

# ELR

## NEWS & ANALYSIS

## The Continued Success of Proposition 65 in Reducing Toxic Exposures

by Clifford Rechtschaffen and Patrick Williams

---

*Editors' Summary: California's Proposition 65 is by now a well-known regulatory tool for warning consumers about the potentially toxic components of products they consume or to which they are exposed. Rechtschaffen and Williams argue that while Proposition 65 has been subject to some abuses, it has also brought about important reductions in exposures to toxic substances. To make their point, they examine product reformulations caused by enforcement of Proposition 65's warning requirements over the past five years.*

---

### I. Introduction

Nearly 20 years have passed since California residents overwhelmingly voted to enact Proposition 65, the Safe Drinking Water and Toxic Enforcement Act.<sup>1</sup> The statute contains two simple requirements: (1) it requires that businesses provide clear and reasonable warnings prior to exposing individuals to chemicals that cause cancer or reproductive harm; and (2) it bans the discharge of those chemicals to any source of drinking water.<sup>2</sup> The statute remains as controversial—if not more so—than when it was first enacted. Media attention in recent years often focuses on some of the quirkiest or more sensational enforcement actions—such as suits about acrylamide in bread products and French fries, or lead in chocolate<sup>3</sup>—and on the statute's perceived excesses—such as suits by profiteering lawyers that result in large fee recoveries relative to the penalties imposed.<sup>4</sup> The less frequently told story, however, is one of continued success in removing toxic chemicals from consumer products and industrial activities.

---

Clifford Rechtschaffen is a professor at Golden Gate University School of Law. Patrick Williams is a 2005 honors graduate of Golden Gate University School of Law. Thanks to Michelle Smith for her valuable research assistance, and to Karalyn Buchner, Sue Fiering, Karen Kramer, Bill Verick, and Ed Weil for their helpful comments on earlier drafts of this Article.

1. Paul Jacobs, *Inspired by Prop. 65 Authors Take Aim at Air Pollution*, L.A. TIMES, Nov. 6, 1986, at A3 (the measure passed with 63% of the votes).
2. CAL. HEALTH & SAFETY CODE §§25249.5-25249.6 (West 2005).
3. Melinda Fulmer, *Sellers of French Fries May Face Suits; Two California Environmental Groups Plan to Target Companies That Fail to Warn of a Suspected Carcinogen*, L.A. TIMES, July 3, 2002, at C3; Janet Adamy, *Bad Metals Found in Chocolate, Suit Claims; Groups Demands Warning Labels*, SAN DIEGO UNION TRIB., May 12, 2002, at A7.
4. Monte Morin, *Lawyers Who Sue to Settle: Filing Hundreds of Cases Citing Consumer Laws' Fine Print, They Rarely Go to Trial But Collect Thousands From Badgered Businesses*, L.A. TIMES, Oct. 26, 2002, at A1.

Since its enactment, Proposition 65 has generated substantial reductions in industrial air emissions of lead, ethylene oxide, perchloroethylene, and other contaminants, and significant reformulations of consumer products containing toxic chemicals, often implemented nationwide, including brass faucets, ceramic ware, calcium supplements, water meters, water filters, galvanized pipe, crystal decanters, foil caps on wine bottles, brass keys, hand tools, exercise weights, raincoats and other plastic clothing, electrical tape, electrical cords and wires, bicycle cable locks, compact disk (CD) wallets, baby rash powders and creams, anti-diarrheal medicines, hair dyes, hemorrhoidal medicines, nasal sprays, correction fluid, spot remover, paint strippers, shoe waterproofing spray, nail care products, including nail polish and nail polish remover, dandruff shampoos, bottled water, wooden playground structures, and portable classrooms, among other products.<sup>5</sup> In other instances where reformulations are not feasible, notably fresh fish containing mercury, Proposition 65 has led to valuable consumer warnings.

Previous articles have described many of the environmental successes achieved by Proposition 65 in the late 1980s and 1990s.<sup>6</sup> This Article highlights some of the prod-

5. The chemical(s) eliminated or reduced from the first 19 products listed (brass faucets to hair dyes) is lead; from hemorrhoidal medicines and nasal sprays, mercury; from correction fluid, trichloroethylene; from spot remover, perchloroethylene; from paint strippers and shoe waterproofing spray, methylene chloride; from nail care products, toluene and formaldehyde; from dandruff shampoos, coal tar; from bottled water and wooden playground structures, arsenic; and from portable classrooms, formaldehyde.
6. Clifford Rechtschaffen, *The Warning Game: Evaluating Warnings Under California's Proposition 65*, 23 ECOLOGY L.Q. 303 (1996) and *How to Reduce Lead Exposures With One Simple Statute: The Experience of Proposition 65*, 29 ELR 10581 (Oct. 1999); David Roe, *Toxic Chemical Control Policy: Three Unabsorbed Facts*, 32 ELR 10232 (Feb. 2002); Michael Freund, *Proposition 65 Enforcement: Reducing Lead Emissions in California*, 10 TUL. ENVTL. L.J. 333 (1997).

uct reformulations triggered by Proposition 65 enforcement actions in the last five years, in particular reformulations resulting from actions to enforce the statute's warning requirement.<sup>7</sup> As described below, these recent enforcement actions have prompted reductions in lead in a wide variety of consumer products, reduced exposures from toxins in children's playground equipment and portable classrooms, and led to warnings in grocery stores and restaurants about the dangers of mercury in fish for pregnant women and children.

## II. Statutory Provisions

Proposition 65 applies to a list of chemicals identified by the state of California as causing cancer or reproductive toxicity. As noted above, it contains a requirement that businesses warn about exposures to these chemicals—the focus of the cases profiled below—and prohibits the discharges of these chemicals to any source of drinking water. The statute exempts exposures or discharges which: (1) pose “no significant risk of cancer”—a level that has been defined administratively as posing a risk of less than 1 in 100,000 for carcinogens; and (2) are less than 1/1000th of the “no observable effect level” for reproductive toxins.<sup>8</sup> The statute can be enforced by public prosecutors or private parties, after providing a 60-day notice of intent to sue.<sup>9</sup> In addition to injunctive relief, the statute authorizes penalties of up to \$2,500 per day per violation.<sup>10</sup>

## III. Lead in Consumer Products

Lead is listed under Proposition 65 as a carcinogen and reproductive toxin.<sup>11</sup> Lead also causes a multitude of developmental harms, including learning disabilities, decreased intelligence, impaired growth, hearing loss, limited attention span, and behavioral problems.<sup>12</sup> Children under six, and those exposed prenatally, are at the greatest risk.<sup>13</sup> Lead is especially dangerous because it is ubiquitous—it is used in a multitude of everyday products—and because it can cause harm at extremely low levels of exposure (indeed, there is no level of lead exposure considered safe). Because there are significant gaps in federal and state regulation of lead in consumer products and household products, Proposition 65

enforcement actions in the past have consistently targeted lead-containing products, such as ceramic ware, brass faucets, water meters, water filters, and calcium supplements.<sup>14</sup> This trend has continued over the past several years.

A battery of recent cases has focused on exposures to lead in polyvinyl chloride (PVC) products. Lead is used in many formulations of PVC as a stabilizer, to make the PVC more flexible, and for other purposes, and is found in products such as neoprene-coated hand tools and exercise weights; plastic raincoats and other clothing; electrical wires, cords, and cables used in a myriad of electrical and electronic appliances<sup>15</sup>; CD wallets (portable carrying cases for CDs); children's bicycle handlebars; housings for bicycle brake and derailleur cables; and bicycle cable locks. The main actor in these cases is a nonprofit environmental organization, the Mateel Environmental Justice Foundation (Mateel). According to tests conducted by Mateel, many of these products contained levels of lead ranging from 2,000 to 12,000 parts per million (ppm), substantial amounts of which were deposited on the hands of people who use them.<sup>16</sup> Beginning in 2000, Mateel initiated a string of failure-to-warn enforcement cases against approximately 320 companies selling these products in California.<sup>17</sup> Over 75% of these cases have settled; the remainder are ongoing. The settlements generally have resulted in reformulations that sizeably reduce lead content, or in a smaller number of cases, require product warnings. For example, many producers of neoprene-coated exercise weights, hand tools, and CD wallets agreed to reformulate their products so that they contain no more than 200 ppm lead, a 90% to 98% reduction in lead content from pre-enforcement levels.<sup>18</sup> Many manufacturers of raincoats and other PVC-coated clothing agreed to limit lead content in their products to 30 ppm; a group of manufacturers of PVC-coated cables and wires agreed to reduce lead content to 300 ppm or provide warnings.<sup>19</sup>

In another series of cases, Mateel sued 14 manufacturers of electrical tape made with PVC containing elevated levels of lead. The settlements reached in the cases require warning labels; however, all but one company went further and chose to reformulate their products to eliminate any intentionally added lead (some also began advertising their tape as lead-free).<sup>20</sup>

7. There have been other significant cases involving the statute's discharge prohibition, such as litigation filed by Communities for a Better Environment involving leaking underground storage tanks at hundreds of facilities that resulted in four oil companies agreeing to spend \$99 million to clean up contaminated groundwater and implement leak detection and leak prevention measures. *See, e.g., \$99 Million Settlement Reached in Water Suit*, OAKLAND TRIB., Sept. 24, 2004, at A2. These cases are beyond the scope of this Article, however.

8. 22 CAL. CODE REG. §12703(b); CAL. HEALTH & SAFETY CODE §§25249.9(b), 10(c), 11(c) (West 2005).

9. CAL. HEALTH & SAFETY CODE §25249.7(c)-(d).

10. *Id.* at §25249.7(b)(1).

11. The chemicals listed under Proposition 65 can be found on the Internet at [http://www.oehha.ca.gov/prop65/prop65\\_list/files/P65\\_single052005.pdf](http://www.oehha.ca.gov/prop65/prop65_list/files/P65_single052005.pdf) (last visited Oct. 5, 2005).

12. CENTERS FOR DISEASE CONTROL & PREVENTION, U.S. DEP'T OF HEALTH & HUMAN SERVS., STRATEGIC PLAN FOR THE ELIMINATION OF CHILDHOOD LEAD POISONING 9 (1991).

13. *See* KAREN L. FLORINI ET AL., ENVIRONMENTAL DEFENSE FUND, LEGACY OF LEAD: AMERICA'S CONTINUING EPIDEMIC OF CHILDHOOD LEAD POISONING 1-2 (1990).

14. Rechtschaffen, *How to Reduce Lead Exposures*, *supra* note 6.

15. These include, among many others, cords for irons, hot pots, hair dryers, corded shavers, stereo headphones, extension cords, portable personal stereo cords, computer wires and cables, audio and video adapter cords, guitar and microphone cords, and mobile telephone accessories.

16. E-mail from William Verick, Attorney, Mateel Environmental Justice Foundation, to Clifford Rechtschaffen (July 30, 2003) [hereinafter Verick E-mail I].

17. The number of products involved in these cases is actually higher, because the resulting settlements have covered products made by some of the subsidiaries of the named companies. E-mail from William Verick, Attorney, Mateel Environmental Justice Foundation, to Clifford Rechtschaffen (June, 15, 2005) [hereinafter Verick E-mail II].

18. *Id.* Verick E-mail I, *supra* note 16.

19. *Id.*; Lana Beckett, *Mateel Keeps Up Pressure on Makers of PVC-Coated Products*, PROP. 65 CLEARINGHOUSE (Litigation Report, May 1, 2005, at 5).

20. *Id.*; Verick E-mail II, *supra* note 17; E-mail from William Verick, Attorney, Mateel Environmental Justice Foundation, to Clifford Rechtschaffen (July 6, 2005).

Another series of enforcement actions initiated by Mateel targeted the major manufacturers and retail sellers of galvanized pipe. The surface layer of the pipes (essentially the zinc coating) contained between 0.5% and 1.5% lead, and leached as much as 270 to 1,024 micrograms ( $\mu\text{g}$ ) of lead per liter of water over 12 hours (the safe-harbor level set by the state at which exposures to lead do not require a warning is 0.5  $\mu\text{g}$  per day).<sup>21</sup> The cases later settled, with the manufacturers agreeing to reduce the lead content of galvanized pipes to no more than 0.03%, a reduction of 96% to 98% from the pre-enforcement lead levels.<sup>22</sup>

Other private and public enforcement actions have focused on lead in products primarily used or handled by children. One example is litigation filed by the Center for Environmental Health (CEH) concerning elevated lead levels found in baby powder and diaper rash medicines.<sup>23</sup> After CEH brought suit, several manufacturers agreed to significantly reduce the lead content of their products—in the case of the four products with the highest preexisting lead content, by 80%.<sup>24</sup> Another less obvious yet common avenue of lead exposure for children is house keys. Most brass keys have contained as much as 2.5% lead.<sup>25</sup> Keys are often given to infants and children as a distraction or an impromptu toy, and tests conducted for the California Attorney General (Calif. AG) demonstrated that significant amounts of the lead in keys rubs off on the hands of those touching them.<sup>26</sup> Young children are particularly at risk because of their frequent hand-to-mouth contact. In 1999, Mateel and the Calif. AG sued most of the major brass key manufacturers.<sup>27</sup> In a settlement reached in 2001, the manufacturers agreed to reduce the amount of lead in their keys by up to 40%, to a maximum lead content of 1.5%.<sup>28</sup>

Still another instance involves anti-diarrheal medications. Prior to recent Proposition 65 enforcement actions, a single dose of children's Kaopectate resulted in lead exposures more than 55 times the Proposition 65 warning threshold; the adult dose resulted in exposures that exceeded the limit by 240 times.<sup>29</sup> (Kaopectate is the largest selling anti-diarrhea medicine with an attapulgitic clay-based formula; attapulgitic clay contains high lead levels.) After being sued by CEH and the Calif. AG in 2003, Kaopectate agreed to remove 95% of the lead from children's products, and

80% from its liquid adult medicine.<sup>30</sup> In both instances, Kaopectate agreed to reformulate its products nationwide.<sup>31</sup>

An additional series of significant actions concerns costume jewelry worn by children.<sup>32</sup> The jewelry can contain very significant levels of lead (for example, CEH found that a children's bracelet sold by the Walt Disney Company contains 166,000 ppm of lead)<sup>33</sup>; exposures result from children handling the jewelry and then putting their hands in their mouths, mouthing the jewelry directly, or swallowing it. In 2004, CEH, As You Sow Foundation, and the Calif. AG sued the retailers and distributors of numerous brands of costume jewelry sold in California (most of it is imported).<sup>34</sup> Those cases are still pending. In 2004, the Consumer Product Safety Commission (CPSC) announced that four jewelry importers were voluntarily recalling 150 million pieces of toy jewelry sold in vending machines, and earlier this year the CPSC announced an interim policy outlining when it would take enforcement action against children's metal jewelry containing lead.<sup>35</sup> The CPSC policy, however, leaves major gaps that the ongoing Proposition 65 litigation is seeking to fill; the policy does not, for example cover lead exposures from plastic costume jewelry, and the trigger for CPSC enforcement is less protective than the Proposition 65 warning threshold.<sup>36</sup>

Newly filed Proposition 65 enforcement actions also have taken aim at children's candy, after government testing found that over 112 brands of candy, most coming from Mexico, have elevated levels of lead, in some cases as high as 13.5 to 16.5  $\mu\text{g}$  of lead per serving (27 to 33 times the Proposition 65 warning threshold).<sup>37</sup> The lead apparently comes from two sources. One is chillies used in many Mexican candies, which is grown in soil contaminated with lead from gasoline (Mexico did not ban leaded gasoline until the 1990s) and not washed prior to being ground into powder (washing can remove the lead from the chillies). The other is the production of candy containing tamarind fruit that is made in lead-glazed pots, which leach lead from the pot into the candy.<sup>38</sup> In 2004, the Calif. AG filed suit against 33 com-

21. Verick E-mail I, *supra* note 16; 22 CAL. CODE REG., §12805.

22. A number of other enforcement actions filed by the citizen group As You Sow Foundation involve lead leaching from other drinking water system components (water valves, pressure regulators, strainers, and others). While most of these cases are still pending, a handful of makers of water valves and other water system components have settled and agreed to reformulate their products to use alloys containing significantly less lead. E-mail from Karalyn Buchner, Staff Attorney, As You Sow Foundation, to Clifford Rechtschaffen (July 27, 2005).

23. Dennis Pfaff, *Attorneys Get \$1.15 million in Diaper Powder Settlement*, PROP. 65 NEWS, May 15, 2003, at 1.

24. *Id.*

25. Press Release, Office of California Attorney General, Major Manufacturers Agree to Reduce Amount of Lead in Door Keys Under Settlement of Proposition 65 Lawsuit (Apr. 27, 2001), [available at http://caag.state.ca.us/newsalerts/2001/01-042.htm](http://caag.state.ca.us/newsalerts/2001/01-042.htm) (last visited Oct. 6, 2005).

26. *Id.*

27. *Id.*

28. *Id.*

29. Marla Cone, *Settlement Gets the Lead Out of Kaopectate*, L.A. TIMES, June 27, 2003, at B1.

30. *Id.*

31. *Id.*

32. The sources of lead include lead in low-grade tin used to make pendants and clasps, and PVC plastic in necklaces made with plastic cords.

33. Press Release, CEH, Disney Children's Jewelry Found Tainted With Lead (Apr. 12, 2005), [available at http://www.cehca.org/jewelry.htm#june](http://www.cehca.org/jewelry.htm#june) (last visited Oct. 6, 2005).

34. Melanie Payne, *Costume Jewelry Under Fire: Major Retailers Violate State Hazards Law, Lawsuit Says*, SACRAMENTO BEE, June 24, 2004, at D1.

35. Press Release, CPSC, CPSC Announces Recall of Metal Toy Jewelry Sold in Vending Machines; Firms Agree to Stop Importation Until Hazard Is Eliminated (Nov. 15, 2004), [available at http://www.cpsc.gov/cpsc/pub/prerel/prhtml04/04174.html](http://www.cpsc.gov/cpsc/pub/prerel/prhtml04/04174.html) (last visited Oct. 6, 2005); CPSC, INTERIM ENFORCEMENT POLICY FOR CHILDREN'S METAL JEWELRY CONTAINING LEAD (2005), [available at http://www.cpsc.gov/businfo/pbjewelgd.pdf](http://www.cpsc.gov/businfo/pbjewelgd.pdf) (last visited Oct. 6, 2005).

36. The CPSC policy is criticized in CEH, ANALYSIS OF CPSC POLICY ON LEAD-TAINTED CHILDREN'S JEWELRY (2005), [available at http://www.cehca.org/jewelry.htm](http://www.cehca.org/jewelry.htm) (last visited Oct. 6, 2005).

37. Flo Dubosc & Jack Schatz, *Mars Subsidiary Recalls Four Mexican Candy Products*, PROP. 65 NEWS, Aug. 15, 2004 (Mars agreed to withdraw three products).

38. CALIF. STATE SENATE, COMM. ON HEALTH & HUMAN SERVS., BILL ANALYSIS, AB 2541 (2004), [available at http://info.sen.ca.gov/cgi-bin/postquery](http://info.sen.ca.gov/cgi-bin/postquery) (last visited July 5, 2005).

panies that manufacture or import candy from Mexico. In response to this action, a number of companies agreed to stop selling their products in California.<sup>39</sup>

Finally, in another case initiated by CEH, the maker of the Grecian Formula line of gradual hair dyes agreed to reduce the lead content of Grecian Formula by 50%.<sup>40</sup>

#### IV. Arsenic in Playground Equipment

For decades, the lumber industry produced pressure-treated wood—wood treated with a mixture of pesticides known as chromated copper arsenate (CCA). The mixture was developed as a way to keep wood from rotting. Pressure-treated wood has been used widely to manufacture children's playground equipment, including play structures, swing sets, decks, benches, and picnic tables. Ninety percent of all outdoor wooden structures in the United States is made of pressure-treated wood.<sup>41</sup>

CCA consists of 22% arsenic.<sup>42</sup> Arsenic is a listed carcinogen under Proposition 65; it also can cause a variety of other serious health effects, including nerve damage, damage to the immune system, and gastrointestinal harms.<sup>43</sup> In pressure-treated wood, arsenic rubs off on the hands of those who touch it, and also leaches out of wood into soil, in both instances leading to exposures to children and others. A study by the Environmental Working Group and the Health Building Network estimated that after five minutes of contact with pressure-treated wood, children can have as much as 1,250 milligrams of arsenic on their hands.<sup>44</sup> The CPSC found that children who play on pressure-treated wood playsets face excess cancer risks ranging from 2 to 100 in one million; a U.S. Environmental Protection Agency (EPA) risk assessment likewise found elevated cancer risks for exposed children.<sup>45</sup>

Beginning in 2000, CEH, along with the Calif. AG, sued 34 manufacturers of pressure-treated playground equipment and picnic tables.<sup>46</sup> Within three years, all the defen-

dants had settled, agreeing to stop selling pressure-treated playground structures, picnic tables, and park benches in California, and nationally—a significant public health success. In this instance, Proposition 65 was one of several factors contributing to the industry decision to reformulate; at roughly the same time, public and media interest in CCA grew considerably, and EPA began taking some regulatory action. Specifically, in 2001, EPA required consumer warning labels on treated lumber containing arsenic, and one year later, the Agency reached an agreement with the timber industry to discontinue sales of lumber treated with CCA for all residential uses.<sup>47</sup>

#### V. Mercury in Fish

Mercury is a potent and persistent toxin. Both mercury and methylmercury, a particularly dangerous form of mercury resulting from the interaction between mercury and microorganisms in soil and water, are listed as reproductive toxins under Proposition 65. Mercury exposure to young children and children in utero can cause a range of neurological and developmental harms including mental retardation, cerebral palsy, impaired motor abilities, learning problems, and vision and memory impairment.<sup>48</sup> Adult exposure can lead to a variety of adverse health impacts as well, including increased cardiovascular disease. Fetuses are 5 to 10 times more sensitive to mercury exposure than are adults, potentially due to a not fully developed blood brain barrier.<sup>49</sup>

While there are several avenues for mercury to enter the body, the primary source of human exposure is through fish consumption. Since mercury accumulates easily in fish, large predatory fish such as tuna, shark, swordfish, and king mackerel contain the highest levels of mercury. These fish feed on smaller contaminated fish, and live long enough to accumulate high levels of mercury.<sup>50</sup> According to data gathered by the U.S. Food and Drug Administration (FDA), the highest average mercury levels are found in tilefish (1.45 ppm), swordfish (1.00 ppm), shark (0.96 ppm), and king mackerel (0.73 ppm).<sup>51</sup> Mercury levels are lower for canned tuna (FDA reports average levels of 0.35 ppm for albacore tuna and 0.12 ppm for light tuna), but canned tuna also poses considerable potential risks because of its wide-

39. Dubosc & Schatz, *supra* note 37.

40. Memorandum from CEH on Proposition 65 Case Highlights (undated) (copy on file with author). According to CEH, because of the chemistry of Grecian Formula, the 50% content reduction will lead to a far great reduction in actual exposures to consumers. *Id.*

41. Sandra Steingraber, *Late Lessons From Pressure-Treated Wood—Part I*, RACHEL'S ENV'T & HEALTH NEWSL. No. 784 (Feb. 5, 2004), available at <http://www.rachel.org/bulletin/index.cfm?St=4>. (last visited Oct. 6, 2005).

42. ENVIRONMENTAL WORKING GROUP & HEALTHY BUILDING NETWORK, POISONED PLAYGROUNDS: ARSENIC IN PRESSURE-TREATED WOOD 3 (2001), available at <http://www.ewg.org/reports/poisoned/playgrounds> (last visited Oct. 6, 2005).

43. See U.S. EPA, *Technology Transfer Network, Air Toxics Website, Arsenic Compounds*, at <http://www.epa.gov/ttn/atw/hlthef/arsenic.html> (last visited Oct. 6, 2005).

44. ENVIRONMENTAL WORKING GROUP, POISONED PLAYGROUNDS, *supra* note 42.

45. Julie Hauserman, *Study Links Cancer Risk, Pressure Treated Playsets*, ST. PETERSBURG TIMES, Feb. 8, 2003, at A1; Eric Pianin, *Treated Wood Poses Cancer Risk to Kids; EPA Releases Early Findings on Exposure to Lumber Processed With Arsenic*, WASH. POST, Nov. 14, 2003, at A11. The EPA study concluded that 90% of children who play on CCA-treated playground equipment face risks of greater than one in one million, and that the risks were considerably higher for children in warmer climates. *Id.*

46. Jane Kay, *Firms Phasing Out Arsenic Compound; Additive Being Used on Backyard Furniture*, S.F. CHRON., Nov. 11, 2001, at A16 (describing settlement with first three companies). The Calif. AG sued the three largest companies; CEH sued the remaining 31 com-

panies. E-mail from Susan Fiering, Deputy Attorney General, California Office of the Attorney General, to Clifford Rechtschaffen (June 3, 2005).

47. Jay Romano, *Your Home; Precautions on Wooden Play Sets*, N.Y. TIMES, July 20, 2003, at 5.

48. U.S. EPA, MERCURY STUDY REPORT TO CONGRESS, VOL. V: HEALTH EFFECTS OF MERCURY AND MERCURY COMPOUNDS 3-60 (1997), available at <http://www.epa.gov/ttn/oarpg/t3/reports/volume5.pdf> (last visited Oct. 6, 2005); Eric Malnic, *Attorney General Sues Over Tuna; Three Producers Are Accused of Failing to Warn About Dangerous Levels of Mercury in Canned Products, Which the Industry Calls Safe*, L.A. TIMES, June 22, 2004, at B6.

49. MERCURY STUDY REPORT TO CONGRESS, *supra* note 48.

50. Olivia Wu, *Mercury Debate Gets Murkier; No Clear Choices on Which Fish Are Best*, S.F. CHRON., Apr. 16, 2003, at E1.

51. U.S. FDA, *Mercury Levels in Commercial Fish and Shellfish*, at <http://www.cfsan.fda.gov/~frf/sea-mehg.html> (last visited Oct. 6, 2005). A study earlier this year by New Jersey researchers found that for most of the species tested, the average mercury levels were somewhat higher than those reported by the FDA, i.e., for fresh tuna the average levels found were 0.68 ppm, compared to 0.31 ppm reported by the FDA. Joanna Burger et al., *Mercury in Commercial Fish: Optimizing Individual Choices to Reduce Risk*, 113 ENVTL. HEALTH PERSP. 266 (2005).

spread consumption.<sup>52</sup> (FDA and independent data, moreover, show considerable variation in the mercury levels of canned tuna, with some as high as 1 ppm.)<sup>53</sup> In 2004, EPA reported that approximately 630,000 of the four million children born annually in the United States—twice as many as previously believed—may be exposed to unsafe levels of mercury in utero—levels that pose an increased risk of neurological damage.<sup>54</sup>

The FDA, responsible for regulating commercial seafood, has been slow to respond to the mounting medical concern about the adverse impacts of mercury at low levels of exposure.<sup>55</sup> The FDA's action level of 1 ppm for methylmercury in fish was set in 1979.<sup>56</sup> In 2001, the FDA issued a general consumer advisory that counseled pregnant women in somewhat tentative terms that they should avoid eating certain large fish that can contain high levels of mercury.<sup>57</sup> The FDA strengthened this language in a revised advisory issued in 2004, explicitly telling women not to eat certain species of fish because they contain high levels of mercury.<sup>58</sup> The advisories, however, do not impose any substantive limits on the sale of fish, nor are they provided to pregnant women at the point of sale in grocery stores or restaurants. Moreover, the advisories counsel

women that they can safely eat up to 12 ounces of canned light tuna and 6 ounces of albacore tuna a week.<sup>59</sup> Many states also have posted advisories about mercury and fish consumption, but the focus of most of these advisories is consumption of recreationally caught fish, rather than fish purchased commercially.<sup>60</sup>

Under Proposition 65, there is no regulatory level setting a threshold above which warnings are required for methylmercury exposure. The Calif. AG, however, after consulting with state health experts, has taken the position that warnings are required for methylmercury exposures exceeding 0.0046 µg a day—a level that translates into concentration levels in fish far lower (more protective) than the FDA's action level of 1 ppm.<sup>61</sup> Using this level as the appropriate threshold, beginning in 2003 (and prompted by notices of intent to sue from As You Sow Foundation and the Sea Turtle Restoration Network), the Calif. AG initiated a wave of Proposition 65 lawsuits to force direct consumer warnings about mercury exposure in fish, including canned tuna. The Calif. AG sued seven major grocery chains for failing to warn their customers about mercury in swordfish, ahi tuna, albacore tuna, and shark.<sup>62</sup> The grocery stores responded by posting signs near their fresh and frozen seafood sections warning customers that certain types of fish contain mercury, a listed reproductive toxicant, and telling pregnant women and nursing mothers not to eat swordfish, shark, king mackerel, and tilefish (they did not post signs about canned tuna, see below).<sup>63</sup> The Calif. AG also sued 15 restaurants chains because of their failure to warn customers about mercury in fish. In early 2005, that latter case settled, and 15 restaurant chains operating 400 restaurants in California agreed to post similar warning signs about mercury in fish.<sup>64</sup> Thus, in a relatively short period, the Proposition 65 litigation achieved clear warnings likely to reach a vastly wider audience than the existing federal advisories.

Moreover, prompted by the warnings required by the Calif. AG's action, some major retailers, such as Costco

52. See Marla Cone, *Warnings on Canned Tuna Urged; Advocates Question Why Public Health Advisories on Mercury Fail to Give Specific Advice About the Most Frequently Eaten Seafood in the Country*, L.A. TIMES, May 4, 2003, at B1. Nationally, children eat twice as much tuna as any other fish; tuna is also the top choice of women of childbearing age. *Id.* Testing by the Mercury Policy Project in 2003 found that the average mercury level in albacore tuna was 0.5 ppm. See also *Can the Tuna: FDA's Failure to Protect Children From Exposure to Mercury in Albacore "White" Canned Tuna*, White Paper (Mercury Policy Project and New England Zero Mercury Campaign), June 19, 2003, at 7. Another recent survey found that among consumers who ate four or more servings a month of canned tuna, 33% had mercury levels that exceeded EPA's reference dose for methylmercury (which is 0.1 µg per kilogram of body weight per day). Jane Kay, *Eating Lots of Fish Tied to High Mercury Levels*, S.F. CHRON., Oct. 21, 2004, at A7.

53. Cone, *Warnings on Canned Tuna*, *supra* note 52; *Can the Tuna*, *supra* note 52, at 3 (survey conducted by Mercury Policy Project found over 6% of albacore tuna samples contained mercury at or above 1 ppm).

54. Elizabeth Shogren, *Estimate of Fetuses Exposed to High Mercury Doubles; The Metal Becomes More Concentrated in Umbilical Cord Blood*, the EPA Notes, L.A. TIMES, Feb. 6, 2004, at A13.

55. See, e.g., NATIONAL RESEARCH COUNCIL, NATIONAL ACADEMY OF SCIENCES, TOXICOLOGICAL EFFECTS OF METHYL MERCURY 9 (2000) (documenting health impacts); *Can the Tuna*, *supra* note 52, at 10-11 (discussing the FDA's approach).

56. 44 Fed. Reg. 42738 (1979). An action level is a nonbinding guideline representing the limit at or above which the FDA will take legal action to remove a product from the market.

57. The advisory noted that "some fish contain high levels of mercury called methylmercury that can harm an unborn child's developing nervous systems if eaten regularly." It advised pregnant women that "[y]ou can protect your unborn child by not eating these large fish that contain high levels of methylmercury: Shark, Swordfish, King Mackerel, and Tilefish." See U.S. FDA, CENTER FOR FOOD SAFETY AND APPLIED NUTRITION, AN IMPORTANT MESSAGE FOR PREGNANT WOMEN AND WOMEN OF CHILDBEARING AGE WHO MAY BECOME PREGNANT ABOUT THE RISKS OF MERCURY IN FISH (2001), available at <http://www.cfsan.fda.gov/~dms/admehg.html> (last visited Oct. 6, 2005).

58. See U.S. EPA AND U.S. DEP'T OF HEALTH & HUMAN SERVICES, WHAT YOU NEED TO KNOW ABOUT MERCURY IN FISH AND SHELLFISH, 2004 EPA AND FDA ADVICE FOR WOMEN WHO MIGHT BECOME PREGNANT, WOMEN WHO ARE PREGNANT, NURSING MOTHERS, YOUNG CHILDREN (2004), available at <http://www.cfsan.fda.gov/~dms/admehg3.html> (last visited Oct. 6, 2005). The revised advisory was issued in conjunction with EPA.

59. See *id.*; John J. Fialka, *EPA and FDA, Long in Dispute, Plan Mercury Standards for Fish*, WALL ST. J., Oct. 21, 2003, at A1. See also *Can the Tuna*, *supra* note 52, at 9 (noting that pregnant women who consume 6 ounces of albacore tuna with an average mercury content of 0.5 ppm, the average level found in the Mercury Policy Project's 2003 survey, would exceed EPA's reference dose for methylmercury by a factor of two).

60. Burger, *supra* note 51, at 266.

61. E-mail from Susan Fiering, Deputy Attorney General, California Office of the Attorney General, to Clifford Rechtschaffen (June 9, 2005). Since methylmercury is listed as a reproductive toxin, Proposition 65 requires warnings for exposures greater than 1/1000th of the no observable effect level, see *supra* note 8. As noted above, the FDA's action level represents a level above which the FDA believes fish should not be sold, rather than a level at which warnings are required, see *supra* note 56.

62. Carolyn Whetzel, *Several Grocery Chains Post Signs to Warn Consumers About Fish Containing Mercury*, 34 BNA 9 (Feb. 28, 2003).

63. Cone, *Warnings on Canned Tuna*, *supra* note 52. One survey, however, found that of 109 stores examined, 41% had no warning signs at all in the fresh or frozen seafood areas, and that 40% had signs that were difficult or impossible to read. Jane Kay & Erin Hallissy, *Many Stores Not Warning of Mercury, Survey Finds That Signs About Fish Often Missing, Unreadable*, S.F. CHRON., Nov. 24, 2003, at A15.

64. Julie Tamaki, *Eateries Agree to Mercury Warnings; Californians Can Expect to See Signs in Hundreds of Locations Citing Risks Linked to Certain Fish*, L.A. TIMES, Feb. 5, 2005, at C1. Thirteen of the chains agreed to post warnings specifying that pregnant women and children should not eat swordfish, shark, mackerel, and tile fish; two chains agreed to post more generic warnings about foods in their restaurants.

Wholesale Corporation, which operates 321 supermarkets in the United States, pulled swordfish from their shelves. According to a newspaper account, after warnings were required by the litigation, Costco tested its swordfish and found higher mercury levels than in other fish. Its vice president for food safety explained: "We took the decision (to pull the fish) after asking: If we had to label it as a health risk in California, should we really be selling it at all?"<sup>65</sup>

As noted above, the grocery chains in California refused to post signs about canned tuna (the one exception is Trader Joe's).<sup>66</sup> The tuna manufacturers fought the warnings, promising to defend the stores if they were sued.<sup>67</sup> In 2004, the Calif. AG sued the three largest producers of canned tuna, Tri-Union Seafoods (makers of Chicken of the Sea<sup>®</sup>), Starkist<sup>®</sup>, and Bumble Bee<sup>®</sup> Seafoods, for failing to provide warnings to consumers.<sup>68</sup> In announcing the lawsuit, the Calif. AG cited data showing that mercury levels in both canned albacore and canned light tuna resulted in exposures over the Proposition 65 warning level, with albacore containing significantly more mercury than light tuna. That litigation is still pending.<sup>69</sup>

## VI. Portable Classrooms

Portable classrooms have been used in California and across the country since before World War II.<sup>70</sup> Their use in California skyrocketed in the era following the passage of Proposition 13 in 1978 when California school spending dropped dramatically, and then again in 1994 when Gov. Pete Wilson (R) launched a class-size reduction program for kindergarten through third grade. Portable classrooms were seen as the answer for the need for increased space on a tight budget. According to a survey conducted in 2001, 80,000 California students between kindergarten and 12th grade spend at least part of their day in a portable classroom.<sup>71</sup>

Portable classrooms have many of the same chemical compounds found in traditional construction, with the notable difference that the lack of adequate ventilation, tighter construction, and lack of windows in portables can lead to a buildup of chemicals to toxic proportions.<sup>72</sup> In particular, portables can result in exposures to elevated levels of formaldehyde, benzene, and toluene from particleboard, plywood, fiberglass, carpets, paints, and glues.<sup>73</sup> These chemi-

icals are listed under Proposition 65 as carcinogens (benzene and formaldehyde) and reproductive toxins (toluene and benzene); moreover, their adverse short-term effects include eye and lung irritation, dizziness, nausea, and memory impairment.<sup>74</sup>

In 2000, As You Sow Foundation filed Proposition 65 enforcement actions against a group of manufacturers and distributors of portable classrooms.<sup>75</sup> The resulting consent decree addressed a number of the above hazards. Most notably, the manufacturers agreed to reformulate plywood used in flooring and particle board used in flooring and cabinetry products so that these products emit lower levels of formaldehyde, to improve ventilation in the portables, and to increase the amount of time a portable structure is aired out before it is considered habitable.<sup>76</sup>

## VII. Toxic Air Emissions

Since its inception, Proposition 65 also has been an effective supplement to federal and state air controls. One analysis indicates that from 1988 to 1997, air emissions of pollutants governed by Proposition 65 declined more rapidly in California than elsewhere in the United States (while declines in pollutants not covered by Proposition 65 were comparable in California to that of the rest of the country).<sup>77</sup> Proposition 65 has continued to spur reductions in toxic air emissions beyond those otherwise required by air quality regulation. For example, in a recent enforcement campaign, several environmental groups zeroed in on commercial facilities emitting high levels of perchloroethylene, a listed carcinogen. The attorney representing these groups estimates that as a result of enforcement actions filed against 30 facilities over a five-year period (1998 to 2003), the facilities collectively reduced their emissions of perchloroethylene by approximately 640,000 pounds. The primary sources of perchloroethylene were dry cleaners, degreasers, and the motion picture industry (perchloroethylene is used to clean film).<sup>78</sup>

In another action, in 1998, the Calif. AG and the Natural Resources Defense Council, Inc. sued three major grocery store chains because of their failure to warn neighboring residents about diesel emissions from their heavy-duty trucks (up to 1,000 trucks a day) moving between distribution centers. Diesel engine exhaust is a listed carcinogen under Proposition 65. Diesel emissions also have been linked to respiratory, genotoxic, and other health problems; the average diesel truck emits as much particulate matter as 150 average cars.<sup>79</sup> Air monitoring surrounding the distribution

65. Fialka, *supra* note 59.

66. Fiering E-mail, *supra* note 46.

67. John Krist, *Shaky Science on Fish and Mercury*, VENTURA COUNTY STAR, Mar. 1, 2003.

68. Malnic, *supra* note 48.

69. The case has been consolidated with an enforcement action filed against the canned tuna manufacturers by the nonprofit organization Public Media Center in 2001. Fiering E-mail, *supra* note 46. In August 2005, the FDA took the position in a letter to the Calif. AG that warning requirements for mercury in tuna under Proposition 65 are preempted by federal law. Bob Egelko, *FDA Opposing Warnings on Canned Tuna; Top Official Sides With Firms in Mercury Suit*, S.F. CHRON., Aug. 20, 2005, at B1. Whether the FDA will succeed in its attempt to influence the state's enforcement action remains to be seen.

70. ZEV A. ROSS & BILL WALKER, ENVIRONMENTAL WORKING GROUP, READING, WRITING, AND RISK: AIR POLLUTION INSIDE CALIFORNIA'S PORTABLE CLASSROOMS 3 (1999).

71. CALIFORNIA AIR RES. BD., PORTABLE CLASSROOM STUDY 2 (2004).

72. *Id.* at 1.

73. ROSS & WALKER, *supra* note 70, at 11, 14-15.

74. *Id.* at 10.

75. Press Release, As You Sow Foundation, Settlement Reached in Modular Buildings Proposition 65 Case (June 3, 2001) (on file with author).

76. Michael J. Coren, *Portable Classrooms Get Permanent Ventilation Fix*, SAN JOSE MERCURY NEWS, June 22, 2001, at 23A; Buchner E-mail, *supra* note 22.

77. Roe, *supra* note 6, at 10, 234.

78. Telephone Interview with Michael Freund (Dec. 5, 2003).

79. Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Part B: Health Risk Assessment for Diesel Exhaust, California Environmental Projection Agency Office of Environmental Health Hazard Assessment, Air Toxicology, and Epidemiological Section, 1-1, 1-4, 4-1.2, 5-19, 6-59, 7-16 (1998); Marla Cone, *Supermarkets Will Buy Clean-Fuel Trucks to Settle Suit*, L.A. TIMES, Apr. 28, 2000, at A1.

centers showed that neighboring residents, largely poor communities and communities of color, faced cancer risks ranging from 1 in 1,000 to 1 in 10,000 from the diesel emissions. The settlement reached in that case two years later requires the grocery store chains to replace 150 of their diesel trucks with alternative-fuel vehicles within three years; to limit the idling time of trucks at the center (to three minutes); and to mail bilingual warnings to 25,000 nearby residents.<sup>80</sup>

### VIII. Miscellaneous Consumer Products

#### A. Nasal Sprays

In 2001, the Calif. AG sued five manufacturers of nasal sprays containing mercury compounds (thimerosal and phenyl mercuric acetate), alleging that the products resulted in mercury exposures exceeding Proposition 65's limits.<sup>81</sup> Four of the five companies agreed to remove the chemicals from their sprays (the fifth company agreed to give warnings).<sup>82</sup> However, one of the companies (the Bayer Group) did so while challenging the penalties sought by the Calif. AG for failure to provide warnings, and at trial prevailed on its argument that its products were exempt from the statutory warning requirement because resulting exposures were less than 1/1000th of the no observable effect level.<sup>83</sup>

#### B. Dandruff Shampoos

Coal tar, distilled from coal, contains polyaromatic hydrocarbons, including benzopyrene, a listed carcinogen. It is banned in all consumer goods in Europe, but has been used

in dandruff shampoos in the United States.<sup>84</sup> As a result of actions filed by the Calif. AG and a private enforcer, most of the industry producing dandruff shampoos with coal tar agreed to reformulate its products and reduce coal tar concentrations to .5% of the product (other manufacturers agreed to provide warnings for their products).<sup>85</sup>

#### C. "Andro" Supplements

In 2001, the Calif. AG sued 35 companies making or selling performance enhancing androstenedione or "andro" supplements (which upon ingestion are converted to testosterone, a listed carcinogen). These are the supplements that gained notoriety after they were used by baseball slugger Mark McGwire in the late 1990s.<sup>86</sup> The Calif. AG cited medical evidence that the health effects of "andro" supplements are of comparable concern to anabolic steroids. As a result of a subsequent settlement, all the companies either withdrew from the California market or agreed to provide a warning to consumers.<sup>87</sup>

### IX. Conclusion

Although perhaps not as dramatic as the early gains realized by the statute, recent Proposition 65 litigation continues to generate important public benefits. Enforcement actions have prompted stronger consumer warnings for exposure to mercury in fish, filling a gap left by sluggish federal activity. Moreover, enforcement actions have reduced toxic contaminants in a wide range of products, many of which are used or handled by children. The result is less direct human exposure to toxics, as well as less toxic waste generated and disposed of in the environment.

80. These include trucks powered by natural gas and propane, and so-called dual-fuel trucks that run 85% natural gas/15% diesel. *Id.*

81. See *People v. Altaire Pharmaceuticals et al.* (Alameda County Super. Ct. filed Oct. 3, 2001) (copy on file with author).

82. E-mail from Edward Weil, Deputy Attorney General, California Office of the Attorney General, to Clifford Rechtschaffen (July 6, 2005).

83. Flo Dubosc, *Judge Issues Final Statement of Decision in Favor of Bayer*, PROP. 65 NEWS, Dec. 1 & 15, 2004, at 1.

84. Jane Kay, *Dandruff Shampoo Must Carry Coal-Tar Warning*, S.F. CHRON., Dec. 21, 2001, at A1.

85. *Id.*

86. Robert Salladay, *State Sues Makers of Supplements/"Andro" Said to Be Akin to Steroids in Risks*, S.F. CHRON., Aug. 17, 2001, at A3.

87. Weil E-mail, *supra* note 82.