyone dies at once, the people who die from these die over many years."

Another concern is that with plastic so ubiquitous in food and elsewhere, the chemicals can't be completely avoided. And though the human body is pretty good at eliminating bisphenols and phthalates from our systems, our constant exposure to them means that they enter our blood and tissue almost as quickly as they're eliminated. And plasticizers in particular can easily leach out of plastic and other materials. In addition, the chemicals' harmful effects may be cumulative, so steady exposure to even very small amounts over time could increase health risks.

All that makes it difficult to trace any particular bad health outcome—say, a heart attack or breast cancer—to the chemicals. And it makes it hard for regulators to set a limit for what is considered safe for any food. "As a first step, the key is to determine how widespread the chemicals are in our food supply," Rogers says. "Then we can develop strategies, as a society and individually, to limit our exposure."

High Risks Even at Low Levels

To help figure out the scope of the problem, CR tested a wide range of food items, in a variety of packaging.

Specifically, we tested 85 foods, analyzing two or three samples of each. We looked for common bisphenols and phthalates, as well as some chemicals that are used to replace them. (Read more about [these chemical substitutes](#).) We included prepared meals, fruits and vegetables, milk and other dairy products, baby food, fast food, meat, and seafood, all packaged in cans, pouches, foil, or other material.

The news on BPA and other bisphenols was somewhat reassuring: While we detected them in .9 percent of the tested samples, levels were notably lower than when we last tested for BPA, in 2009, "suggesting that we are at least moving in the right direction on bisphenols," says CR's Rogers.

But there wasn't any good news on phthalates: We found them in all but one food (Polar raspberry lime seltzer). And the levels were much higher than for bisphenols.

Determining an acceptable level for these chemicals in food is tricky. Regulators in the U.S. and Europe have set thresholds for only bisphenol A (BPA) and a few phthalates, and none of the foods CR tested had amounts exceeding those limits.

But "many of these thresholds do not reflect the [most current scientific knowledge](#), and may not protect against all the potential health effects," says Tunde Akinleye, the CR scientist who oversaw CR's tests. "We don't feel comfortable saying these levels are okay," he says. "They're not."

The decision to allow these chemicals in food "is not evidence-based," says Ami Zota, ScD, an associate professor of environmental health sciences at the Columbia University Mailman School of Public Health in New York City, who has studied the risks of phthalates.

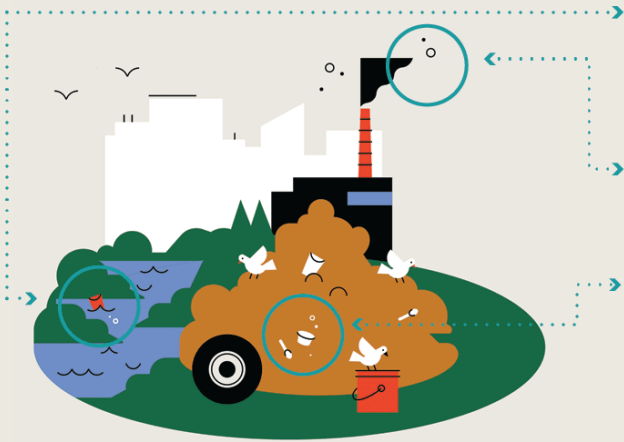
For example, one of the most well-studied phthalates is called DEHP. [Studies](#) have linked it to [insulin resistance](#), [high blood pressure](#), reproductive issues, early menopause, and other concerns [at levels well below](#) the limits set by American and European regulators. It was the most common phthalate that we

found in our tests, with more than half of the products we tested having levels above what research has linked to health problems.

In addition, Akinleye says that with exposure to these chemicals coming from so many sources—not only food but also other products, such as printed receipts and household dust— it's difficult to quantify what a "safe" limit would be for a single food. "The more we learn about these chemicals, including how widespread they are, the more it seems clear that they can harm us even at very low levels," he says.

How Plastic Chemicals Get Into Food

ENVIRONMENT



Plastic trash

in landfills can degrade, allowing chemicals to leach into water and soil.

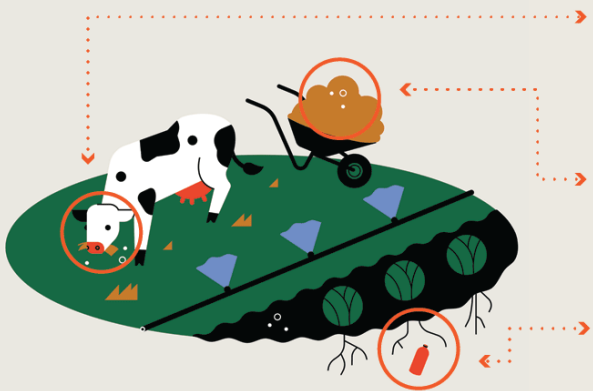
Incineration and production

of plastic can release chemicals into the air.

Microplastics

may be generated during production, use, or disposal, eventually entering your food.

AGRICULTURE



Animals

such as cows may consume water and plants contaminated with plasticizers.

Plastic mulch

is sometimes used to suppress the growth of weeds, then plowed right into the fields.

Plants

can drink up plasticizers from the soil, right along with the nutrients they need to grow.

PROCESSING



Pasteurization

requires high temperatures that may speed up leaching.

Vinyl gloves

can contain more than one-third plasticizers by weight.

Flexible plastic tubing

may be used in the processing of milk and oils.

Conveyor belts,

which move food as it's processed, may be plasticized.

ests

PACKAGING



Bisphenols

can show up in food packaging, including lined metal cans.

of total

med as

ls are

Plasticizers

may be found in plastic wraps and jar gaskets.

roducts

ILLUSTRATIONS BY THE TOM AGENCY

TOTAL PHTHALATES
PER SERVING
(NANOGRAMS)*

BEVERAGES

Brisk Iced Tea Lemon (can)	7,467
Coca-Cola Original (plastic)	6,167
Lipton Diet Green Tea Citrus (plastic)	4,433
Poland Spring 100% Natural Spring Water (plastic)	4,217
Juicy Juice 100% Juice Apple (plastic)	3,348
Pepsi Cola (can)	2,938
Juicy Juice 100% Juice Apple (cardboard box)	2,260
Gatorade Frost Thirst Quencher Glacier Freeze (plastic)	1,752
Polar Seltzer Raspberry Lime (can)	0

TOTAL PHTHALATES
PER SERVING
(NANOGRAMS)*

Canned Beans

Hormel Chili With Beans (can)	9,847
Bush's Chili Red Beans Mild Chili Sauce (can)	6,405
Great Value (Walmart) Baked Beans Original (can)	6,184
Bush's Baked Beans Original (can)	3,709

TOTAL PHTHALATES
PER SERVING
(NANOGRAMS)*

Condiments

Mrs. Butterworth's Syrup Original (plastic)	1,010
Hunt's Tomato Ketchup (plastic)	574
Sweet Baby Ray's Barbecue Sauce Original (plastic)	22

Making Food Safer

TOTAL PHTHALATES
PER SERVING
(NANOGRAMS)*

Dairy
Growing concerns about the health risks posed by these chemicals have led U.S. regulators to meaningfully curtail the use of these chemicals in a number of products—but not yet food.

Fairlife Core Power High Protein Milk Shake Chocolate (plastic) 20,452

SlimFast High Protein Meal Replacement Shake Creamy Chocolate (plastic) 16,916

For example, the federal government has banned eight phthalates in children's toys. But, with the exception of a 2012 ban on BPA in baby bottles (extended in

2013 to infant formula cans), there are no substantive limits on plastic-related

chemicals in food packaging or production. Although the Food and Drug

Administration no longer allows certain phthalates in materials that come into

contact with food—the agency updated its regulations only after those chemicals

were no longer in use. And just last year, it rejected an appeal from several

groups calling for a ban on multiple phthalates used in materials that come into contact with food.

Sargento Sliced Natural Cheddar Cheese Sharp (plastic) 1,481

An FDA spokesperson told CR that in 2022 it asked the food industry and others to provide the agency with additional data about the use of plasticizers in any material that comes into contact with food during production, and might use that information to update its safety assessments of the chemicals.

Fast Food

CR's food safety scientists and others say such a reassessment by the FDA and

other agencies is overdue and essential. "Since bisphenols and phthalates are

hazardous chemicals, they should not be allowed at all in food-contact

materials," says Erika Schreder, the science director at Toxic-Free Future, an advocacy group.

Burger King Whopper With Cheese (paper) 20,167

Supermarket and fast-food chains, as well as food manufacturers, should also be

required to take action, Rogers says, and should set specific goals for reducing

and eliminating bisphenols and phthalates from all food packaging and

processing equipment throughout their supply chains.

Wendy's Natural-Gut French Fries (paperboard) 8,876

CR contacted certain companies in our tests that had products with the highest phthalate levels per serving, and asked them to comment on our results.

McDonald's Chicken McNuggets (cardboard) 8,030

Annie's, Burger King, Fairlife, Little Caesars, Moe's Southwest Grill, Wendy's,

Little Caesars Classic Cheese Pizza (cardboard box) 5,703

and Yoplait did not respond to our requests for comment.

McDonald's French Fries (paperboard) 5,538

Del Monte, Gerber, and McDonald's emphasized that they abide by existing

McDonald's Quarter Pounder Hamburger Patty (varied) 5,428

regulations. Gerber added that it requires its suppliers to certify that its food

Taco Bell Chicken Burrito (paper wrap) 4,720

packaging is free of BPA and phthalates. Chicken of the Sea said it requires its

suppliers to certify that neither products nor packaging has intentionally added

BPA or phthalates, but it acknowledged that fish live in water that is often

Wendy's Dave's Single Hamburger Patty (varied) 3,629

polluted with phthalates.

Burger King Whopper Hamburger Patty (varied) 2,870

More chemical companies need to step up, too, by creating safer, more

sustainable materials. "We want things to be functional, but also nontoxic and

biodegradable and renewable," says Hanno Erythropel, PhD, at the Center for

Green Chemistry and Green Engineering at Yale University in New Haven, Conn.

Grains

That may be tough, he acknowledges, but it should be possible: An entire field

called green chemistry is working to develop just these sorts of alternatives.

Success 10 Minute Boil-in-Bag White Rice (paperboard box with plastic bag inside) 4,308

In the meantime, see our advice on what you can do now to limit your exposure

to these chemicals.

Pepperidge Farm Farmhouse Hearty White Bread (plastic bag) 2,184

TOTAL PHTHALATES
PER SERVING
(NANOGRAMS)*

Infant Food

Gerber Mealtime for Baby Harvest Turkey Dinner (glass with lined lid) 4,267

Similac Advance Infant Milk-Based Powder Formula (can) 4,202

Beech-Nut Fruities Pouch Pear, Banana & Raspberries (pouch) 2,826

Gerber Cereal for Baby Rice (plastic) 1,599

Happy Baby Organics Clearly Crafted Banana & Strawberries (glass with lined lid) 1,300

Happy Baby Organic Milk-Based Infant Powder Formula With Iron (plastic) 977

Gerber Organic for Baby Pouch Apple Zucchini Spinach Strawberry (pouch) 706

Meat and Poultry

CR Fights to Get Plastic Chemicals Out of Our Food, 1998-2024

Product	Year	Findings	Total Phthalates per Serving (nanograms)
Perdue Ground Chicken Breast (plastic)			9,985
Trader Joe's Ground Pork	June 2008	Hormone mimics hit home <i>Tests of plastic wraps, baby foods</i> Which suspect endocrine disruptors are in our food, and at what levels? One category: certain plastics, which also filter baby to plastic food wrap, among other products. Plastics can leach into food, especially if they come into contact with hot or acidic foods. In a series of plastic wraps, CR found that the kind you use at home and the amount of plastic wrap used are important factors. We tested a few plastic bowls, too. We also tested several baby foods for persistent pesticides like dieldrin and PCBs. Although adult foods are known to contain these chemicals, baby foods are not. Data have been published on amounts in baby foods—on old data sets, comparing the exposure during infancy could be important.	5,503
Perdue Foods Sweet Italian Sausage		CR finds that plasticizer chemicals scaled phthalates in some plastic wraps and cheeses, and asks the FDA to eliminate the chemicals from the food supply.	4,725
Libby's Corned Beef (canned)			4,088
Bar S Chicken Jumbo Fry			3,295
Stop & Shop Ground Beef 80% Lean 20% Fat (foam tray with plastic wrap)			2,729

Applegate Naturals Oven Roasted Turkey Breast (plastic)			2,295
Swanson White Premium Turkey (can)	May 1999	Baby alert <i>New findings about plastics</i> PARENTS MAY WANT TO REPLACE SOME BABY BOTTLES AND TEETHERS. There is a growing concern about the potential health implications of the chemicals that leach from some plastics—specifically their possible effects on babies. You may have seen headlines raising concerns about the soft vinyl teething rings and toys that infants use to soothe their gums. The Consumer Product Safety Commission has also issued warnings about simulated infant formula when heated in one type of clear plastic bottle.	1,376
Johnsonville Smoked Sausage (plastic)		CR finds that BPA in plastic baby bottles can leach into infant formula and advises parents to throw away bottles that could contain the chemical.	912

Packaged Fruits and Vegetables

Product	Year	Findings	Total Phthalates per Serving (nanograms)
Del Monte Sliced Peaches (can)	December 2009	CR finds BPA in nearly all 19 tested foods and calls on government agencies to eliminate the chemical in materials that come in contact with food.	24,938
Green Giant Cream Style Vegetables (can)			7,603
Del Monte Fresh Cut Italian Dressing (can)			5,264
Progresso Vegetable Classics Vegetable Soup (can)			2,888
Birds Eye Steamfresh Cut Green Beans (plastic bag)			907

Hunt's Tomato Sauce (can)	October 2012	WHERE WE STAND THE ISSUE In July, the Food and Drug Administration announced that children's drinking cups and baby bottles can no longer contain the chemical bisphenol A. That's a start, but BPA is still widely used in infant-formula containers. OUR TAKE Exposure to BPA has been linked to an increased risk of cancer, diabetes, and reproductive, neurological, and developmental disorders. We believe babies' exposure to BPA should be minimized in every way possible, and eliminating it from formula cans is the obvious next step. Last year, the state of California enacted a law co-sponsored by Consumers Union to ban BPA in baby bottles and sippy cups. Immediately after the passage of the California law, the U.S. chemical industry's trade association, the American Chemistry Council, asked the FDA to phase out rules allowing BPA in sippy cup manufacturers of baby bottles. Consumers Union is already stepping up our consumer preference for BPA-free products. Consumers Union as we have for years in substances that children's items and	688
Annie's Organic Cheesy Ravioli (can)		CR praises the FDA for banning BPA in baby bottles and sippy cups but calls on the agency to also ban the chemicals in infant formula containers and food cans. The FDA does so the following year.	53,579

Prepared Meals

Editor's Note: A version of this article published in the February 2024 issue of

Consumer Reports
 should have been
 addition, the pac
 products have b



Meat Sauce (can) 13,628
 CR does not find BPA lead or certain
 phthalates in nine baby bottles but warns
 that related chemicals could still be
 s for several products in the chart of tested
 more accurately describe the materials used.

Campbell's Chicken Noodle Soup (can)

2,848

Red Baron Brick Oven Cheese-Trio Pizza (paperboard box with plastic wrap

1,707



CR finds phthalates and related chemicals
 in nearly all 85 foods tested and calls on
 the FDA to get the chemicals out of food.
 TOTAL PHTHALATES
 PER SERVING
 (NANOGRAMS)*

Search
 Lauren F. Friedman

Lauren F. Friedman leads the health and food content team at Consumer Reports. Before joining
 CR in 2016, she worked as an editor at Business Insider and Psychology Today. She has also written
 for other publications. She is an adjunct lecturer
 at the Craig Newmark Graduate School of Journalism at the City University of New York, where she
 teaches Introduction to Health Journalism. She lives in Queens, N.Y.

StarKist Wild Caught Light Tuna in Water (pouch)

1,735

StarKist Chunk Light Tuna in Water (can)

1,687

Season Brand Sardines in Water Skinless & Boneless (can)

1,258

*Includes the 10 phthalates we tested for: BBP, DBP, DiBP, DCHP, DEP, DEHP, DnHP, DMP, DiNP, and DNOP. We also tested for three chemicals used as phthalate substitutes (DEHA, DEHT, and DINCH), and three bisphenols (BPA, BPS, and BPF), which are not shown in this chart.

Get the Best of Our Health Advice

Our free weekly health newsletter has the latest on wellness, nutrition, and safety.

By clicking "Sign Up" I agree to the [Privacy Policy](#) and [User Agreement](#).

Sign Up

EXPLORE

Health

Food

Trending in BPA And Phthalates In Food



Fast Food Companies Are Replacing One Toxic Chemical With Another



How to Reduce Your Exposure to Plastic in Food (and Everywhere Else)



How Plastic Can Harm Your Health



Baby Bottles With No Detected BPA, Lead, or Phthalates



SHOW COMMENTS (0)

| *commenting powered by Facebook*



Be the first to comment



Member Support

Contact Us

[Account Settings](#)

[What is Membership?](#)

[Make a Donation](#)

[Newsletters](#)

[Give a Gift](#)

[About](#)

[About Us](#)

[Career Opportunities](#)

[Media Room](#)

[Advocacy](#)

[CR Recommended Program](#)

[Data Intelligence](#)

[Innovation](#)

[Product Reviews](#)

[Appliances](#)

[Babies & Kids](#)

[Cars](#)

[Electronics](#)

[Health](#)

[Home & Garden](#)

[Money](#)

[A-Z Index](#)

[Magazine & Books](#)

[Current Issue](#)

[CR Magazine Archive](#)

[5 Year Index](#)

[CR Store](#)

[More](#)

[Video](#)

[en Español](#)

[Report a Safety Problem](#)

[Give a Confidential News Tip](#)

[Buy a New Car](#)

[Buy a Used Car](#)

[Sitemap](#)

[Join](#)

[Privacy Policy](#) | [User Agreement](#) | [Ad Choices](#) |
[Your Privacy Choices](#)

© 2024 Consumer Reports, Inc.