

A report from:

ENVIRONMENTAL
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What Stinks? Toxic Phthalates in Your Home

New Data Reveals Widespread Use of Hormone-Disrupting Chemicals in Cleaners, Disinfectants, Deodorizers, Clothing, Shoes, Paints, and Personal Care Products



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Environmental Health Strategy Center and Prevent Harm

PREVENT
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Maine is a national leader in protecting public health from dangerous chemicals in everyday products. In 2008, the Pine Tree State passed one of the first and strongest state-based chemical policy reform known as the Kid Safe Products Act. Similar chemical safety laws have since been enacted in California, Oregon, Vermont, and Washington, are pending in several other states.

Under Maine's law, manufacturers must disclose their use of high-priority chemicals of concern in consumer products sold in the state. They can be required to search for safer substitutes. The Kid Safe Products Act further authorizes the state to phase out chemical uses if safer alternatives are available, effective, and affordable.

In 2014, a grassroots campaign led by concerned Maine moms and health professionals petitioned the state to add four phthalates (THAL-eights) to its list of Priority Chemicals. Maine agreed, and some product manufacturers were required to report phthalate use by December 2015.

This report unveils those results, including some first-ever public data on the use of phthalates.

Chemical use reporting required by states shows them acting as the "laboratories of democracy" described by the late Supreme Court Justice Louis Brandeis. Consumers and federal agencies now have never-before-available information on dozens of dangerous chemicals used in thousands of products in our homes, schools, and daycare centers.

Yet, ensuring the public's right to know what's in the stuff we buy is just the first step. Next up, businesses need to switch to safer substitutes to ensure the safety of our products and protect our families.

As a public health organization, the **Environmental Health Strategy Center** works to ensure that all people are healthy and thriving in a fair and healthy economy by reducing exposure to toxic chemicals in our homes and promoting products that are safe for people and the planet. In state and national campaigns, we use research and education to reform policies, change the marketplace, and advance science-based solutions that are socially just. **Prevent Harm** is our advocacy and political action partner.

Acknowledgements

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Executive Summary

Industry information newly required by the State of Maine reveals that hormone-disrupting chemicals known as phthalates (THAL-eights) are found in more household products than previously known.

For the first time, the use of toxic phthalates has been reported in paints, cleaners, disinfectants and deodorizers. It also has been reported in clothing, shoes, and personal care products.

Strong science shows that even at very low levels of exposure, phthalates--a class of more than 40 closely related chemicals--are linked to reproductive harm, learning disabilities, and asthma and allergies.

Report Findings

According to data reports submitted to the Maine Department of Environmental Protection, 14 manufacturers reported the use of the four phthalates in 130 products. Maine requires manufacturers to publicly disclose the use of four types of phthalates: diethylhexyl phthalate (DEHP), diethyl phthalate (DEP), benzyl butyl phthalate (BBP), and dibutyl phthalate (DBP).

Although phthalates are mainly used as plastic softeners, much of the never-before-reported data shows phthalates as ingredients in fragrance for more than half of the products, including cleaners and household paints. "Fragrance" can include dozens of chemicals, and there is no requirement that companies must disclose these ingredients publicly.

In more than a third of the products, the reported use of phthalates is as a plastic softener in clothing, toys, and home maintenance products.

Other data reported point to use in reusable adhesive tabs for art projects.

State Disclosure Requirements

A growing number of states, including California, Maine, Oregon, Vermont and Washington, can require product manufacturers to disclose the use of chemicals that may harm the health of babies and children.

Data disclosed helps state and federal government agencies tasked with protecting public health, by providing information on sources of exposure to phthalates.

State-required data reporting makes more information available to consumers.

Public reporting of dangerous chemical use also can inspire industry leaders to abandon toxic chemicals in favor of safer alternatives, an option that can help brands earn and maintain a loyal customer base.

Conclusions

Because Maine's reporting requirement, like other states, exempts many types of common household products, the data reported represents just the tip of the iceberg for uses of phthalates in household products.

It also is likely that many manufacturers are illegally failing to disclose their uses of phthalates to the State of Maine.

In Maine and other states, the scope of reporting should be widened to provide more public information on sources of phthalate exposure and state officials should enforce strong reporting compliance.

To protect public health from harmful phthalates, this report points to the need for government regulators and corporate leaders to take greater responsibility for chemical safety. **Phthalates should be replaced by safer alternatives already in use.**



Key Findings: Widespread Use of Phthalates in Consumer Products

This report reveals new data—but it shouldn't.

Our nation's chemical safety system is badly broken. Chemical ingredients in most household products are kept secret, leaving consumers to wonder which products are actually safe.

Increasingly, states have played a key role in addressing this problem, by requiring product manufacturers to disclose their uses of harmful chemicals such as phthalates. California, Maine, Oregon, Vermont, and Washington all have state authority to gather never-before-seen information on chemicals of high concern in consumer products.

Reporting varies by state. In Washington, for example, manufacturers must report annually on certain products intended for children under the age of 12 that contain any of 66 high priority chemicals, including eight phthalates. Yet Maine has broader

authority to gather information on priority chemicals in any consumer product used in homes, schools, or child care facilities. This broader scope reflects the best science that shows that any product may result in exposure to those most vulnerable, including pregnant women, young children, and teenagers.

Because of the breadth of reporting that Maine requires, the data reported includes never-before available information showing phthalates in products like paint and cleaners.

In total, the products reported represent just the tip of the iceberg of the widespread use of phthalates in the marketplace. Decision makers in government and commerce must proactively eliminate harmful exposure to toxic phthalates, what many call "the everywhere chemicals."

WHAT PRODUCTS ARE PHTHALATES IN?

5 Key Findings

A Total of 130 products containing phthalates were reported by 14 manufacturers

| Product Categories | # |
|---------------------------------------|----|
| Household paints & primers | 47 |
| Cleaners, disinfectants & deodorizers | 25 |
| Clothing & footwear | 19 |
| Toys, games, dolls, jewelry | 11 |
| Hair care products | 7 |
| Plastic hardware fasteners | 7 |
| Reusable adhesive tabs | 5 |
| Caulking & sealants | 5 |
| Greeting cards | 2 |
| Auto body filler | 1 |
| Surface protection film for flooring | 1 |

1 Phthalates are present in a wide variety of consumer products.

Fourteen manufacturers reported the use of four phthalates in 130 products sold in the State of Maine, including information never before disclosed to the public. Phthalates were reported in household paints and primers (47 products); cleaners, disinfectants, and deodorizers (25); clothing and footwear (19); toys, games, dolls, and jewelry (11); hair care products (7); and various other products (21).

2 The use of phthalates in consumer products may be significantly under-reported.

The State of Maine did not require reporting for all product categories. For some, such as clothing and accessories and personal care products, manufacturers were exempt from reporting if their products were not intended for use by children, even though pregnant women are particularly vulnerable to adverse health effects from phthalates. *It also is likely that many manufacturers failed to disclose their use of phthalates.* The companies that reported should be acknowledged for complying with Maine law, while some of their competitors may be selling their products in Maine illegally, without disclosing their uses of phthalates.

HOW ARE PHTHALATES USED IN PRODUCTS?

3 The report reveals first-time information on phthalates used in fragrance.

Phthalates in “fragrance” were most widely reported in household paints and primers sold by True Value hardware (38 products) and in cleaners, disinfectants, and deodorizers manufactured by 3M for home and school use (25

Three companies reported use of phthalates in FRAGRANCE in 70 consumer products.

| Manufacturer | Brand Names | # | Product |
|-------------------------------|--|----|---|
| GPM/True Value Manufacturing | X-0 Rust, Premium Décor, Start Right | 38 | Household paints and primers |
| 3M | 3M, Scotchguard, Scotch-Brite, Tami-Shield, TroubleShooter | 25 | Disinfectant, deodorizer, surface cleaners, surface care, other cleaner |
| The Procter & Gamble Company* | Clairol, Sebastian | 7 | Hair conditioner, hair styling |

* Procter & Gamble has pledged to eliminate this phthalate use by September 2016.

4 Phthalates were reported to soften vinyl plastic in more than one third of the products.

Phthalates are primarily used by manufacturers worldwide as plasticizers, to soften rigid PVC plastic to make it flexible. The Gap reported the use of the phthalate DEP in the plastic tips of clothing drawstrings and shoe laces, which could lead to exposure from handling the tips or chewing on them. Other reported uses of phthalates to soften plastics included jewelry, dolls, and toys for children as well as specialty paints and sealants and other home maintenance products.

5 Phthalates are also added to products for other reasons.

Phthalates are also added as a solvent in adhesive tabs used to mount photos, artwork, and paper to walls as well as for the screen printing and heat sealing of graphic images onto children’s clothing, among other miscellaneous uses.

Nine companies reported using phthalates to SOFTEN PLASTIC in 46 products.

| Manufacturer | Brand Names | # | Product |
|----------------------------------|--|----|--|
| Gap, Inc. | Gap, Old Navy | 17 | In shoelace & drawstring aglets (plastic tubes) on footwear and clothing |
| Hallmark Cards | Hallmark | 7 | Necklaces, games, dolls |
| Hillman Group | Hillman | 7 | Plastic hardware fasteners, door keys |
| The Sherwin-Williams Co. | Glitter Spray | 4 | Decorative (faux) painting equipment |
| Tnemec Company, Inc. | Enduratone, Ultra-Tread S | 3 | Special purpose paints for wall and floor coatings |
| Homax Products, Inc. | Homax Caulk Strips, Wet Look Cure Seal | 3 | Caulking, sealants |
| 3M | 3M Scotchguard, 3M Bondo Plastic Metal | 2 | Surface protection film for flooring, filler for auto repair |
| PPG Architectural Coatings, Inc. | Top Gun 200 | 2 | Sealants |
| PCP Group, LLC | Pellon Vinyl Fuse | 1 | Arts & crafts variety packs |

Five companies reported use of phthalates for OTHER PURPOSES

| Manufacturer | Brand Names | # | Product |
|------------------------------|---|---|---|
| 3M | Scotch Restickable | 5 | Reusable adhesive tabs |
| The Home Depot | Halloween LED Spooky Spinners, Rudolph Light Up Nose, Pumpkin Push Ins - Yoda | 3 | Fancy toy dress accessories & costumes, arts & craft variety pack |
| American Greetings | Papyrus | 2 | Greeting cards / Invitations |
| Garan Inc. | Garanimals | 2 | Clothing |
| GPM/True Value Manufacturing | Premium Décor | 2 | Special purpose paints for wall and floor coatings |

“As a mother, I find myself getting angry and scared about harmful chemicals in so many products, and not knowing which ones are safe. Why aren’t manufacturers required to tell us what’s in everything they make? Why are phthalates still in use in this country? Trying to protect my family shouldn’t be this difficult.”

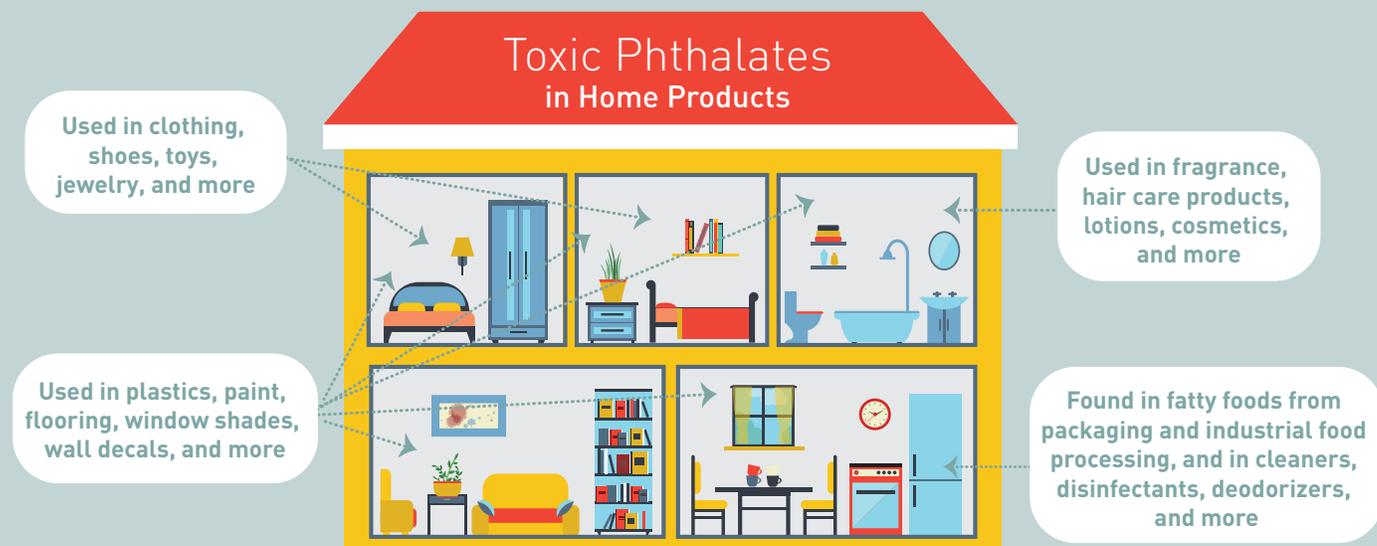
Hormone disrupting chemicals pose serious risks to the health of babies and young children.

A silent epidemic may be unfolding due to the widespread use of hormone-disrupting chemicals such as phthalates in consumer products. Strong scientific evidence confirmed by human health studies, animal toxicity tests, and laboratory research shows that exposure to phthalates increases the risk of adverse health effects, especially during developmental windows of vulnerability such as pregnancy, infancy, or adolescence.¹



Paige Holmes, a mother of two in Bangor, Maine, participated in a study in 2015 that showed high levels of toxic phthalates in her body.

- **Harm to the developing brain:** Exposure to phthalates is linked to lowered IQ, learning disabilities, and behavioral problems.
- **Reproductive harm:** Exposure to phthalates is linked to genital birth defects in baby boys, which is associated with decreased fertility in young men, and increased risk of prostate and testicular cancer.
- **Harm to the immune system:** Phthalate exposure also impairs immune function, associated with an increase in asthma and allergies.



Authoritative Sources:

- [1] Dr. Deborah C. Rice, Ph.D., Phthalates: Maine Chemicals of High Concern, A Review of the Science on Toxicity and Exposure, March, 2014. pp 1-2. <http://www.ourhealthyfuture.org/library/phthalates-review-science-toxicity-and-exposure>
- [2] U.S. Department of Health and Human Services, Centers for Disease Control and Prevention Report on Human Exposure to Environmental Chemicals, Updated Tables, February 2015. See Phthalate and Phthalate Alternative Metabolites, pp. 354-434. <http://www.cdc.gov/exposurereport>
- [3] Report to the U.S. Consumer Product Safety Commission by the Chronic Hazard Advisory Panel on Phthalates and Phthalates Alternatives, July 2014, p 4. <http://www.cpsc.gov/PageFiles/169902/CHAP-REPORT-With-Appendices.pdf>
- [4] N'Dri LA, White-Newsome JL, Corbin-Mark CD, and Shepard PM (2015) "The Invisible Threat: Bisphenol-A and Phthalates in Environmental Justice Communities." *Environmental Justice* 8(1): pp 15-19.
- [5] Sarah Lott, Healthy Building Network, Phthalate-free Plasticizers in PVC, September 2014. See <https://www.healthybuilding.net/content/phthalate-report>.
- [6] Serrano SE, Braun J, Trasande L, Dills R and Sathyanarayana S (2014) Phthalates and diet: a review of food monitoring and epidemiology data. *Environmental Health* 13:43. doi: 10.1186/1476-069X-13-43.
- [7] Meeker JD, Sathyanarayana S, and Swan SH (2009) Phthalates and other additives in plastics: human exposure and associated health outcomes. *Philos Trans R Soc Lond B Biol Sci.* 364(1526): 2097-2113. doi: 10.1098/rstb.2008.0268.

Product manufacturers should phase out the use of all phthalates, in favor of safer alternatives that already are available and affordable.

More than 90% of all phthalates are used to soften vinyl (PVC) plastic. One phthalate, known as DEP, is used primarily as a fragrance ingredient.

Those who are most vulnerable to harm from phthalates are disproportionately exposed.

More than 90% of all Americans are exposed to phthalates everyday.² Biomonitoring by the U.S. Centers for Disease Control and Prevention has documented that children have the highest total concentration of phthalates in their bodies, and that women of childbearing age are exposed to phthalates at higher levels than men.¹ A panel of scientists advising the U.S. Consumer Product Safety Commission warns that millions of American infants and women of childbearing age are exposed to phthalates every day, at levels that can cause reproductive harm.³ Several studies have reported that communities of color and people of lower income status face disproportionate exposures to one or more phthalates, raising environmental justice concerns.⁵

What are the primary known sources of exposure?

Contamination of the food supply results in one of the greatest sources of exposure to phthalates. The chemicals enter fatty foods, especially dairy products, margarine and vegetable oils, from industrial food processing and food packaging.⁶ Soft plastic products containing phthalates continually shed the chemicals into the home environment, where they build up in house dust. Toddlers especially, with their frequent hand-to-mouth activity, ingest phthalates from the dust on their hands. Additional exposure results from breathing in or absorbing phthalates through the skin from the use of personal care products, cleaners, and soft vinyl products.⁷ Virtually everyone is exposed to phthalates, every day.

Safer alternatives for phthalates are available.

Many companies have already shown leadership in phasing phthalates out of their products. In the case of fragrance in cleaning supplies, both Clorox and Procter & Gamble have pledged to be phthalate-free. To soften plastic products, several safer alternatives are already on the market.⁵ Major home improvement retailers including The Home Depot, Lowe's, Menards, and Lumber Liquidators have recently ended their use of phthalates in vinyl flooring, due to growing safety concerns.

In response to the growing body of scientific evidence linking phthalates to health risks, government restrictions continue to steadily mount around the world.

For example, six phthalates have been banned in toys and childcare articles in the United States since 2008, and the U.S. Consumer Product Safety Commission has proposed a rule to add five additional phthalates to that list. The European Union has phased out all uses of four phthalates, with an additional nine slated for similar restrictions. Some U.S. states restrict or require reporting on phthalate use, including California, Maine, and Washington.



Conclusions

- Our chemical safety system is badly broken. Phthalates remain widely used in consumer products, despite widespread human exposure, serious risks to the health of pregnant women and children, and increasing government scrutiny around the world.
- State chemical disclosure requirements remain a critically important tool for informing government leaders and consumers about the use of dangerous chemicals in everyday products that may be a source of human exposure and harm to health.



- Products that list “fragrance” as an ingredient often contain phthalates along with potentially hundreds of other undisclosed chemicals that could be hazardous to our health.
- This toxic fragrance isn’t just in our perfume or personal care products we use day to day. We’re often unknowingly exposed to it through cleaning products, disinfectants, deodorizers, and household paint in our homes, classrooms, and public spaces.



Recommendations

- **STATE GOVERNMENT:** State policymakers should expand disclosure requirements to include chemicals of high concern in all consumer products, because of the proven benefit and low cost of such policies. Maine needs to enforce full compliance with its reporting requirement, and expand the product list subject to reporting to include other sources of exposure. Other states should adopt disclosure policies that gather new data on sources of exposure to phthalates and other chemicals of high concern in consumer products and building materials.
- **FEDERAL GOVERNMENT:** The U.S. Consumer Product Safety Commission should adopt pending rule to expand the ban on phthalates in toys and childcare articles. The U.S. Food and Drug Administration (FDA) should approve the pending food additives petition to revoke its permission to use phthalates in food packaging and industrial food processing. Congress should enact meaningful reform of the Toxic Substances Control Act (TSCA) to give the Environmental Protection Agency the authority to require testing and restrict the use of chemicals like phthalates while preserving state authority to take more protective actions. Congress should also enact legislation to give the FDA the statutory authority to better regulate the safety of personal care products and cosmetics to restrict the use of phthalates and other harmful chemicals in these products.
- **BUSINESS:** Product manufacturers should phase out the use of all phthalates in favor of safer alternatives that are already available and affordable. Retailers should ask their suppliers to disclose all uses of phthalates in the products they sell and take action to eliminate phthalates from their supply chains.
- **CONSUMERS:** Consumers should demand that product manufacturers and retailers sell only phthalate-free products. Take action now to ask 3M to phase out phthalates in its products, just like Procter & Gamble.

Consumers can seek to reduce phthalate exposure in the home by avoiding products with “fragrance” and products made from soft vinyl plastic, and by reducing consumption of processed and packaged foods.