

Tell Me More

Missing information on harmful chemicals in children's products

Clean and Healthy New York and New York League of Conservation Voters Education Fund

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Products were screened for elements by Clean and Healthy New York staff using a high definition x-ray fluorescence (HD-XRF rented from XOS.

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Introduction

When a parent walks into a store, they tend to assume the children's products on the shelves have undergone rigorous screening to guarantee their safety. They assume that if an item of clothing is labeled as "100% polyester" that it's made entirely of polyester. In the United States today, chemicals that can harm human health and the environment are routinely present in products made for children. Adding insult to injury, there's no way—aside from expensive testing—to find out if a chemical of concern is part of a children's product.

Chemicals are added to children's products for a variety of reasons. They may be intentionally added to serve a purpose (to make the blue stay blue, or add stain resistance, or make flexible toys soft). They may be present due to contamination of feedstock, during manufacturing, or as part of the shipping process. Some of these chemicals are benign, some contribute to the likelihood that children and babies may develop chronic and debilitating illnesses.

The good news is that some children's product makers successfully avoid harmful chemicals. However, they are not required by law to avoid the full set of chemicals known or suspected to contribute to health problems. Nor are they required to tell you the full set of chemicals that are present in their products.

Two car seats could sit side by side on a store shelf—one could contain a cancer-causing chemical which nobody would deliberately choose for their baby, and the other, toxic-free. Parents may not be able to tell by looking at the car seat, reading the label, or visiting the company website. This is unacceptable.

In fact, our product testing and that of our allies demonstrates that toxic chemicals in children's products is still widespread, across New York

State and nationally. This report illustrates some of the ways that current protections are failing us and our loved ones. Diseases of environmental origin are preventable, and eliminating exposure to environmental hazards is the best defense against them.

Parents have the right to make informed decisions about which products their children use every day, and to be empowered to make smart choices to avoid harmful chemicals.

Children's product manufacturers and retailers have a responsibility to know and disclose what is in the products they make and sell, to use only the healthiest and safest materials, and to commit to continuously improving as technology advances and science evolves. Companies that fulfill those directives will be rewarded with increased market share as consumers prefer their products.

In order to drive innovation, **government must act to ensure products are safe and made without health-threatening chemicals,** all of which end up in the environment to contaminate air, water, and soil and harm wildlife.

In New York, the State Legislature and Governor have enacted laws regulating a handful of toxic chemicals in certain products: lead, mercury, PBDE flame retardants, carcinogenic chlorinated tris, and bisphenol A. They are expanding the proposed impact of legislation, by pursuing bans on entire chemical classes, such as organohalogenes and bisphenols, and acting to require increased disclosure on a variety of product categories. But given the sheer number of chemicals in commerce (over 80,000) and the glacial pace of any federal regulatory scheme, coupled with the chemical industry's ability to replace a restricted substance with an unregulated yet similarly toxic one, more action is needed.

Health Impacts of Harmful Chemicals

Toxic chemicals in household products contribute to the rise in diseases. They are linked to cancer, learning disorders, genetic anomalies, hyperactivity, developmental delays, asthma, obesity, and infertility.

The rates of childhood cancers have been trending upward in the last four decades. Childhood leukemia increased by 40% and brain cancer increased by 39% since 1973.¹ This increase in cancer incidence occurred during the same period that was marked by the rising use of a wide range of industrial chemicals. In 2012, childhood cancer was the leading cause of death (after accidents) among New York's children from age 5 to age 15.² Childhood cancer survivors go on to have chronic health issues including second cancers, heart damage, osteoporosis and thyroid problems.

As the 2008-09 President's Cancer Panel stated, "the true burden of environmentally induced cancer has been grossly underestimated. With over 80,000 chemicals on the market in the United States, many of which are in products used by millions of Americans in their daily lives and are unstudied and largely unregulated, exposures to potential environmen-

tal carcinogens is widespread."³

Asthma incidence and mortality have more than doubled since 1991. In New York City, the rates of asthma hospitalizations for children 0-4 years tops out at 69.3 per 10,000 and for those ages 5-14 years the rate is 36 per 10,000. While the science on what causes asthma is not conclusive, we do know what triggers asthma, and that chemicals play a role.⁴ In fact, according to the Society of Toxicology, "Even in lower concentrations, many chemicals are irritants and will trigger symptoms in asthmatics that have twitchy hyper-responsive airways."⁵

In all, 28% of developmental disorders are due to direct environmental exposure, or combinations of exposures with genetic susceptibility.⁶ Think of it this way: genetics "loads the gun," environment "pulls the trigger."

Toxics in household products disproportionately impact children and babies. Infants typically double in weight by five months of age and triple by one year. Their rapid growth and development causes them to consume more than double the food and water and breathe more air proportionally than adults. This rapid growth makes the developing organs, especially the brain, highly vulnerable to toxic exposures. Hand-to-mouth behavior of young children also puts them at increased risk.

They spend time on the ground, causing them to breathe in dust and particles that contain toxic chemicals. They also put everything in their mouths, greatly increasing the likelihood that they will ingest dangerous chemicals as they leave products. Children's immature metabolism makes them less able to break down and excrete toxic chemicals.⁷



Chemicals of Concern

Antimony is classified as a carcinogen by the WHO and other government bodies. It can cause heart and liver damage. It is used in the production of polyester, and as such can be found as a contaminant in a wide array of products. Antimony trioxide is used as a fire retardant, and can be used to produce pigments and paints. Antimony and antimony compounds were reported as present in 1,234 product categories to the State of Washington in 2017.⁸

Arsenic has been classified as a carcinogen by the World Health Organization (WHO), US Environmental Protection Agency (US EPA), and National Toxicology Program (NTP). It has been linked to human lung, bladder, skin and other cancers. It is also a reproductive toxicant. At high levels, it is a potent, deadly poison. Arsenic has been found in metal alloys, paint pigments, and as contaminants in textiles, synthetic polymers and more. Children's product makers reported the presence of arsenic, arsenic compounds, arsenic trioxide, and dimethyl arsenic in 240 product categories to the State of Washington in 2017.⁸

Bisphenols (Bisphenol A, Bisphenol F, Bisphenol S, etc.) can disrupt hormones, thus contributing to risk of metabolic disorders, asthma, infertility or even cancer. The health hazards related to bisphenol exposure particularly threaten vulnerable subpopulations such as pregnant women and children.³ Companies reported the presence bisphenol A (BPA) in children's products 109 times to Washington State in 2017.⁸ The State will start collecting information on the presence of BPF and BPS in 2018.

Cadmium is also classified as a carcinogen by the WHO, US EPA, and others. There is evidence that cadmium may damage DNA (is genotoxic). It accumulates in liver and kidneys and can cause kidney damage. Prenatal exposure

may cause developmental disabilities. Companies reported cadmium and cadmium compounds in 200 product categories to the State of Washington in 2017. Note: Washington State set limits on cadmium in children's products.⁸

Flame retardants (FRs) can be made of many chemicals, primarily made with chemicals that contain chlorine, bromine, or phosphorous. The Consumer Product Safety Commission (CPSC) issued warnings to avoid organohalogen FRs (made with chlorine and bromine) because they can contribute to reproductive harm, decreased IQ, impaired memory, learning deficits and other neurological harm, hormone disruption including interference with thyroid hormones and potentially contributing to diabetes, cancer, and immune disorders. Washington State has expanded the number of FRs it requires companies to disclose in 2018. In 2017, companies reported the presence of two FRs in 63 product categories.⁸

Lead is widely known to reduce IQ and cause developmental delays. It can disrupt hormones, and cause organ damage, including the heart. There is no known safe level of lead exposure. It was once widely used in inexpensive metal alloys, is still a component of plumbing solder, some adult jewelry, and is a stabilizer for PVC plastic. Housing with lead paint and aging plumbing are the leading sources of children's exposure. Because it is severely restricted by Washington State and the CPSC, information on lead in children's products is not collected in Washington State.

Mercury is highly neurotoxic. It is also considered a possible carcinogen by the WHO and other government agencies. It is used in old electrical switches and thermometers, and batteries. It was reported present in 120 product categories to the State of Washington in 2017.⁸

Children's products with chemicals of concern

Products presented on these pages were screened using an HD-XRF analyzer in November 2017. Products were purchased on Long Island, in Westchester County, and in Albany County. They were screened for elements that either present environmental health concerns, or indicate larger molecules (like flame retardants) that pose health concerns.

Antimony is common in polyester fabric. Used as a catalyst for the manufacture of most polyester, it is not uncommon to find antimony at levels around 250 parts per million in apparel and fabric toys or books.

"100% polyester" is not a fully accurate description of the material against our skin.



Disney Lion Guard hoodie.

Screening found antimony in fabric and cadmium in zipper pull.

Purchased at Babies'R'Us on Long Island



Carter's pajamas.

Screening found antimony in the fabric.

Purchased at buy-bu BABY in Albany.

Pacific Trail pink fleece jacket

Screening found antimony in fabric and cadmium in zipper pull.

Purchased at Babies'R'Us in Westchester.



Flame retardants can still be found in foam products made for children, even though no law requires it. Items meant as furniture (even this little seat for a toddler) may have labels indicating the presence of flame retardants. Our screening identified chlorine. “100% polyurethane foam” is not a fully accurate description of the interior of this product.



Sweet Seats foam chair. Purchased at buybuy BABY in Albany. Screening detected chlorine, tag indicates flame retardants are present.

Cadmium has been found repeatedly in our screening (since 2015) in zipper pulls. Metal pieces like zippers, printed decorations, extra pieces of fabric can all be included in clothing without being mentioned at all on clothing labels. Often you'll see tags that tell the primary material for fabric (i.e., “100% cotton”) and then have the note “exclusive of decorations.”

Children's Place celestial necklace

Screening identified cadmium in the moon charm, and a low level of lead and arsenic in it.

Purchased at Children's Place on Long Island



Nike black and white track suit

Screening found cadmium in zipper pull.

Purchased at Babies"R"Us in Westchester

Lead used to be commonplace in many children's products, at high levels. Today, it is still found at high levels in jewelry labeled “Not for children under the age of 14” (regardless of how child-friendly the design may be) and at lower levels in other children's products. In neither case can a shopper find out if lead is present.

NYS Wadsworth Laboratory Results

The Wadsworth Center, run by the New York State Department of Health, collaborates with scientists around the world to investigate a wide range of environmental health concerns, including infectious diseases and the presence of chemicals of concern in products, the environment, and humans. We present summaries of the following studies in which some of the products were purchased in the Capital Region of New York State.

Migration of Parabens, Bisphenols, Benzophenone-Type UV Filters, Triclosan, and Triclocarban from Teethers and Its Implications for Infant Exposure

Published in *Environmental Science and Technology* on December 7, 2016.

59 products teethingers available on the US market were purchased in 2016, and tested for 26 potential hormone disrupting chemicals. Bisphenols were found in all samples. BPA and BPS were found in all samples, and other bisphenols were found in a majority of them. The study authors note that many of the items were labeled as “BPA-free.” ⁹

Bisphenols, Benzophenones, and Bisphenol A Diglycidyl Ethers in Textiles and Infant Clothing

Published in *Environmental Science and Technology* on April 3, 2017.

77 pieces of textile and infant clothing were tested for the presence of bisphenols, including bisphenol A (BPA) and bisphenol S (BPS), and other chemicals. Bisphenol A was found in 82% of textile samples. Bisphenol S was found in 53%. ¹⁰



Recommendations

While steps have been taken to make children's products safer over the years, there is still more work to be done, particularly when it comes to chemicals of concern. Federal regulations require testing for sharp edges, physical hazards, choke hazards, strength of materials. The 2008 Consumer Product Safety Improvement Act set limits on lead and phthalates in products for young children. In 2012, driven by state laws, the US Food and Drug Administration banned BPA in baby bottles and sippy cups. Due to public pressure, canned food makers have developed new bisphenol-free can linings.

New York State has been part of this leadership in addressing chemicals of concern. It led the way with bans on BPA in baby bottles and sippy cups, first in counties (Suffolk, Schenectady and Albany) and then statewide. Counties have also led the way to drive out heavy metals and other harmful chemicals in children's products (Albany, Suffolk, Westchester and Rockland counties). The State has restricted use of certain flame retardants in children's products.

Other states have action on other chemicals, through reporting requirements (Washington, Vermont, and Oregon) and chemical restrictions. (See endnote for many examples.)

The next steps on this road to safer products are clear. For **New York State** to continue its leadership role, it must:

- Restrict groups of chemicals including flame retardant chemicals and bisphenols in product categories like children's products, furniture, or food packaging.
- Require manufacturers to disclose information about chemicals in products, including byproducts and contaminants, and to indicate when these chemicals appear on

lists of chemicals of concern for health.

This includes:

- Requiring manufacturers and brands to disclose all ingredients, byproducts, and contaminants in personal care products, and identify which if any are on lists of chemicals of concern;
- Require companies to disclose chemicals of concern in children's products.

Counties should enforce existing laws, and continue to use their authority to drive disclosure and restrictions of harmful chemicals on behalf of their residence. County action in the past has protected millions of New Yorkers, and can continue to do so in the future.

Regardless of state action, **manufacturers and brand owners** should advance programs to be transparent about the chemicals in their products, and seek to implement a chemicals management policy that systematically assesses and removes chemicals that can harm human health and the environment.

Retailers should use their position to establish their own chemical management plans, and work with vendors to be transparent about the contents of products, and to phase out harmful chemicals.

And **the rest of us**? We need to hold policymakers and companies accountable for making these changes. Ask for full information about chemicals in products you purchase. Call company hotlines and ask about their chemical management. Advocate with policymakers to make New York State a leader.

Conclusion

While toxic chemicals are still all-too-easily found in children's products, improvements have been made and it's obvious what the next steps should be. The science is burgeoning as to the harmful effects certain chemicals can have on developing babies and children.

More and more product makers are avoiding these toxic chemicals, and it's time the remainder did the same. The more parents know about what is in the products they buy to care for their children, the more those toxic chemicals will be driven from those products, our homes and the broader environment. New York should join the growing list of locations driving those changes and making that future a reality.



Methods

In October and November 2017, CHNY and NYLCVEF visited a number of stores on Long Island, and in Albany and Westchester counties and purchased dozens of products.

Clean and Healthy New York staff then screened the children's products thoroughly in their office, using an XOS High Definition X-Ray Fluorescence Analyzer (HD XRF).

Sampling was not random, and was based on information reported by manufacturers to Washington State's database,⁸ along with extensive past experience in testing products in New York State. This report does not represent a systematic survey of any product type, brand, or store, but rather an effort to document a pervasive problem.

About the XRF Analyzer

The High Definition X-Ray Fluorescence Analyzer (HD-XRF) is one produced by XOS, based in East Greenbush, NY. The HD-XRF has been determined to be comparable to laboratory testing by the Consumer Product Safety Commission for determining compliance with the federal Consumer Product Safety Improvement Act.¹¹

Endnotes

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CHNY advances policy and market changes to promote safer chemicals, a sustainable economy, and a healthier world.

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The mission of the New York League of Conservation Voters Education Fund (NYLCVEF) is to educate, engage and empower New Yorkers to be effective advocates on behalf of the environment.

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