

Toxic Hide and Seek

Chemical Crisis in **Children's Products**

Highlights of toxic chemicals found in kids'
clothes, jewelry, toys, shoes and accessories
bought in stores across New York State

Clean and Healthy New York

Table of Contents

Foreword	3
Executive Summary	4
Introduction	5
What's the harm of hiding?	6
What was hidden?	8
What was found	8
Pictures of products	10
Policy Recommendations	12
Conclusion	13
Appendix I: Detailed Results	14
Appendix 11: Methods	17
Endnotes	17



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Foreword

The Urgent Need to Protect Children against Toxic Chemicals in Children's Products

By Philip J. Landrigan, MD, MSC, FAAP Icahn School of Medicine at Mount Sinai

Children in America today are surrounded by dangerous and even deadly products that are intended for use by children and marketed directly to children and their parents.

A 4-year-old child in Minnesota died of acute lead poisoning after swallowing a bracelet charm made of lead. Children have been hospitalized for intestinal obstruction after swallowing powerful magnets that looked like candies. A child in New York City developed lead poisoning after repeatedly drinking orange juice from a lead-glazed cup. Jewelry-making kits for children have been found to contain charms with up to 24% cadmium.

Beyond these dramatic, life-threatening examples, children in New York and across America are exposed every day to endocrine-disrupting phthalates in shampoos and baby bottles, to Bisphenol A in water containers, to brain-damaging brominated flame retardants in baby furniture and to a wide range of toxic chemicals in toys.

Federal regulation of chemicals in children's products is lax, uneven and largely ineffective. This is why New York needs a law that protects children against dangerous chemicals.

Smart and sensible legislation to protect children in New York has been introduced in Albany. Key provisions are the following:

- Require children's product makers to disclose the presence of a large list of toxic chemicals in products for children aged 12 and under
- Ban a small list of toxic chemicals in children's products
- Allow the state to add to these lists over time, as science emerges and technology improves
- **Codify New York's** coordinating with other states with similar laws in the Interstate Chemicals Clearinghouse.

This is worthy legislation. It will protect **New York's children. It deserves to be passed.**



Executive Summary

Parents have the right to know what chemicals are in products for their children, and families deserve products that are free from those chemicals that can affect their health.

Due to inadequate laws and failure of manufacturers to self-regulate, chemicals are in **children's products that have been shown** to contribute to cancer, asthma, learning and developmental disabilities, obesity, diabetes, heart disease, infertility and other serious ailments.

Too often, as this report shows, toxic chemicals are present in a wide range of things children use daily – clothing, jewelry, shoes, apparel, DIY jewelry kits, and toys.

Our previous reports have presented a dozen products in each of eight communities: Albany, Erie, Monroe, Onondaga, Ulster, and Westchester counties, Long Island and New York City. This report contains products from those locations, and adds products recently purchased in Schenectady county. In this report, we present 64 products from those regions that contain 100 parts per million (ppm) or more of antimony, arsenic, cadmium, lead and mercury.

To say the results are alarming is not an overstatement. A DIY jewelry kit called **“Charms and Angels,”** purchased in Albany and Long Island, each had a small charm containing over 240,000 ppm cadmium and over 5,000 ppm antimony. The Albany product also contained lead and arsenic.

Across the state, we found:

- Four products including those above contained chemicals present in levels above 10,000 ppm.

- 15 products had at least one chemical present at levels between 1,000 and 9,999 ppm.
- Nine products had at least one chemical present at levels between 500 and 999 ppm.
- 36 products had at least one chemical present between 100 and 499 parts per million.
- 24 products contained two or more chemicals of concern. Two items contained four chemicals.
- 40 items contained cadmium.
- 29 items contained antimony.
- 17 items contained lead.
- Five items contained arsenic.
- Two items contained mercury.

These kinds of results demonstrate the need for action. More than half of the products we screened did not contain chemicals covered by this report, demonstrating that avoiding them is very possible. However, the ease with which we found chemicals of concern demonstrates the need for greater transparency and action on the part of retailers, product makers and government bodies.

Over the years, use of government authority has ended the practice of using soiled rags as stuffing for toy animals, BPA in baby bottles, and toxic flame retardant chemicals in a variety of **children's products. New York must step forward** to lead the way once more and act in the best interest of its youngest and most vulnerable residents, babies and children.

Introduction

When a parent walks into a store and enters the children's department, they tend to assume the products on the shelves have undergone rigorous screening to guarantee their safety. When it comes to toxic chemicals, nothing could be further from the truth. Chemicals that can harm human health and the environment are **routinely present in children's products.**

They are both intentionally added to serve a purpose (to make the blue stay blue, or make clothing stain resistant, or keep flexible toys from being brittle) and are present as contaminants occurring during manufacturing or as part of the shipping process. Each and every day, children and babies are at risk of developing chronic and debilitating illnesses due to unnecessary, preventable exposure to these toxic chemicals.

Although certain children's product makers manage to avoid toxic chemicals, in general they are not required by law to do so. Nor in most instances are they required to tell you what chemicals products contain. Two car seats could be sitting side by side on a store shelf and one could contain a cancer-causing chemical to which nobody in their right mind would deliberately expose their baby, and the other could be toxic-free. There is no way for a parent to tell the difference, 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 the crisis of toxic **chemicals in children's products is still** widespread, across New York State and nationally. As the data in this report shows, current protections do not keep toxic

chemicals out of children's products. Diseases of environmental origin are preventable, and eliminating exposure to environmental hazards is the best defense against them.

Parents have the right to know what dangers lurk in the products their children use every day, and to be empowered to make smart choices to avoid these **chemical hazards.** 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 do not expose people, especially children, to 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 has passed laws regulating a handful of toxic chemicals in certain products: lead, mercury, PBDE flame retardants, carcinogenic chlorinated tris, and bisphenol A. It is considering banning others, such as formaldehyde and triclosan. But given the sheer number of chemicals in commerce (roughly 84,000) 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.

What's the harm of hiding?

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 environmental 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 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 Genetics loads the gun, environment pulls the trigger.

Toxics in household products disproportionately impact children and babies. **Babies' and children's growth needs cause** them to consume more than double the food and water and breathe more air proportionally than adults. Infants typically double in weight by five months of age and triple by one year. 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

Highlighted Chemicals

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 its presence in 127 product categories to the State of Washington in 2015.**

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. As antimony trioxide, it is used as a fire retardant, and can be used to produce pigments and paints. It was reported as present in 1,124 product categories to the State of Washington in 2015.

Cadmium is also classified as a carcinogen by the WHO, US EPA, and others. Cadmium also appears to damage DNA (genotoxic). It accumulates in liver and kidneys and can cause kidney damage. Prenatal exposure may cause developmental disabilities. It was reported as present in 59 product categories to the State of Washington in

2015. Note: Washington State Law set **limits on cadmium in children's products.**

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, and is a stabilizer for PVC plastic. It poses serious risks to children through aging plumbing and old housing stock with lead-based paint. Because it is severely restricted by Washington State and the US Consumer Product Safety Commission, **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 as present in 33 product categories to the State of Washington in 2015.

What was hidden?

Over the course of the past year and a half, NGOs have purchased clothing, jewelry, jewelry kits, toys, shoes and other children's items from stores across the state. Using tabletop and handheld devices known as X-Ray Fluorescence Analyzers (XRFs), we screened the items for toxic metals that can pose health risks. Cumulatively, the project screened hundreds of products. We tested several different parts of each product.

We analyzed the results published in reports from communities across New York

State - from Erie, Monroe, Onondaga, Schenectady, Albany, Ulster, Westchester counties, Long Island, and New York City. For the five chemicals named above, we identified items with levels that would exceed Suffolk County's Toxic-Free Toys Act. For antimony, arsenic, cadmium, and mercury, this is 40 parts per million. For lead, this is 100 parts per million. For items that include lead at levels between 40 and 100 parts per million, we include that information as well.

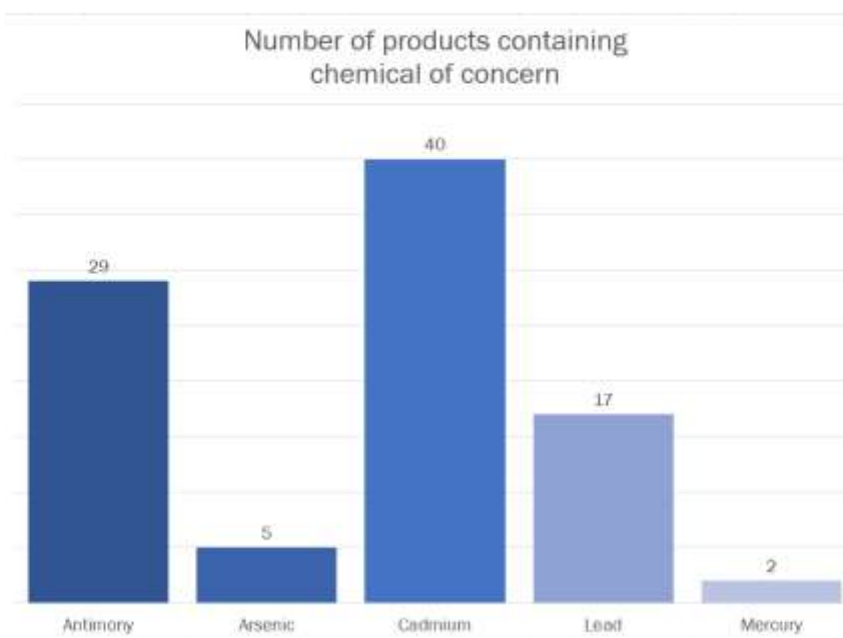
What we found

It has been easy for our shoppers to purchase products that contained chemicals of concern for children's health and the environment. This report highlights 64 of those products.

Of the 64 items, 19 contained chemicals of

concern at levels above 1,000 parts per million (ppm). 24 contained two or more chemicals of concern. Two items contained four chemicals.

Four products contained chemicals at levels above 10,000 parts per million.



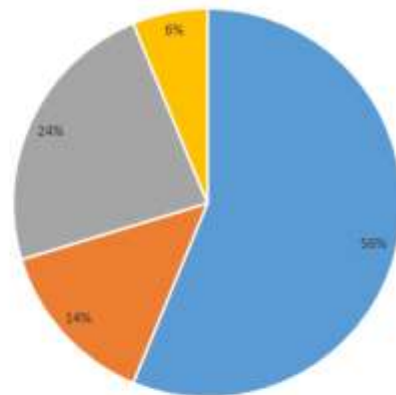
- Charms and Angels DIY Bracelet sets purchased in Albany and on Long Island from Ocean State Job Lots stores each contained a charm with more than 240,000 parts per million (ppm) cadmium. That's 24% of cadmium alone. Both kits also contained a charm with between 5-6,000 ppm antimony. The kit from Albany also contained parts with lower levels of lead and arsenic.
- Pink Crush Sandals (teal in color) bought at Shopper's World in New York City contained more than 100,000 ppm lead and over 3,000 ppm antimony.

- A Hello Kitty Bowtie Necklace bought at a **Jack's in New York City** contained more than 70,000 ppm lead in the rhinestones, and more than 1,000 ppm antimony in the same part.
- An **"I ♥ NY"** bag had over 15,000 ppm lead in the zipper pull.

Nine products contained between 3,000 and 9,999 ppm of a chemical of concern. These included:

- A set of keychains with bats and balls, in which the red paint on the baseballs had over 4,000 ppm lead, and the paint was already visibly rubbing off on the plastic packaging.
- A **"Charmazing Glitz'N Glam! Charms** jewelry kit purchased at a BabiesRUs with over 4,000 ppm lead and between 100-499 ppm cadmium.
- A DIY Beaded Sparkle Charm Jewelry kit from Ocean State Job Lot in Albany contained over 5,000 ppm antimony and between 100-499 ppm lead.
- A similar kit purchased on Long Island had over 4,000 ppm antimony, lead at similar levels to above, but also over 40 ppm cadmium and mercury.
- A Greenbrier lanyard from Dollar Tree in Ulster in contained over 4,000 ppm antimony and 3,000 ppm cadmium.
- Lego Legends of Chima LED Lite/ keychain purchased at a Westchester County Target contained over 3,000 ppm antimony and over 1,000 ppm cadmium.
- A Minions Accessory Set bought at a Dollar General in Schenectady County contained over 3,000 ppm antimony and over 2,000 ppm cadmium.

Amounts of chemicals found



- 36 products had at least one chemical between 100-499 ppm
- 9 products had at least one chemical between 500-999 ppm
- 15 products had at least one chemical between 1,000-9,999 ppm
- 4 products had at least one chemical over 10,000

- Also from a Schenectady Dollar General, a Style My Way! Braid it! Sham-balla contained over 4,000 ppm antimony.
- A Totally Me! Charming Bracelet set contained over 4,000 ppm lead and between 100-499 ppm cadmium.

A further six items had chemicals at levels of 1,000 ppm or higher, including hair clips, a breast cancer awareness bracelet, a hoodie, a keychain, a Thomas and Friends train, and additional accessories.

The remaining 45 items had less than 1,000 ppm, with 9 items containing at least one chemical at levels between 500-999 ppm, 36 containing between 100 and 499 ppm. See Appendix 1 for a list of all items referenced here.

Products with high levels



Charms & Angels DIY Bracelet Kit
Antimony, Arsenic, Cadmium, Lead
Albany, Long Island

Pink Crush Sandals
Antimony, Lead
New York City



I ♥ NY Bag
Lead, Antimony
New York City



Hello Kitty Bowtie Necklace
Lead, Antimony
New York City

Best Show in Town Ball and Bat
Keychains
Lead, Antimony
New York City



Charmazing Glitz'N Glam! Charms
Cadmium, Lead
Ulster County



Beaded Sparkle Charm DIY Jewelry
Antimony, Lead
Albany County
Antimony, Cadmium, Lead, Mercury
Long Island

Minions Accessory Set
Antimony, Cadmium
Schenectady County



Greenbrier Red and
Black Lanyard
Antimony, Cadmium
Ulster County



of chemicals of concern

Lego Legends of Chima Keychain
Antimony, Cadmium
Westchester



Totally Me! Charming Bracelet Set
Cadmium, Lead
Ulster County

DA Fashion Hairclip
Arsenic, Lead
Albany



Style My Way! Braid it! Shamballa
Antimony
Schenectady



DM Breast Cancer Awareness
Charm Bracelet
Antimony
Schenectady

Fashion Accessories
Lead
Onondaga



Thomas & Friends Take-n-Play
Timothy
Antimony, Cadmium
Westchester



Pink Hoodie
Antimony, Cadmium
Westchester

"S" Keychain
Antimony, Cadmium
New York City



Policy Recommendations

It's worth noting that we've made progress over the years when it comes to product safety. Several statutes exist that require all new materials, forbid the use of filthy, putrid or decomposed materials, and require the limited restriction of specific chemicals in certain products. Things are not as bad as they once were. The next steps on this road to safer products are clear, and an increasing number of governments are taking them.

Several states have enacted policies to require the disclosure of the presence of a **list of toxic chemicals in children's products**. These laws enhance a parent's ability to protect their children from heretofore **hidden hazards**, a **retailer's ability to discontinue** sale of toxic products, and a **product fabricator's motivation to obtain** components that do not require them to disclose these toxicants. Most importantly, **they enhance a child's ability to grow and develop** normally and realize their full potential when toxics in products are revealed, and increasingly eliminated.

Policies on the books in other states lay an important foundation. New York must build on that foundation by enacting laws that enhance information and transparency in the market place and enable informed decision-making by schools, child care providers, parents and other caregivers.

Restriction of the use of chemicals about which the hazards are well-documented, similar to restrictions enacted in Albany,

Suffolk and Westchester Counties, is also just good policy. People are shocked to hear that not only are substances like mercury and arsenic present in products for our most treasured and vulnerable residents, but that there is no law that prohibits their presence, or requires such disclosure.

The Governor has stated commitment to enacting a policy to disclose and restrict **toxic chemicals in children's products**.

The New York State Assembly has passed strong legislation for the fifth subsequent year. There are several **approaches to children's product safety** being considered in the New York State Senate, which if passed could form the basis for a negotiated agreement with the Assembly. Some combination of these policy elements may include:

- The creation of a list of chemicals of high concern to children;
- The disclosure of their presence in **children's products**;
- The creation of a priority list of chemicals to be phased out of children's products over time;
- The ability to add to those lists over time as new science and technology emerges; and
- Reciprocal data-sharing with other states requiring similar disclosure, and collaboration with an interstate chemicals clearinghouse.

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.

Several 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.



Appendix 1:

Detailed Results

County	Product Name	Part	Store	Arsenic	Antimony	Cadmium	Lead	Mercury
Albany & Long Island	Charms & Angels bracelet-making kit	various beads and charms	Ocean State Job Lot	40-99*	5000-5,999	240,000+	100-499*	
NY City	Pink Crush Sandals	Rhinestone	Shopper's World		3,000-3,999		100,000+	
NY City	Hello Kitty Bowtie Necklace	Rhinestone in pendant	Jack's		1,000-1,999		70,000-75,000	
NY City	I ♥ NY bag	Zipper Pull	Jack's		40-99		15,000-20,000	
NY City	Best Show in Town Bats and Ball Keychain	Red paint on ball	7 Trading		40-99		4,000-4,999	
Ulster	Charmazing Glitz'N Glam! Charms	High heel (top of charm)	BabiesRUs			100-499	4,000-4,999	
Albany	D.I.Y. Beaded Sparkle Charm Jewelry	various	Ocean State Job Lot		5,000-5,999		100-499	
Long Island	DIY Beaded Sparkle Charm Jewelry	dark beads	Ocean State Job Lot		4,000-4,999	40-99	100-499	40-99
Ulster	Greenbrier Lanyard red and black	Metal ring	Dollar Tree		4,000-4,999	3,000-3,999		
Westchester	Lego Legends of Chima LED Lite /keychain	keychain	Target		3,000-3,999	1,000-1,999		
Schenectady	Minions Accessory Set	One-eyed ring, metal back	Dollar General		3,000-3,999	2,000-2,999		
Schenectady	Style My Way! Braid it! Shamballa		Dollar General		4,000-4,999			
Ulster	Totally Me! Charming Bracelet Set	various	BabiesRUs			100-499	4,000-4,999	
Albany	DA Fashion hair clip (paisley purple)	front and clip	Ocean State Job Lot	40-99			1,000-1,999	
Erie	DM Productions Breast Cancer Awareness charm bracelet	charm				1,000-1,999		
Onondaga	Fashion Accessories	Orange rhinestone	99 Cent City				1,000-1,999	
Westchester	Fisher Price Thomas and Friends train	Blue paint	Lord & Taylor		1,000-1,999	500-999		
Westchester	Pink hoodie jacket	zipper pull	The Children's Place		1,000-1,999	100-499		
NY City	S Keychain	various	Target		2,000-2,999	40-99		

* Products purchased in Albany contained these chemicals

County	Product Name	Part	Store	Arsenic	Antimony	Cadmium	Lead	Mercury
Onondaga	Bling n' Style Head Sliders Jewelry Kit	Clip	Dollar General		500-999			
NY City	Chatties Sandals	Rhinestone	Regine's	100-499	500-999			
Onondaga	CS Girls Best Friends Bracelet Set	Various	TJ Maxx			500-999		
NY City	Digimon Pencil Case	Plastic material	7 Trading			500-999		
Westchester	Guess dress	Snap	Macy's		500-999	100-499		
Erie	Icing Earrings Set 6 pack and 9 pack	various				500-999		
Westchester	Jewelry Set - notes, hearts, and stars (pink and purple)	various	Walmart			500-999		
Ulster	Marvel Ultimate Spider-man mini backpack	upper zipper pull	ToysRUs			500-999		
Onondaga	Vogue Decoration jewelry set	various	99 Cent City		500-999		100-499	
Monroe	Best Friends Necklace	Metal clasp	Justice			100-499		
NY City	Cars Lunchbox	White interior	Regine's	100-499			40-99	
Erie	Cars Race Day Gift Pack	Green car wheel				100-499		
Ulster	Chuggington StackTrack Stormmaker Wilson, Koko & Brewster	various	ToysRUs			100-499		
Long Island	Die Cast ATV toy	red metal body	Dollar Tree			100-499		
Onondaga	Disney Orange Olaf Sweatshirt	Zipper pull	Target			100-499		
Onondaga	Disney Pink Olaf Sweatshirt	Zipper pull	Target			100-499		
Monroe	Disney Tangled Tiara	Various	JC Penney		100-499	100-499		
Long Island, Westchester	DM Productions Breast Cancer Awareness charm bracelet	charm	Party City		100-499			
Ulster	Fast Cars 16 piece Car set	top of red car	BabiesRUs			100-499		
Monroe	Flower Chain Necklace	Chain and flower	Justice			100-499		
Ulster	Disney Frozen Accessory Set	various	BabiesRUs			100-499		
Albany	Get Outta Town luggage tag (pink skull)	various	Ocean State Job Lot				100-499	
Monroe	Grey and neon sweater	Zipper pull	Brothers			100-499		

County	Product Name	Part	Store	Arsenic	Antimony	Cadmium	Lead	Mercury
Long Island	Guess dress	top snap	Macy's			100-499		
Long Island	Hot Wheels "The Vanster"	Side with logo	Target			100-499		
Erie	Hot Wheels Exotics Pack	various				100-499		
Westchester	Hot Wheels Gift Set	various car sides and hoods	Target			100-499		
Erie	Justice Flower Chain Necklace	various				100-200		
NY City	Minions Dracula Doll	Body	ToysRUs		100-499			
Ulster	Monster High backpack	zipper pull	ToysRUs		100-499	100-499		
Albany, Long Island, Westchester	Monster High Draculaura Freaky and Fabulous Doll	Pink boot feet	Target		100-499			
Erie, Monroe	Monster High Frankie Stein Doll	various	Target		100-499			
New York City	Monster High Necklace	various	K-Mart	100-499	100-499			
New York City	My Look Jewelry Kit	Various	Target				100-499	
Erie	OshKosh B'gosh Flow-ered Overall Dress	snap	Macy's			100-499		
Monroe	OshKosh B'gosh Flow-ered Overall Dress		JC Penney			100-499		
Onondaga	Padded Bunny Hair Clip	metal clip	99 Cent City				100-499	
Erie	Red Four-Wheeler	main body	Dollar Tree			100-499		
Schenectady	Hug Fun International Standing Horse	Mane	Dollar General		100-499			
Westchester, Erie	Superman projector flashlight	various	Spencer's		100-499			
Monroe	Syracuse Onesie Set - "S" logo	Outside snap	Target			100-499		
Schenectady	Boley Tasty Gormet Porcelain Tea Set	Dark butterfly	CVS			100-499		
Monroe	Fisher Price Thomas & Friends Take-n-Play Talking Gordon	Magnet, rear car	Target			100-499		
Ulster	Wonder Woman Cos-tume	yellow belt (fabric)	Target		100-499			
Onondaga	Xylophone	various bars	Dollar General				100-499	40-99

Appendix 2: Methods

Between October 2014 and April 2016, the contributors to this and eight other regional reports visited a number of stores in Albany, Erie, Monroe, Onondaga, Schenectady, Suffolk, Ulster and Westchester counties and New York City and purchased hundreds of products.

Clean and Healthy New York staff then **screened the children's products thoroughly** in their office, using an Innov-X X-Ray Fluorescence Analyzer (XRF). Each part of the product was screened multiple times to ensure accuracy of results. For products purchased in New York City, we then used an XOS High Definition X-Ray Fluorescence Analyzer (HD XRF) to verify results.

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 and previous reports are not a systematic survey of any product type, brand, or store, but ra-

ther an effort to document a pervasive problem. We only report products in which at least one chemical was found at a concentration of at least 100 ppm, and include additional chemicals to levels of 40 ppm.

About the XRF Analyzer

X-Ray Fluorescence Analyzers are used by government agencies and product manufacturers to screen consumer products for toxic chemicals. XRFs can detect elements such as lead, cadmium, chlorine, arsenic, mercury, and antimony, as low as the level of parts per million.

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.¹⁰

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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