

TOXIC FASHION

How Off-Price Retailers Expose
Shoppers to Lead

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The Center for Environmental Health (CEH) is a 27-year-old organization leading the nationwide effort to protect people from toxic chemicals by working with communities, consumers, workers, government, and the private sector to demand and support business practices that are safe for public health and the environment.

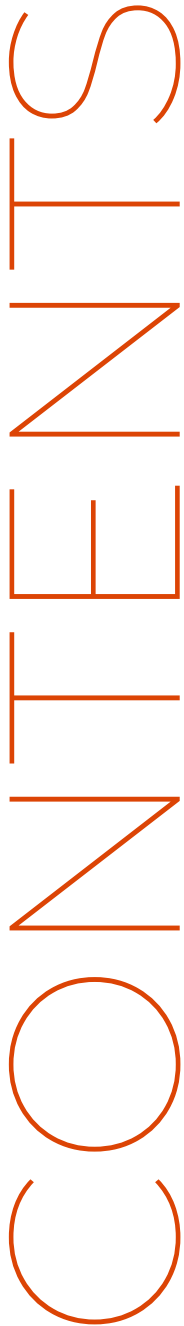
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EXECUTIVE SUMMARY

When you walk into a Ross Dress for Less, or similar off-price retailer, you are confronted with an endless variety of purchasing options. Thousands of garments hang on rows of racks, an extensive assortment of shoes line the walls, and the widest variety of colorful handbags are on display for your browsing. It may be exciting to search through the large inventory to find your next fashionable bargain, but that feeling could soon be soured if the faux-leather handbag you thought you scored a deal on contains the potent neurotoxin - lead.

Lead is a toxic chemical that can cause permanent and irreversible health effects at small doses (World Health Organization [WHO], 2023). Exposure to lead can cause cancer and reproductive health issues (California Office of Environmental Health Hazard Assessment [OEHHA], 2018a). In 2009, we at the Center for Environmental Health (“CEH,” or hereafter referred to as “we”) began testing leather and faux-leather polyurethane and polyvinyl chloride fashion accessories, including handbags, wallets, footwear, and belts, for lead. We found that hundreds of large fashion companies were manufacturing and distributing fashion accessories with high levels of lead. This was a cause for concern, as handling these items can contaminate our hands with lead that can then be ingested when we touch our mouth (OEHHA, 2018a). By 2011, CEH had successfully used the Safe Drinking Water and Toxic Enforcement Act of 1986, commonly known as Proposition 65, to force hundreds of companies to stop manufacturing and distributing leather and faux-leather fashion accessories with high levels of lead (Center for Environmental Health v. Lulu NYC LLC, et al [CEH v. Lulu], 2010).



EXECUTIVE SUMMARY

In 2012, CEH established a testing strategy to ensure leather and faux-leather fashion accessories on the market, including ones sold by the companies that we reached legally binding agreements with, no longer contained high levels of lead. Each year we tested fashion accessories, we found that more and more companies were reformulating their products, making it harder to find lead in products sold at big-box, department, and fast fashion retailers in California. However, the problem had not been completely eliminated. More than a decade after we began testing for lead in fashion accessories, CEH was still routinely finding lead-containing fashion accessories at off-price retailers, like Burlington, Marshalls, Nordstrom Rack, Ross, and TJ Maxx.

In 2022, CEH re-focused our testing strategy on products from Ross and Burlington, two of the nation's largest and most affordable off-price retailers (Coresight, 2018). Our investigators purchased more than 1,950 shoes, handbags, wallets, and belts suspected of containing lead from Ross and Burlington storefronts across California, located in communities facing varying degrees of environmental, health, and socioeconomic pressures, as determined by CalEnviroScreen ratings.

We found that both Ross and Burlington continue to sell lead-containing footwear, handbags, wallets, and belts and that:

More than 28% of the fashion accessories (including handbags, wallets, belts, and footwear) CEH purchased from Ross in 2022 contained elevated lead levels above 300 parts per million (ppm).

More than 25% of the fashion accessories (including handbags, wallets, belts, and footwear) CEH purchased from Burlington in 2022 contained elevated lead levels above 300 ppm.

Our sampling was done by investigators who specifically targeted products they suspected could contain lead based on prior sampling and testing experience. These results do not reflect a random sampling by an average consumer shopping at Ross or Burlington. Nevertheless, Ross and Burlington's continued sale of this many lead-containing products is concerning. There is no known lead level at which there are no harmful effects (WHO, 2023). And these results indicate that consumers are at risk of being needlessly exposed to lead-containing fashion accessories at these stores. All off-price retailers, including but not limited to Ross and Burlington, need to not only adopt, but also enforce and ensure compliance with corporate chemical policies that prohibit the stocking and sale of products containing excessive levels of toxic chemicals that could put consumers and workers at risk for unsafe exposure.

In 2009, we at the Center for Environmental Health noticed a problem in the fashion industry: lead in leather and faux leather fashion accessories like handbags, wallets, shoes, and belts. Lead is a carcinogen and reproductive toxicant (OEHHA, 2018a). It can cause permanent and irreversible health effects and is especially harmful to children (WHO, 2023). Lead found in fashion accessories can come off onto our hands and then travel into our body when we touch our mouth (OEHHA, 2018a). Starting in 2009, we performed extensive screening on hundreds of leather and faux-leather fashion accessories, and we found alarmingly high levels of lead in many products.

Descriptive Statistics of Lead Levels (ppm) for the 165 Fashion Accessories Lab-Tested in 2009

	Lead Level Found in ppm*
Minimum	906
Median	12,300
Maximum	560,000
Mean	22,342

*Lead level is defined as the total lead content in the identified surface material of the product.

In 2010 and 2011, CEH used Proposition 65, a California consumer protection law, to negotiate legal agreements with over 200 companies that sold products with high levels of lead. Through these legal settlements, the companies agreed to eliminate all but trace levels of lead in leather and faux leather fashion accessories they manufacture, distribute for resale, or sell under a private label (CEH v. Lulu, 2010). Since then, CEH has regularly tested leather and faux-leather fashion accessories to verify these companies' commitment to remove lead from fashion accessories.

Between 2012 and 2021, Center for Environmental Health screened over 12,000 leather and faux-leather fashion accessories for lead using an X-ray fluorescence (XRF) analyzer (Olympus Delta RoHS Analyzer). If the XRF results indicated the potential presence of excessive levels of lead, we then sent the evidence to an accredited third-party laboratory for further testing. With each year of testing, we noticed that lead levels in fashion accessories seemed to decline. In fact, it became more difficult over the years to find fashion accessories sold at big-box, department, and fast fashion retailers in California with any detectable lead, a testament to the overwhelming success of the public health-focused agreements we reached with large companies and their commitment to remove lead from fashion accessories.

Descriptive Statistics of Lead Levels (ppm) for the 147 Fashion Accessories Lab-Tested in 2019*

*(Last comprehensive testing year before the COVID-19 pandemic limited our in-store investigations)

	Lead Level Found in ppm*
Minimum	0
Median	3,900
Maximum	73,000
Mean	6,027

*Lead level is defined as the total lead content in the identified surface material of the product.

The problem appeared to subside as more companies reformulated their products. However, we found the problem was not fully resolved in fashion accessories sold at discount retailers like Burlington, Marshalls, Nordstrom Rack, Ross, and TJ Maxx.

THE OFF-PRICE SECTOR

BACKGROUND

The popularity of online shopping has skyrocketed (U.S. Department of Commerce, 2023). In the last decade, e-commerce's share of total U.S. retail sales has increased by 150%, according to the U.S. Department of Commerce. As online fashion has become more and more dominant, e-commerce retailers like Amazon have emerged as key competitors in the U.S. fashion market (Wells Fargo, 2021). In fact, in 2021 a Wells Fargo report identified Amazon as 2020's top retailer in the United States for apparel and footwear. Despite an overall decrease in physical in-store shopping sales across the fashion industry, the off-price sector, which includes industry giants like TJ Maxx, Ross, and Burlington and which relies almost solely on physical storefronts to offer more cost-effective purchasing options, remains flourishing (Arnold, 2023, Kapner 2020).

Off-price retailers share a resilient business model that relies "on the purchase of overproduced, or excess... goods at a lower price" to sell to consumers at a discounted rate (McKinsey & Company, 2022, p. 129). Even when the economy becomes turbulent, demand for off-price products remains steady because consumers need cost-effective shopping options (McKinsey & Company, 2022, p. 18).

Off-price retailers TJ Maxx, Ross, and Burlington are all huge players in the fashion market. All three of these multi-billion dollar companies are included in the top 15 fashion retailers in the United States (Wells Fargo, 2021). Given their large and stable share of the affordable fashion market, any continued sale by off-price retailers of fashion accessories containing toxic chemicals is concerning. Affordability should not come at the cost of consumers' health. And unfortunately over the last decade, CEH has continued to find lead-containing leather and faux-leather shoes, handbags, wallets, and belts at off-price retailers.

SPOTLIGHTING OFF-PRICE GIANTS ROSS & BURLINGTON

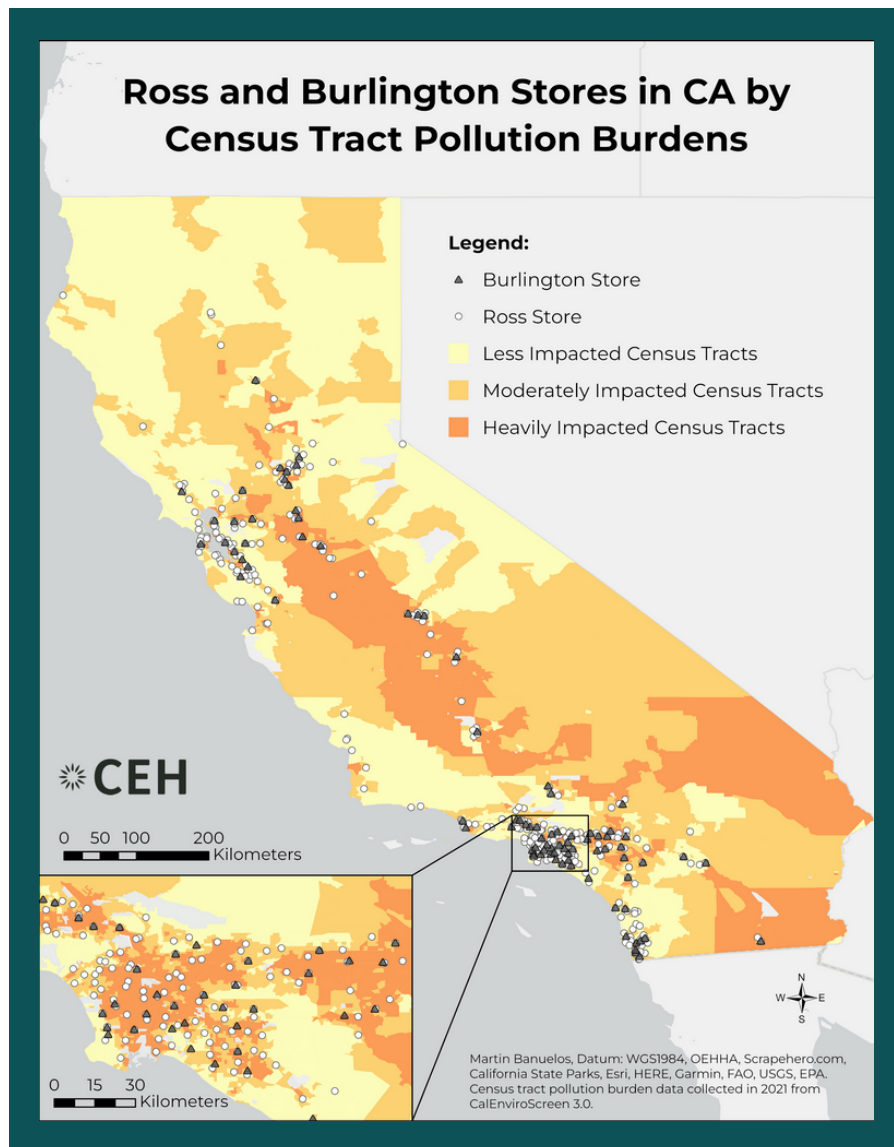
All off-price retailers, including Marshalls, Nordstrom Rack, and TJ Maxx, have demonstrated a trend in continuing to sell lead-containing fashion accessories over the past several years even as the remainder of the industry has moved away from selling lead-containing fashion accessories.

While the entire off-price sector must address this issue to protect consumer health, Ross and Burlington stood out as retailers to be further investigated by CEH. Over the last decade, CEH has notified off-price retailers Burlington, Marshalls, Nordstrom Rack, Ross, and TJ Maxx nearly 500 times that they were selling specific fashion accessories containing elevated levels of lead. Ross and Burlington accounted for over 300 of those notices.

Ross and Burlington tend to cater their inventory to lower-income shoppers who look for more accessible and affordable purchasing options. Michael O'Sullivan, the CEO of Burlington, describes the "lower-income shopper" as Burlington's "core customer" (PYMNTS, 2023). Meanwhile, Ross self-reportedly targets the "low to moderate income... value-conscious shopper" (Ross, 2023) that either "wants a bargain" or "needs a bargain" (Meyersohn, 2018). Compared to TJX Companies' more affluent customer base, the people who shop at Ross and Burlington tend to register with below-average income levels (Coresight, 2018). According to a report published by Coresight in 2018, customers who frequent TJ Maxx and Marshalls are significantly different than those who shop at Ross and Burlington. A quarter of Burlington shoppers have household incomes below \$50,000 (Burlington, 2023), while the average annual household income of someone who shops at Ross is \$63,000, 26% lower than that of someone who shops at TJ Maxx with \$85,000 annually (Meyersohn, 2018).

Burlington also caters to a customer base that is composed of 50% racially and ethnically diverse shoppers, compared to 39% of the total United States (Burlington, 2023). And when observing the placement of Burlington and Ross storefronts across California, most are concentrated in communities that are already moderately to heavily impacted by environmental, health, and socioeconomic pressures (ScrapeHero, 2021, OEHHA, 2018b).

SPOTLIGHTING OFF-PRICE GIANTS ROSS & BURLINGTON



Given Ross and Burlington's persistent failure to protect their consumer base by preventing the stocking of any lead-containing fashion accessories on their store shelves, CEH decided to conduct a focused investigation on Ross and Burlington storefronts across California.

OBJECTIVES AND OUTCOMES

In 2022, CEH performed extensive testing for lead in fashion accessories sold at Ross and Burlington storefronts in California. The main objectives of this sampling were to:

- 01 Determine how common it is to find lead-containing fashion accessories at Ross and Burlington storefronts across California.
- 02 Determine if there are patterns of inventory distribution between different California regions and census tracts facing varying degrees of socioeconomic characteristics and environmental pressures.

The key outcome of our sampling is data that supports the need for off-price retailers, including Ross and Burlington, to implement and enforce chemical policies that prohibit the stocking and sale of lead-containing fashion accessories that can harm consumers' and workers' health. These companies must ensure lead and other toxic chemicals are listed with strict limits on their Restricted Substance Lists (RSLs). They need not merely to encourage and suggest that their vendors comply with these strict RSL standards, but require that they do and implement systems to ensure proof and effectiveness of such compliance.



METHODOLOGY FOR THE INVESTIGATION

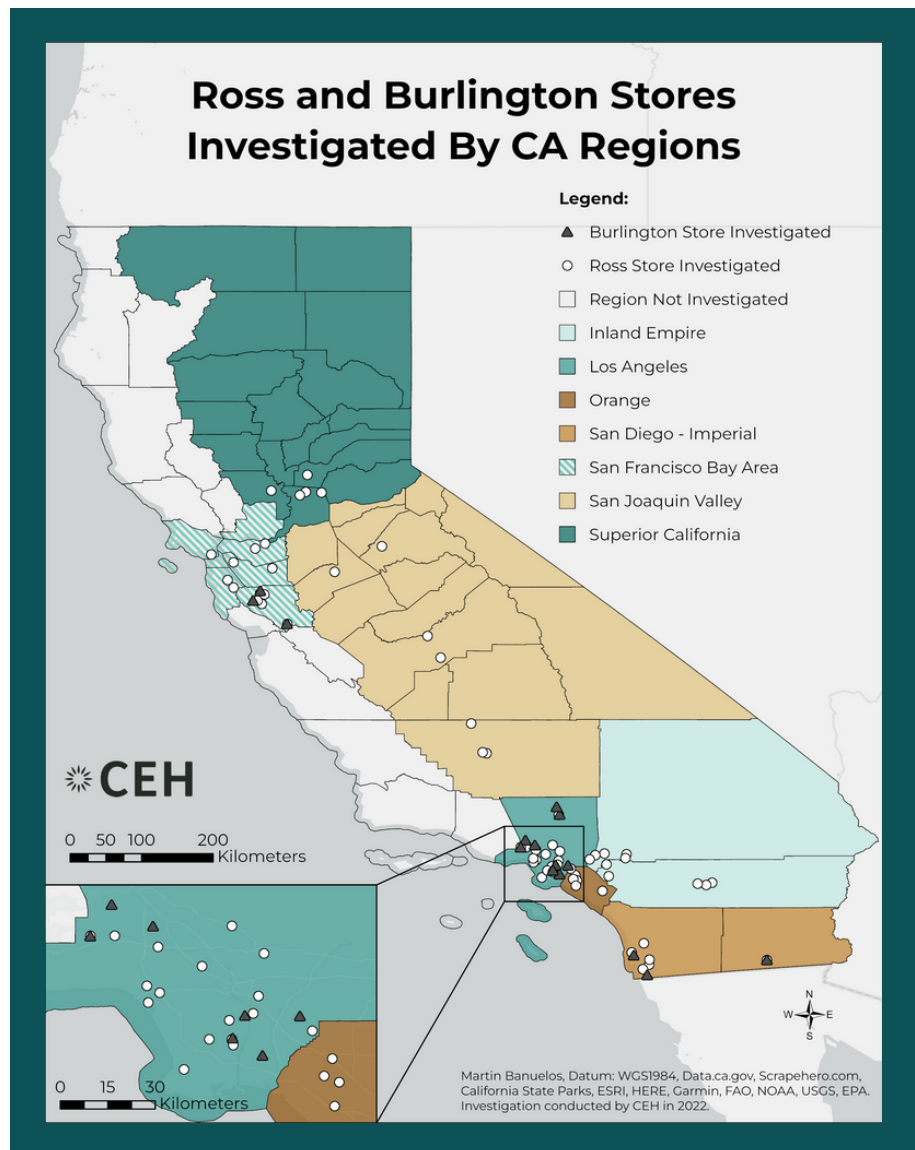
Center for Environmental Health selected 63 Ross and 15 Burlington stores throughout California to investigate. We spread our purchasing across 7 geographic regions and among census tracts with a diversity of socioeconomic characteristics and environmental pressures.

California Regions in which CEH Investigated Ross Stores for Lead-Containing Fashion Accessories

Regions Visited	Counties	Population (millions)	# Ross Stores Visited
Superior California	Butte, Colusa, El Dorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Siskiyou, Sutter, Tehama, Yolo, Yuba	3.3	6
San Francisco Bay Area	Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, Solano	7.1	12
San Joaquin Valley	Alpine, Amador, Calaveras, Madera, Mariposa, Merced, Mono, San Joaquin, Stanislaus, Tuolumne, Fresno, Inyo, Kern, Kings, Tulare	4.5	7*
Inland Empire	Riverside, San Bernardino	4.6	9
Los Angeles County	Los Angeles	10	18
Orange County	Orange	3.2	5*
San Diego - Imperial	Imperial, San Diego	3.5	6

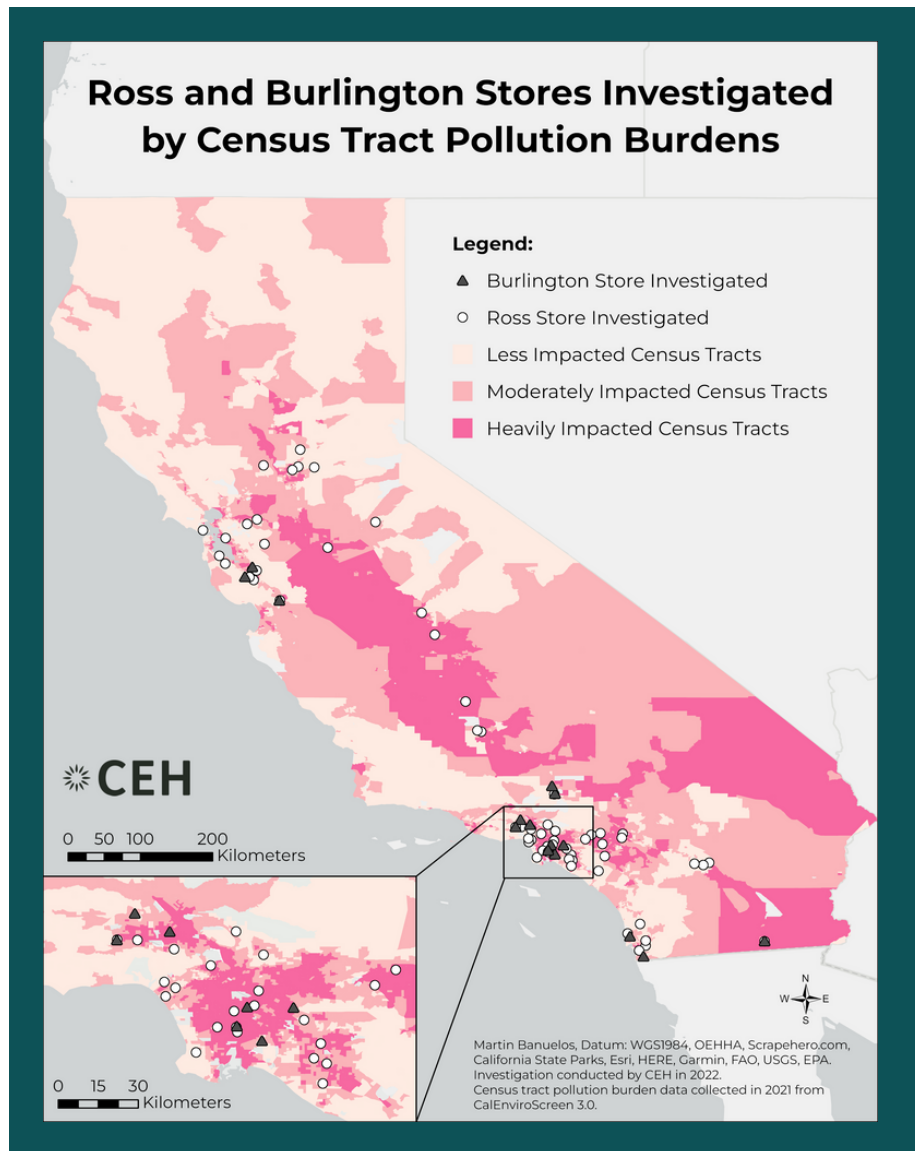
*Fewer stores were investigated in this region, as the region only had one location in a census tract considered less impacted based on CalEnviroScreen scoring.

METHODOLOGY FOR THE INVESTIGATION



To inform which census tracts to visit, we used OEHHA's CalEnviroScreen 3.0 mapping tool, which scores census tracts based on the pollution burdens and vulnerability to pollution each census tract faces (OEHHA, 2018b). Census tracts were grouped into 3 categories: less impacted, moderately impacted, and heavily impacted census tracts, as determined by CalEnviroScreen scores. We selected stores that fell into each category and visited an equal number of stores across categories. The number of Ross stores CEH visited in each region was proportional to each of the seven region's population sizes. Burlington store visits were focused on three major metropolitan regions: San Diego, Los Angeles (LA), and the San Francisco Bay Area. Within these regions, CEH visited three stores in San Diego and the Bay Area and nine stores in LA due to the high quantity of Burlington storefronts in that region.

METHODOLOGY FOR THE INVESTIGATION



CEH aimed to purchase 25 fashion accessories from each store, focusing on products our investigators identified as more likely to contain lead based on prior knowledge from historical sampling. Our investigators may have suspected that a product had a higher probability of containing lead based on the material, color, texture, price, and brand of the product, among other things. For example, most fashion accessories we found that contained lead between 2012 and 2021 were made of faux-leather as opposed to genuine leather, so nearly all of the fashion accessories we tested in 2022 were made of faux-leather.

METHODOLOGY FOR THE INVESTIGATION

As another example, our investigators looked for belts that came attached as a set to clothing garments, like pants, shorts, and dresses, as we have previously found these items as more likely to contain lead than belts sold as stand-alone products. As a result of this targeted shopping, we did not randomly select products and did not purchase equal amounts of products for each fashion accessory category (handbags and wallets, belts, and footwear).

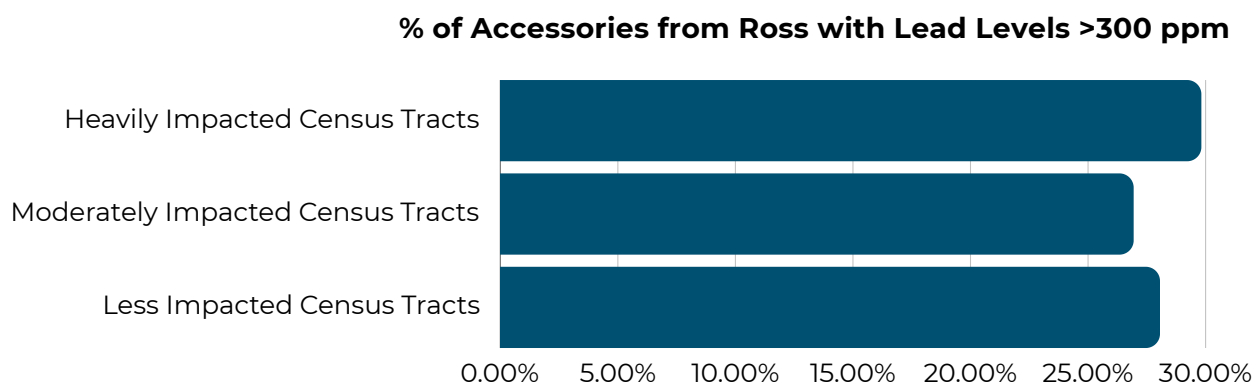
The evidence purchased was screened for lead and other heavy metals using an X-ray fluorescence (XRF) analyzer (Olympus Delta RoHS Analyzer). If the XRF results indicated the potential presence of excessive levels of lead, we then sent the evidence to an accredited third-party laboratory for further testing of total lead content using total acid digest by EPA 3050b. While there is no known lead level at which there are no harmful effects (WHO, 2023), we consider a fashion accessory as containing elevated levels of lead if it exceeds 300 ppm. This corresponds with the United States Consumer Product Safety Commission's (CPSC) maximum lead content limit in children's products at the time we pursued litigation against companies selling fashion accessories with high levels of lead in 2010 (CPSC, 2011). CPSC has since lowered the lead limit in children's products to 100 ppm (CPSC, 2011).



RESULTS

We purchased 1,577 fashion accessories from Ross stores throughout California. Of the 1,577 fashion accessories purchased, 705 were handbags, 751 were footwear, and 121 were belts.

We found that 28% of the total number of products we tested from Ross had elevated lead levels above 300 ppm. Similarly, 27-30% of products purchased from Ross in each CalEnviroScreen category (less, moderately, and heavily impacted census tracts) had levels of lead exceeding 300 ppm. Handbags had the most exceedances with 38% of the handbags purchased having lead levels over 300 ppm. Footwear followed behind with 21% and belts with 17%. Over half of the Ross accessories with elevated levels of lead had a Prop 65 warning.



RESULTS

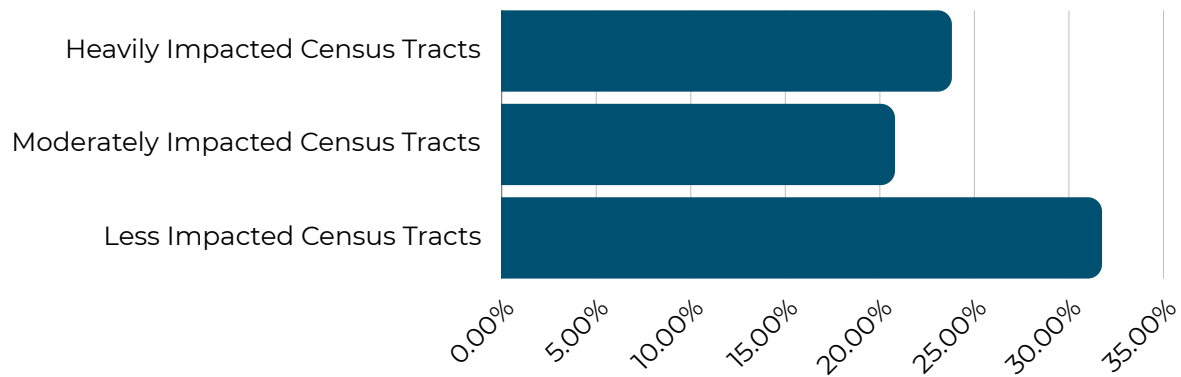
Fashion Accessories CEH Purchased at Ross Stores in 2022

Region	Total # Accessories Sampled	% Accessories with >300 ppm lead
Los Angeles	451	31%
Bay Area	301	22%
Inland Empire	225	39%
San Joaquin Valley	176	22%
Superior California	150	23%
San Diego	149	30%
Orange County	125	27%

We purchased 377 fashion accessories from Burlington stores throughout California. Of the 377 fashion accessories purchased, 207 were handbags, 144 were footwear, and 26 were belts. We found that 25% of the total number of products we tested from Burlington had elevated lead levels above 300 ppm. In less impacted census tracts, 32% of the fashion accessories purchased from Burlington contained excess levels of lead (>300 ppm), followed by 21% in moderately impacted census tracts, and 24% in heavily impacted census tracts. Belts had the most exceedances with 35% of the belts purchased having lead levels over 300 ppm. Handbags followed behind with 33% and footwear with 13%. Over two-thirds of the Burlington accessories with elevated levels of lead had a Prop 65 warning.

RESULTS

% of Accessories from Burlington with Lead Levels >300 ppm



Fashion Accessories CEH Purchased at Burlington Stores in 2022

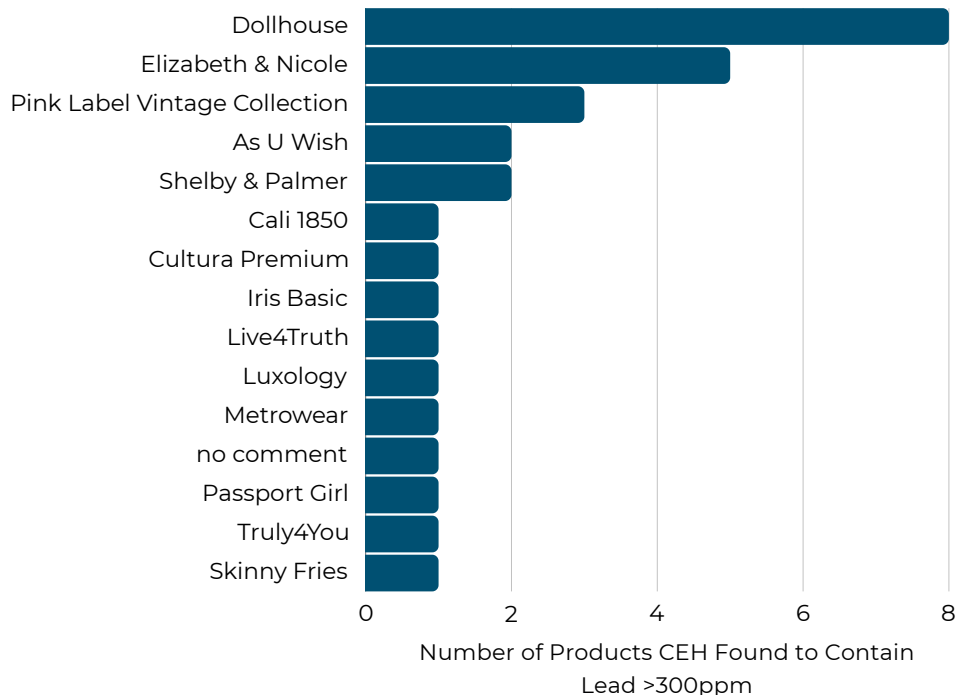
Region	Total # Accessories Sampled	% Accessories with >300 ppm lead
Los Angeles	226	29%
Bay Area	76	17%
San Diego	75	23%

RESULTS

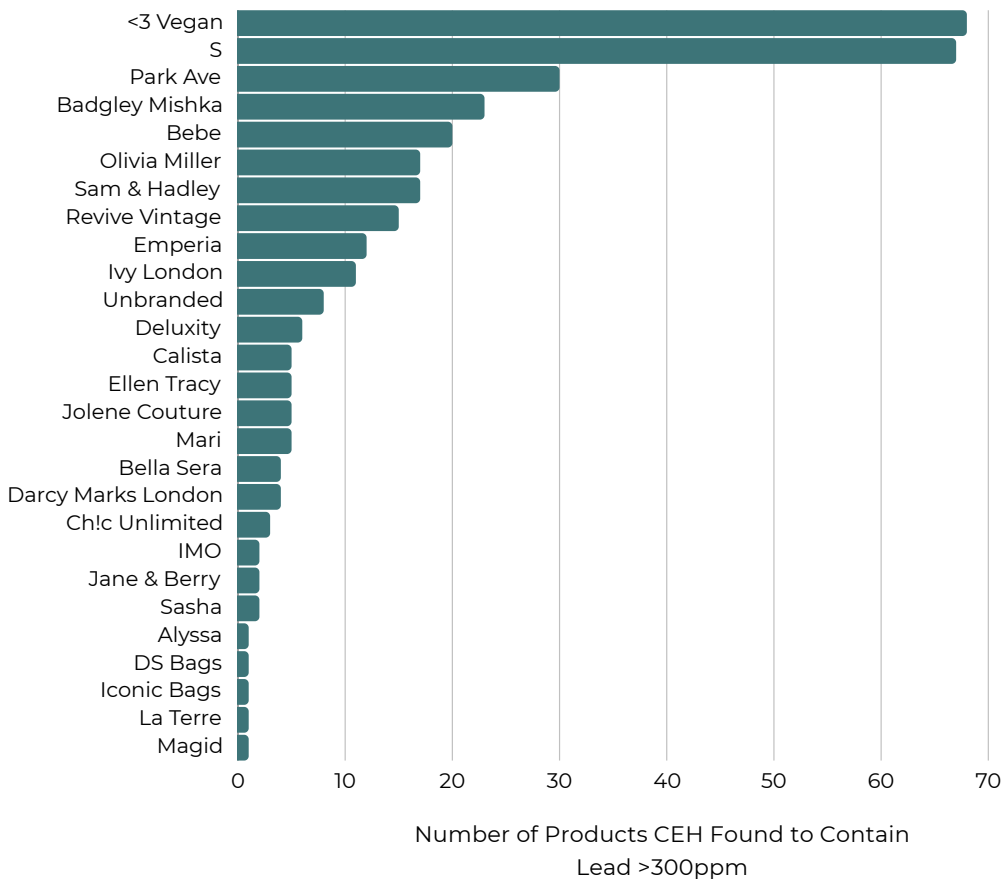
At both Ross and Burlington, the majority (87%) of lead-containing handbags and wallets sampled in 2022 showed a pattern of faux-leather materials on the interior lining of the bags containing excessive levels of lead, whereas the exterior faux-leather material tended to be lead-free. Additionally, there were brands that were evidently dominating the lead-containing fashion accessories on the market.



Brands of Lead-Containing Belts Purchased from Ross and Burlington



Brands of Lead-containing Handbags Purchased from Ross and Burlington



RESULTS

NOISY SUBTLE CONCERN

CEH found that approximately 27% of fashion accessories we purchased in 2022 from Ross and Burlington contained lead levels exceeding 300 ppm, triple CPSC's current legal lead limit for lead in children's products. Our findings also indicated that the issue of lead-containing inventory was widespread across all Ross and Burlington storefronts located in areas facing varying degrees of environmental, health, and socioeconomic pressures, as determined by CalEnviroScreen ratings.

Employees and consumers working and shopping in Ross and Burlington's over 2,500 retail locations can be exposed to lead in these fashion accessories when they touch the products with their hands and then touch their mouths (ScrapeHero, 2021, OEHHA, 2018a). Exposure can put people at a higher risk of high blood pressure and kidney damage and can put pregnant people at a risk of reproductive harm (WHO, 2023). Additionally, if children are exposed to lead through these products, they can face irreversible behavioral changes and learning difficulties (WHO, 2023).

Off-price retailers provide consumers access to more affordable purchasing options (McKinsey & Company, 2022). Burlington and Ross, especially, offer cost effective options catered to a lower-income customer base (Coresight, 2018) largely made up of people who already face disproportionate environmental, health, and socioeconomic pressures (OEHHA, 2018b). Working or shopping at these stores should not put people at greater risk of exposure to toxic chemicals.

Burlington, Ross, TJX, and any other off-price retailers are obligated to protect their customers and workers. These multi-billion dollar companies have attempted to implement chemical management policies in recent years (Burlington, 2022, TJX, 2021), but we were still finding lead-containing fashion accessories sold by them. They need to prioritize getting lead off of their store shelves, by not only adopting stricter chemical management policies, but also enforcing compliance of them and ensuring their effectiveness.

CALL TO ACTION

CEH is calling on all off-price retailers, including Ross and Burlington, to ensure that what they are selling is free of toxic chemicals before it reaches store shelves. We're demanding that these multi-billion dollar companies commit to basic product safety standards to ensure that what they are selling does not contain toxic chemicals like lead. This is a problem of the past for fashion manufacturers and retailers, and it's past time for Ross and Burlington to protect people's health by catching up to their industry peers.

Most leather and faux-leather fashion accessories on the market do NOT contain lead, and off-price retailers must ensure their fashion accessories are also free of lead. We want off-price retailers, including Ross and Burlington, to publicly commit to safer chemical policies that completely prevent procurement of fashion accessories that contain harmful toxicants like lead. That way, they can stop products with toxic chemicals from reaching their store shelves and the hands of their workers and consumers for good.

Take action today and sign the petition on [CEH.org](https://ceh.org).

Together, we can put public pressure on the off-price sector to prioritize public health over their profits and stop selling fashion accessories with toxic chemicals.



WAYS TO LIMIT EXPOSURE

Remember - most leather and faux-leather fashion accessories on the market no longer contain lead. To further reduce your exposure to lead in fashion accessories, **limit the use of older leather and faux-leather fashion accessories** that were produced pre-2010, and **wash your hands with soap and water**, especially after handling your fashion accessories.

In CEH's investigation of lead in fashion accessories over the last decade, we observed trends among fashion accessories that contained lead:

01

We found more faux-leather fashion accessories that contained lead than genuine leather fashion accessories that contained lead.



02

We more frequently observed lead in belts sold attached to clothes as a set than in belts sold as stand-alone products.



03

In 2022, we observed that over half of lead-containing fashion accessories we purchased at Ross and Burlington had Proposition 65 warnings. Some of these warnings were hidden in small print, on tags inside of handbags, and on the bottom of shoes.



04

In 2022, we observed that the interior lining of faux-leather handbags and wallets more frequently contained lead than the exterior lining.

Using CEH's sampling experience to inform your shopping for fashion accessories at these stores can potentially prevent your risk of exposure.

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